

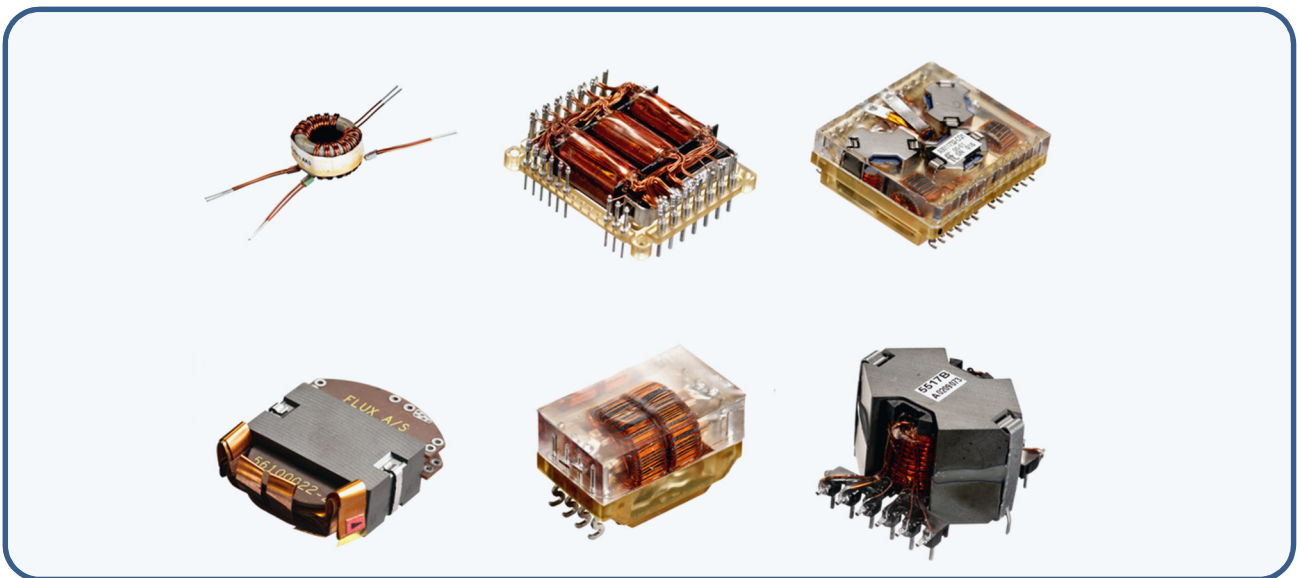
Qualification Test Report: **Various Topologies**

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2	10/06/16	MS	-	Update with test data
3	30/08/16	MS	-	Update with test data and status
4	30/09/16	MS	-	Addition OF Photo Annex
5	30/01/18	MS	-	Addition of Supplemental testing



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1. INTRODUCTION

This document report the status for Qualification Testing of Magnetic topologies listed in section 3.1.

In addition to main qualification testing a supplemental test campaign was performed in 2017. The components comprise a range of component families and a range of materials and processes used for manufacturing the components.

The qualification tests and criteria’s are based on the requirements given in MIL-PRF-27, for grade 5 transformers and inductors.

All testing is performed in accordance with FT 08690268 ^(RD1).

2. REFERENCE DOCUMENTS

Ref.	Document	Title
RD1	FT 08690268	Qualification Test procedure
RD2	MIL-PRF-27	General Specification for Transformers and Inductors
RD3	MIL-STD-202	Test Method Standards – Electronic and Electrical Component Parts
RD4	MIL-STD-981	Design, Manufacturing and Quality Standards for Custom Electromagnetic Devices for Space Applications
RD5	FT 08690019	Process Identification Document
RD6	FT 08711502	Screening Test Procedure for Transformers and Inductors
RD7	FT 08783001	Nonconforming Product
RD8	FT 08690027	Declared Materials List
RD9	FT 08690028	Declared Processes List
RD10	ECSS-Q-ST-70-08	Manual soldering of high-reliability electrical connections
RD11	ESCC 3201	Coils, RF and Power Fixed – Generic Specification
RD12	ESCC 20100	Requirements for Qualification of Standard Electronic Components for Space Applications

3. SAMPLES DEFINITION

3.1 Range of component families for testing

The magnetic component topologies covered by this Qualification test procedure are:

- Table 3.1a - samples covering RM topology
- Table 3.1b - samples covering EFD topology
- Table 3.1c - samples covering Double Aperture cores topology
- Table 3.1d - samples covering Toroidal topology
- Table 3.1e - samples covering Aircoil topology
- Table 3.1f - samples covering Combined Magnetics topology
- Table 3.1g - samples covering Integrated Magnetics topology
- Table 3.1h - samples covering Planar topology
- Table 3.1i - samples covering Ammobeeds
- Table 3.1j - samples covering mini SMT EFD
- Table 3.1k – Supplemental testing.



Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q1	12110029-4-B	T 102T238	Epcos T38	RM4	FLUX Pins 4-16	Thales France
Q2						
Q3	12750009-1-B	FLUX SMT Series	3F3	RM5	FLUX SMT	FLUX
Q4	14170194-2-B	913K-0223 Rev B	PC40	RM6	Pins	IR
Q5	14220158-2-B	R8-T-5777	Epcos D01	R8	-	RUAG(S)
Q6	12220096-2-B	283-03 V 7	3C95	RM8	Pins	MIER
Q7	14220153-2-B	RM10-3022-T	3C96	RM10lp	Pins & Flying leads	RUAG(A)
Q8	14311008-2-B	T204	3F3	RM12	Strip lines	CRISA

Table 3-1a - RM topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q9	14149006-4-B	EFD-3011-T	3C94	EFD 15	SMT	RUAG(A)
Q40	14140024-1-B	EFD-3027-T		EFD 15	Pins	
Q41	14230081-1-B	EFD-3026-T		EFD 25	Strip Lines	
Q10	14230080-1-B	EFD-3032-	N87	EFD 25	Pins	RUAG(A)
Q11	14260119-1-B	TFI 180W	N97	EFD 30		MIER
Q12	14260082-2-B	E30-T-5751	N87	EFD 30	Strip Lines	RUAG(S)

Table 3-1b - EFD topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q13	14011001-5	S-48074	Balun	6.2 X 7.2 X 5	Double Aperture	Kongsberg Norspace

Table 3-1c - Double Aperture Cores topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q14	12021008-2-B	-	MPP 55150	Ø3.94mm		FLUX
Q15	14050029-2-B	913k-0205 Rev B	N30	Ø6.3mm	Stacked cores	IR
Q16	14050013-3-B	-	N30	Ø6.3mm	On base	Thales France
Q17	12060006-1-B	-	MPP 55045	Ø6.86mm	On base	Jena-Optronik
Q18						
Q19	12121115-1-B	903K-0197 Rev A	N30	Ø10.0mm	Flying leads	IR
Q20	12141041-4-B	ST-I-5697	EPCOS X38	Ø12.5mm	Flying leads	RUAG(A)
Q21	14141004-3-B	T173	MPP 55045 x2	Ø12.7mm	Flying leads	CRISA
Q22	12140026-1-B		MPP 55047	Ø12.7mm	On base	Jena-Optronik
Q23						
Q24	12210082-2-B	VT-I-5764	Vacuumschmeltze	23.4mm	Base	RUAG(S)
Q25	12251037-1-B	-	Hi FLUX	Ø27.0mm	Flying leads	MIER
Q26	14210147-1-B	FBT Flyback	MPP 55120	Ø28.4mm	Base	RUAG(CH)
Q27	12341031-2-B	T237	ZW-43610-TC	Ø36.00mm	Splice to AWG	CRISA
Q28	14320201-2-B	T0060	ZJ	Ø36.89mm	Coupelle	CRISA
Q29	12311047-3-B	125344100 B	Hi FLUX	Ø38.00mm	Bandaging	FLUX

Table 3-1d - Toroidal topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q30	12001166-1	M87810	None	2 turns	-	Kongsberg Norspace

Table 3-1e - Aircoils topology



Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q31						

Table 3-1f - Combined Magnetics topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q32	14240183-1-B	Thales	PC40	IM 0	-	Thales France
Q33	14280027-3-B	913K-0224 Rev C	PC40	IM 2	-	IR
Q34	14280016-4-B	Im2 PLIU	PC40	IM 2	-	Thales Espana

Table 3-1g - Integrated Magnetics topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q35	14790201-1-B	-	3C95	ER9,5	-	FLUX
Q36	14170209-1-B	-	N87	ELP 18/4/10	14 Layer PCB	FLUX
Q37	14270163-1-B	-	3C95	EE32	-	Thales France

Table 3-1h - Planar topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q38	12051014-1-B	Self 8.4µH	Ammobead	5x2.4x11	Not coated	Thales Espana

Table 3-1i - Ammobead topology

Sample	FLUX No	Customer Ref	Core	Size	Other	Customer
Q39						

Table 3-1j - Mini SMT EFD

Sample	Flux PN	Customer Ref	Core	Size	Other	Customer
QS1	12211118-1-B	962041	Hi-Flux	21mm	-	Terma
QS2	14121023-3-B	1034980	N30	R10	-	Terma
QS3	12251007-1	102L429	Hi-Flux	20mm		Thales ETCA
QS4	14210071-1	102T313	Modified	EFD 20	Ground Core	Thales ETCA
QS5	14790101-1-B	-	P46	EE5		Flux A/S
QS6	12800014-1-B	-	3C94	EP5 Inductor	SMT	Flux A/S
QS7	14110246-1-B	TBA			60317-51	Flux A/S
QS8	14170305-1-B		3C36			

Table 3-1k - Supplemental testing

Indicates models to be qualified directly.

Five types have been removed from the qualification. These are Q2, Q18, Q23, Q31 AND Q39. This does not impact the qualification range.

Four of samples representing the above-mentioned topology are tested. The range of sizes and variants within each topology, covered by this qualification is defined in the rules of similarity given in paragraph 3.2.



3.2 Qualification of transformers and inductors based on similarity

FLUX has tailored the requirements of MIL-STD 981^(RD4). Similarity is judged against a family of qualified devices, rather than a single device

Only inductors and/or transformers that have passed qualification inspection shall be used as reference devices for establishing qualification by similarity.

Inductors or transformers deemed to be qualified on the basis of similarity shall be manufactured at the same production facility utilising the same processes as the reference device.

A similar device is an inductor or transformer that meets the following conditions when compared to the reference device(s).

Qualification by similarity is not applicable for Class S components.

Clause	C	PC	Comments
a) Same or lower operating temperature	✓		Family of devices will be qualified from - 55 ° C to + 125 °C, actual operating parameters will be determined by the end user
b) Same or lower operating frequency and the same or lower operating power.	✓		Device will operate with a FLUX specified range, actual operating parameters will be determined by the end user.
c) Same or lower ambient temperature.	✓		Family of devices will be qualified from - 55 ° C to + 125 °C, actual ambient temperature will be determined by the end user
d) To be used at an atmospheric pressure of the same or lower altitude.	✓		Family of devices will be qualified at atmospheric pressure, actual altitude will be determined by the end user.
e) To be used at the same or lower operating voltages and the same or lower dielectric stress per mil of same insulation.	✓		Device will operate with a FLUX specified range, actual operating parameters will be determined by the end user
f) Same or lower shock and vibration requirements.	✓		
g) Same or greater life time expectancy.	✓		
h) Same or lower temperature class.	✓		
i) Same family as defined in 4.2 thru 4.7.	✓		
j) Same grade as defined in the applicable military specifications.	✓		
k) Same type of external and internal mounting, same type of case construction with nominal wall thickness within 25 percent when a case is used, same shape, and same termination (pin or hook terminals).	✓		
l) Linear envelope dimensions neither greater than 150 percent nor less than 70 percent of the corresponding dimensions. The total volume of envelope not to exceed 250 percent.	✓		150 / 70 % of linear dimensions, total volume not typically calculated (theoretical max if all three dimensions 150% = 337,5%). Volume will be calculated where all 3 dimension exceed 100%.
m) Same or greater wire size (cross-sectional area), and the same wire coating material for corresponding windings.	✓		
n) Same processing material and specification for case, finish and marking.	✓		
o) Same processing material and composition for potting, insulation (tapes and films), impregnation, staking and filling.	✓		
p) Same material composition, characteristic and coating for the ferrite and MMP core, same shape, and the same manufacturer.		✓	Grouped by core type, manufacturer and size
q) Same bobbin material and characteristics.	✓		
r) Same solder composition and welding.	✓		
s) Same construction and material for the terminals. For terminals of the same dimensions the required terminal strength requirements to be the same or lower.	✓		

Table 3-2 Rules of similarity



3.3 Manufacturing and screening of samples

The components were manufactured by Flux A/S.



3.4 Range of materials for Qualification Testing

DML Ref	Part	Nature	Size Range	Comments
01.001	Aluminium Block Fixture	AA6082-T6/T651		
02.002	Copper Foil Electrolytical	99,9 % Cu – 0,05% O;	Not Applicable	
02.005	Brass MS58 Terminal Pin	Brass MS58. Plated with 2,5 mm Ni and 5 mm Sn90Pb10 by manufacturer	Not Applicable	
02.006	Cu C12200 (UNS) Pins	C12200 Copper Electrodeposit with 8µm Sn60Pb40 by manufacturer on 2µm Ni barrier	Not Applicable	
02.007	Tin Bronze Terminal	CuSn6	Not Applicable	
02.009	Copper Foil	Copper Foil	Not Applicable	
02.010	Cu_ETP	Copper	Not Applicable	
05.007	Chromium Nickel Steel	Chromium Nickel Steel C<1%, Si>1%, Mn>2%	Not Applicable	
06.002	Stainless Steel Spring	Clamps for RM 4 Low Profile Ferrite Cores, Without Ground Terminal	Not Applicable	
06.005	Clamps	STAINLESS SPRING STEEL, AISI 301	Not Applicable	
06.006	Clamps	STAINLESS SPRING STEEL, AISI 301	Not Applicable	
06.008	Stainless Steel Spring	Clamps for EFD Ferrite cores	Not Applicable	
06.010	Fixing Items	STAINLESS SPRING STEEL, AISI 301	Not Applicable	
07.001	Solder	Tin Solder: Sn63 Pb37	Not Applicable	
07.002	Solder	Tin Solder: Sn60 Pb40	Not Applicable	
07.003	Solder	Tin Solder: Sn94 Ag4	Not Applicable	High Temperature
08.001	RM Core	Ferro Magnetic Oxide	Between RM4 & RM6	
08.002	Toriod Core MPP and Hiflux	Molypermalloy Powder, Hiflux NiFe Powder Graded into 2% bands	Between 5,243mm & 14,475mm Ø	
08.008	Toroid Core	Ferro Magnetic Oxide	Between 4,41mm & 33,15mm Ø	
08.009	Double Aperture Core	Ferro Magnetic Oxide	Between 6.2mm X 7,25 mm and 9,3mm X 10.875mm	
08.012	Toroid Core Grey PaInted	Ferrite Core Polyester or Nylon Coated	Between 16,3mm & 34,35mm Ø	
08.013	Toroid Core Parylene Coated	Ferrite Core Parylene Coated	Between 6,67mm & 14,3mm Ø	
08.015	RM Core 3F3	Ferro Magnetic Oxide	Between RM4 & RM16	RM14 and over is limited to 500G mechanical shock
08.016	Tape Wound Core	Nanocrystalline Vitrperm 500F	Between 11,2mm & 24mm Ø	
08.018	RM Core PC90 & PC95	Ferro Magnetic Oxide	Between RM4 & RM8	
08.021	EFD Core	Ferroxcube 3C96	EFD15	
08.022	EFD Core	Ferro Magnetic Oxide	Between EFD25 & EFD 30	
08.023	Toroid Core Hi Flux	Molypermalloy Powder, Hiflux NiFe Powder Graded into 2% bands	Upto 58,5mm Ø	
08.024	RM and Integrated Magnetics Core	Ferro Magnetic Oxide	Depending on form	
08.026	Ferroxcube 3C95	MnO (19%), ZnO(10%), Fe ₂ O ₃ (71%)	Depending on form	
08.029	Ferrite core N87	Manganese Zinc Ferrite MnO (25%), ZnO(5%), Fe ₂ O ₃ (70%)	Depending on form	
08.031	Power Ferrite	MN92	Not Applicable	
10.001	Scotchweld EC2216	2- part epoxy adhesive	Not Applicable	
10.002	Solithane C113/300	Polyurethane	Not Applicable	
11.001	CIL-8100 M Label	Polyester Label / Acrylic Adhesive	Not Applicable	
11.003	3M Tape 1205	Polymide /Acrylic Adhesive	Not Applicable	
11.004	3M Tape 92	Polymide / Silicone Adhedsive	Not Applicable	
11.005	Temp Lace H231H	Teflon Braid /Syn Rubber	Not Applicable	



DML Ref	Part	Nature	Size Range	Comments
11.006	Temp Lace AA52081 C4	Polyester w synthetic rubber finish	Not Applicable	
14.001	Silicone Primer	CF1-135	Not Applicable	
14.002	CV 2500	Silicone 2 part	Not Applicable	
14.003	CV2391	Silicone Foam 2 Part	Not Applicable	
15.001	Coilformer and coil carrier	Polyephtalate, Glass fibre reinforced	Not Applicable	
15.003	Epcos Washer	Polycarbonate	Not Applicable	
15.005	Ultem 1010R-7101	Polyetherimid (PEI)	Not Applicable	
15.006	Ultem 1000-1000 Natural	Polyetherimid (PEI)	Not Applicable	
15.008	Liquid-crystal Polymers (LCP) UL 94V	Liquid-crystal Polymers (LCP) UL 94V	Not Applicable	
16.002	Silicone Rubber Tube	Silicone Rubber Tube	Not Applicable	
16.006	MAPSIL QS1123	Silicone Compound	Not Applicable	
16.007	Silicone Rubber Tube	Silicone Rubber Tube	Not Applicable	
17.004	Cho-Therm 1671	Silicone elastomer	Not Applicable	
17.005	Cho-Seal 1285	Silicone elastomer	Not Applicable	
18.002	PCB	Polymide Glass fibre and plated copper with SnPb on terminals	Not Applicable	
18.003	GFR Thermosetting Plastic	Phenolic with glass fibre Green +155°C	Not Applicable	
18.004	GFR Thermosetting Plastic	Phenolic with glass fibre Green +155°C	Not Applicable	
18.006	(PF) GFR	Phenol Formaldehyde	Not Applicable	
18.007	Blue Alkyd	Blue Alkyd Previously designated VINCOLITE AMC 2568	Not Applicable	
19.001	Copper Wire	Theic-Mod Polyester with Polyamide-imide overcoating	From Ø 0,710MM upwards	
19.002	Copper Wire	Theic-Mod Polyesterimide Enamelled	From Ø 0,560MM upwards	
19.003	Copper Wire	Polyesterimide Enamelled	From Ø 0,080MM upwards	
19.004	Copper Wire	Polyurethane Polyimide Enamelled Copper Wire (Magnesol)	From Ø 0,100MM upwards	
19.006	Copper Wire	AWG (Filica Wire)	From AWG 18 upwards	
20.002	Epoxy Glass Laminate	Epoxy Glass Laminate GF, FR4	Not Applicable	
20.004	Glass 3020-BL 70/110	Micropearls	0.1mm	
20.005	Aerosil 200	Silicone Dioxide	Not Applicable	
20.007	Stycast 2850FT	Stycast 2850FT	Not Applicable	
20.008	Catalyst 11	Catalyst 11 for Stycast	Not Applicable	For use with Stycast

Table 3-3 Materials List



3.5 Range of processes for Qualification Testing

All design and manufacturing activities are complete. This list details the processes used.

Item No. And user code	Process identification.	User name & Ass.	Process description.	Criticality.
FT.01.001	Bonding with eccobond 55/9	1) FLUX A/S 2) FT07150100	Coating of transformers	Standard
FT.01.002	Gluing with Scotchweld EC2216	1) FLUX A/S 2) FT08711101	Gluing of transformers	Standard
FT.01.003	Bonding with eccobond 285	1) FLUX A/S 2) FT08711102	Coating of transformers	Standard
FT.03.001	Impregnation with CV2500 or MAPSIL QS1123	1) FLUX A/S 2) FT08710901	Impregnation of transformers	Standard
FT.03.002	Impregnation with solithane 113	1) FLUX A/S 2) FT08710902	Impregnation of transformers	Standard
FT.07.001	Wire stripping	1) FLUX A/S 2) FT08710601	Chemical stripping of wire Ø<0.56mm	Standard
FT.07.002	Wire stripping	1) FLUX A/S 2) FT08710602	Mechanical stripping of wire Ø>0.60mm	Standard
FT.07.003	Wire stripping	1) FLUX A/S 2) FT08710602	Thermal stripping (solderable enameled wire)	Standard
FT.07.004	Wire stripping	1) FLUX A/S 2) FT07400005	Class 1 stripping	Standard
FT.07.005	Wire cleaning	1) FLUX A/S 2) FT07510017	Cleaning after Class 1 stripping	Standard
FT.07.006	Wire winding	1) FLUX A/S 2) FT08710501	Wire winding of transformers and inductors with coilformer	Standard
FT.07.007	Wire winding	1) FLUX A/S 2) FT08710503	Wire winding of transformers and inductors on toroids	Standard
FT.07.008	Staking of thin wire	1) FLUX A/S 2) ECSS-Q-ST-70-08C	Staking of thin wire to avoid stress	Standard
FT.08.001	Soldering	1) FLUX A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn63Pb37	Standard
FT.08.002	High temperature Soldering	1) FLUX A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn96Ag4	Standard
FT.08.003	Soldering of planar transformers	1) FLUX A/S 2) ECSS-Q-ST-70-08C	Soldering with Sn96Ag4	Standard
FT.09.001	Pure tin removal	1) FLUX A/S 2) FT08710604	Removal of pure tin surface finishes	Sensitive
FT.09.002	Pretinning	1) FLUX A/S 2) FT08710604	Pretinning	Standard
FT.13.001	Wire tempering	1) FLUX A/S 2) FT07140001	Tempering of enameled wires after winding to avoid solvent induced crazing	Standard
FT.13.002	Destressing of carrier	1) FLUX A/S 2) ASD/PROC/90025 & FT07120059	Destressing of carrier	Standard
FT.14.001	Assembly of cores	1) FLUX A/S 2) ASD/PROC/90025 & FT07120059	Core Assembly	Standard
FT.14.002	Insertion of pins	1) FLUX A/S 2) FT08710701	Insertion of pins into carrier	Standard
FT.14.003	Modification of coilformer	1) FLUX A/S 2) FT08710204	Modification of coilformer	Standard
FT.15.001	Marking	1) FLUX A/S 2) FT08711001	Marking and serialisation	Standard
FT.16.001	Grinding of cores	1) FLUX A/S 2) FT08710120	Grinding of ferrite cores	Standard
FT.16.002	Toroids on coupelle	1) FLUX A/S 2) FT07150092	Assembly and potting of toroids in coupelles	Standard
FT.16.003	Packing and Shipping	1) FLUX A/S 2) TBA	Packing and Shipping	Standard
FT.16.004	Bandaging of toroids	1) FLUX A/S 2) TBA	Bandaging of toroids	Standard
FT.17.001	Incoming inspection	1) FLUX A/S 2) FT08781001	Incoming inspection	Standard
FT.17.002	MIP/KIP	1) FLUX A/S 2) FT08710401	Mandatory and Key inspection points	Standard
FT.17.003	Manufacturing control	1) FLUX A/S 2) FT08775101	Manufacturing control	Standard
FT.17.004	Screening	1) FLUX A/S 2) FT07160068	Screening test for inductors and transformers	Standard
FT.17.005	In production testing	1) FLUX A/S 2) FT07160069	Measuring of magnetic components	Standard
FT.17.006	Material Inspection	1) FLUX A/S 2) FT08710301	Material Inspection prior to use	Standard
FT.17.007	Visual Inspection	1) FLUX A/S 2) FT08711204	In production visual inspection	Standard
FT.17.008	Final Inspection	1) FLUX A/S 2) FT08711204	Final Inspection	Standard

Table 3-3 Processes List



3.6 Retention of qualification status

There is a conflict between the retention periods stated in MIL-PRF-27^(RD2) and MIL-STD-981^(RD4). For purposes of this specification, MIL-PRF-27^(RD2) holds precedence

Qualification status is valid for a period of sixty months from the date of initial qualification (start of testing date), provided that during this period the topology using the same materials and processes, has been manufactured at least once each successive twelve month period.

4. QUALIFICATION TESTING

Qualification is performed based on with MIL-PRF-27^(RD2) Table V (Qualification Inspection)

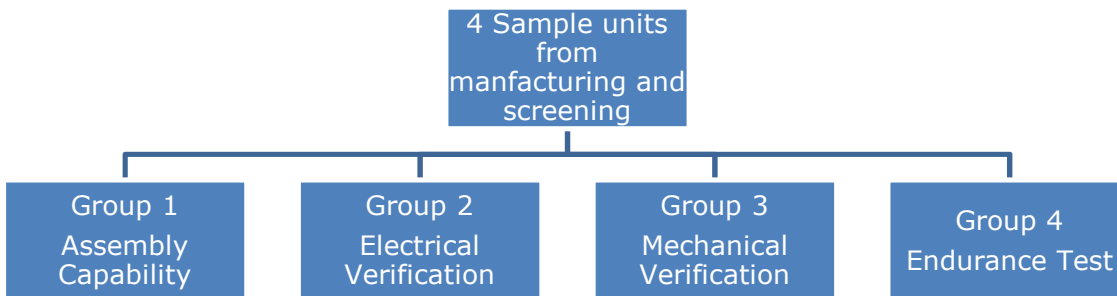


Table 4-1 Test Sub-groups



4.1 Test Report matrix

Group and Test		Q1 (12110029-4-B)				Q2				Q3 (12750009-1-B)				Q4 (14170194-2-B)				Q5 (14220158-2-B)					
		3181	3182	3183	3184					001	002	003	004	272	273	274	275	023	024	025	026		
Group 1	Screening	✓	✓	✓	✓	SAMPLE NOT USED	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Solderability	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Visual Inspection	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Visual Inspection	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Mechanical Shock	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Visual Inspection	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Electrical characteristics (inductance)	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Dielectric withstanding voltage (At reduced voltage)	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Winding continuity	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Thermal shock	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Winding continuity	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Moisture resistance	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Cold Temperature Storage	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Overload	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Dielectric withstanding voltage (At reduced voltage)	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Insulation resistance	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Winding continuity	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Visual and mechanical examination	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
	Electrical characteristics	✓	✓				✓	✓			✓	✓			✓	✓			✓	✓			
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓						
Group 4	Life test			✓	✓				✓	✓			✓	✓			✓	✓					
	Dielectric withstanding voltage (At reduced voltage)			✓	✓				✓	✓			✓	✓			✓	✓					
	Insulation resistance			✓	✓				✓	✓			✓	✓			✓	✓					
	Visual and mechanical examination			✓	✓				✓	✓			✓	✓			✓	✓					
	Electrical characteristics			✓	✓				✓	✓			✓	✓			✓	✓					

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q6 (12220096-2-B)				Q7 (14220153-2-B)				Q8 (14311008-2-B)				Q9 (14149006-4-B)				Q10 (14230080-1-B)			
		033	034	035	036	059	060	061	062	009	010	011	012	021	023	024	026	011	012	013	015
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Solderability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Group 2	Terminal Strength	✓	✓	✓	✓	✓	✓	✓	✓								✓	✓	✓	✓	
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓									✓	✓	✓	
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Group 3	Vibration	✓	✓			✓	✓			✓	✓			✓				✓	✓		
	Mechanical Shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓				
Group 4	Life test			✓	✓			✓	✓			✓	✓			✓	✓		✓	✓	
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓			✓	✓		✓	✓	
	Insulation resistance			✓	✓			✓	✓			✓	✓			✓	✓		✓	✓	
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓			✓	✓		✓	✓	
	Electrical characteristics			✓	✓			✓	✓			✓	✓			✓	✓		✓	✓	

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q11 (14260119-1-B)				Q12 (14260082-2-B)				Q13 (14011001-5)				Q14 (120210082-B)				Q15 (140500292-B)			
		007	008	009	010	021	022	023	024	A	B	C	D	B331	B332	B333	B334	274	275	276	277
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solderability	✓	✓	✓	✓	✓	✓	✓	✓												
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓												
Group 2	Terminal Strength	✓	✓	✓	✓	✓	✓	✓	✓												
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓												
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓												
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓												
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Mechanical Shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓				
Group 4	Life test			✓	✓			✓	✓			✓	✓			✓	✓			Fail	Fail
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓			✓	✓			Fail	Fail
	Insulation resistance			✓	✓			✓	✓			✓	✓			✓	✓			Fail	Fail
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓			✓	✓			Fail	Fail
	Electrical characteristics			✓	✓			✓	✓			✓	✓			✓	✓			Fail	Fail

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q16 (140500133-B)				Q17 (120600061-B)				Q18			Q19 (12121115-1-B)				Q20 (12141041-4-B)													
		605	606	607	608	012	013	014	015				021	023	024	026	011	012	013	015										
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	SAMPLE NOT USED											✓	✓	✓	✓	✓	✓	✓	✓		
	Solderability	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration	✓	✓			✓	✓														✓	✓			✓	✓				
	Mechanical Shock	✓	✓			✓	✓														✓	✓			✓	✓				
	Visual Inspection	✓	✓			✓	✓														✓	✓			✓	✓				
	Electrical characteristics (inductance)	✓	✓			✓	✓														✓	✓			✓	✓				
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓														✓	✓			✓	✓				
	Winding continuity	✓	✓			✓	✓														✓	✓			✓	✓				
	Thermal shock	✓	✓			✓	✓														✓	✓			✓	✓				
	Winding continuity	✓	✓			✓	✓														✓	✓			✓	✓				
	Moisture resistance	✓	✓			✓	✓														✓	✓			✓	✓				
	Cold Temperature Storage	✓	✓			✓	✓														✓	✓			✓	✓				
	Overload	✓	✓			✓	✓			✓	✓			✓	✓															
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓															
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓															
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓															
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓															
	Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓															
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓																	
Group 4	Life test			✓	✓			✓	✓				✓	✓				✓	✓											
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓				✓	✓				✓	✓											
	Insulation resistance			✓	✓			✓	✓				✓	✓				✓	✓											
	Visual and mechanical examination			✓	✓			✓	✓				✓	✓				✓	✓											
	Electrical characteristics			✓	✓			✓	✓				✓	✓				✓	✓											

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q21 (14141004-3-B)				Q22 (12140026-1-B)				Q23			Q24 (12210082-2-B)				Q25 (12251037-1-B)													
		012	013	011	014	012	013	014	015				262	263	264	265	014	015	016	017										
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	SAMPLE NOT USED										✓	✓	✓	✓	✓	✓					
	Solderability					✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection					✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength					✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection					✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Dielectric characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Vibration	✓	✓			✓	✓																✓	✓			✓	✓		
	Mechanical Shock	✓	✓			✓	✓																✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓																✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓																✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓																✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓																✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓																✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓																✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓																✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓						✓	✓			✓	✓												
	Overload	✓	✓			✓	✓						✓	✓			✓	✓												
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓						✓	✓			✓	✓												
	Insulation resistance	✓	✓			✓	✓						✓	✓			✓	✓												
	Winding continuity	✓	✓			✓	✓						✓	✓			✓	✓												
Visual and mechanical examination	✓	✓			✓	✓						✓	✓			✓	✓													
Electrical characteristics	✓	✓			✓	✓						✓	✓			✓	✓													
Visual and Mechanical Examination (DPA)	✓				✓							✓				✓														
Group 4	Life test			✓	✓			✓	✓					✓	✓			✓	✓											
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓					✓	✓			✓	✓											
	Insulation resistance			✓	✓			✓	✓					✓	✓			✓	✓											
	Visual and mechanical examination			✓	✓			✓	✓					✓	✓			✓	✓											
	Electrical characteristics			✓	✓			✓	✓					✓	✓			✓	✓											

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending/In progress



Test Report matrix (continued)

Group and Test		Q26 (14210147-1-B)				Q27 (12341031-2-B)				Q28 (14320201-2-B)				Q29 (12341031-2-B)				Q30 (12001166-1)			
		005	006	007	008	012	013	014	015	065	066	069	070	2773	2774	2775	2776	001	002	003	004
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solderability	✓	✓	✓	✓					✓	✓	✓	✓								
	Visual Inspection	✓	✓	✓	✓					✓	✓	✓	✓								
Group 2	Terminal Strength	✓	✓	✓	✓					✓	✓	✓	✓								
	Visual Inspection	✓	✓	✓	✓					✓	✓	✓	✓								
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Vibration	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Mechanical Shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓				
Group 4	Life test			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Insulation resistance			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Electrical characteristics			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q31				Q32 (14240183-1-B)				Q33 (14280027-3-B)				Q34 (14280016-4-B)				Q35 (14790201-1-B)							
						038	039	040	041	271	272	273	274	139	140	141	142	041	044	043	045				
Group 1	Screening	SAMPLE NOT USED				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	Solderability					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	Visual Inspection					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	Dielectric Withstanding Voltage (at atmospheric pressure)					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Mechanical Shock					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual Inspection					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Thermal shock					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Moisture resistance					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage					✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓						
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓						
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓						
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓						
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓						
Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓							
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓								
Group 4	Life test			✓	✓					✓	✓			✓	✓					✓	✓				
	Dielectric withstanding voltage (At reduced voltage)			✓	✓					✓	✓			✓	✓					✓	✓				
	Insulation resistance			✓	✓					✓	✓			✓	✓					✓	✓				
	Visual and mechanical examination			✓	✓					✓	✓			✓	✓					✓	✓				
	Electrical characteristics			✓	✓					✓	✓			✓	✓					✓	✓				

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q36 (14170209-1-B)				Q37 (14270163-1-B)				Q38 (12051014-1-B)				Q39			Q40 (14140024-1-B)			
		011	012	013	014	001	002	003	004	070	071	072	073				005	006	007	008
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	SAMPLE NOT USED	✓	✓	✓	✓		
	Solderability	✓	✓	✓	✓										✓	✓	✓	✓		
	Visual Inspection	✓	✓	✓	✓										✓	✓	✓	✓		
Group 2	Terminal Strength	✓	✓	✓	✓															
	Visual Inspection	✓	✓	✓	✓															
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
Group 3	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
	Vibration	✓	✓			✓	✓			✓	✓				✓	✓				
	Mechanical Shock	✓	✓			✓	✓			✓	✓				✓	✓				
	Visual Inspection	✓	✓			✓	✓			✓	✓				✓	✓				
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓				✓	✓				
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓				✓	✓				
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓					
	Thermal shock	✓	✓			✓	✓			✓	✓			✓	✓					
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓					
	Moisture resistance	✓	✓			✓	✓			✓	✓			✓	✓					
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓			✓	✓					
	Overload	✓	✓			✓	✓			✓	✓			✓	✓					
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓					
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓					
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓					
Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓						
Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓						
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓							
Group 4	Life test			✓	✓			✓	✓			✓	✓			✓	✓			
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓			✓	✓			
	Insulation resistance			✓	✓			✓	✓			✓	✓			✓	✓			
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓			✓	✓			
	Electrical characteristics			✓	✓			✓	✓			✓	✓			✓	✓			

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		Q41 (14230081-1-B)			
		007	009	008	010
Group 1	Screening	✓	✓	✓	✓
	Solderability	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓
Group 2	Terminal Strength	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓
Group 3	Vibration	✓	✓		
	Mechanical Shock	✓	✓		
	Visual Inspection	✓	✓		
	Electrical characteristics (inductance)	✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓		
	Winding continuity	✓	✓		
	Thermal shock	✓	✓		
	Winding continuity	✓	✓		
	Moisture resistance	✓	✓		
	Cold Temperature Storage	✓	✓		
	Overload	✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓		
	Insulation resistance	✓	✓		
	Winding continuity	✓	✓		
	Visual and mechanical examination	✓	✓		
	Electrical characteristics	✓	✓		
Visual and Mechanical Examination (DPA)	✓				
Group 4	Life test				
	Dielectric withstanding voltage (At reduced voltage)				
	Insulation resistance				
	Visual and mechanical examination				
	Electrical characteristics				

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N

Pending



Test Report matrix (continued)

Group and Test		QS1 (12211118-1-B)				QS2(14121023-3-B)				QS3(12251007-1)				QS4(14210071-1)				QS5(14790101-1-B)			
		044	045	043	047	243	244	246	245	472	473	474	475	135	136	137	138	008	009	006	007
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solderability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength					✓	✓	✓	✓					✓	✓	✓	✓				
	Visual Inspection					✓	✓	✓	✓					✓	✓	✓	✓				
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Mechanical Shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Insulation resistance	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
	Electrical characteristics	✓	✓			✓	✓			✓	✓			✓	✓			✓	✓		
Visual and Mechanical Examination (DPA)	✓				✓				✓				✓				✓				
Group 4	Life test			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Insulation resistance			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓
	Electrical characteristics			✓	✓			✓	✓			✓	✓			✓	✓			✓	✓

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N



Test Report matrix (continued)

Group and Test		QS6 (12800014-1-B)				QS7(14110246-1-B)				QS8(14170305-1-B)			
		009	010	011	007	004	006	008	009	064	065	094	095
Group 1	Screening	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solderability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 2	Terminal Strength					✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection					✓	✓	✓	✓	✓	✓	✓	✓
	Dielectric Withstanding Voltage (at atmospheric pressure)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (room temperature)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mounting on PCB and Fixture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Visual Inspection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical characteristics (inductance)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Group 3	Vibration	✓	✓			✓	✓			✓	✓		
	Mechanical Shock	✓	✓			✓	✓			✓	✓		
	Visual Inspection	✓	✓			✓	✓			✓	✓		
	Electrical characteristics (inductance)	✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓		
	Thermal shock	✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓		
	Moisture resistance	✓	✓			✓	✓			✓	✓		
	Cold Temperature Storage	✓	✓			✓	✓			✓	✓		
	Overload	✓	✓			✓	✓			✓	✓		
	Dielectric withstanding voltage (At reduced voltage)	✓	✓			✓	✓			✓	✓		
	Insulation resistance	✓	✓			✓	✓			✓	✓		
	Winding continuity	✓	✓			✓	✓			✓	✓		
	Visual and mechanical examination	✓	✓			✓	✓			✓	✓		
	Electrical characteristics	✓	✓			✓	✓			✓	✓		
	Visual and Mechanical Examination (DPA)	✓				✓				✓			
Group 4	Life test			✓	✓			✓	✓			✓	✓
	Dielectric withstanding voltage (At reduced voltage)			✓	✓			✓	✓			✓	✓
	Insulation resistance			✓	✓			✓	✓			✓	✓
	Visual and mechanical examination			✓	✓			✓	✓			✓	✓
	Electrical characteristics			✓	✓			✓	✓			✓	✓

Pass

Passed with comments
See section 10.5/10.6

Fail
See section 10.7

This test is required,
however it is Not
Applicable for this part type

In accordance with Test
procedure this test is not
required for this S/N



4.2 Test Facilities

All testing was performed at FLUX facilities, Asnaes; and Delta facilities in Horsholm, Denmark.



4.3 Compliance towards MIL-PRF-27

Compliance between table 4-2 and MIL-PRF-27^(RD2) requirements for grade 5 transformers and inductors, is given in table 4-3:

Test or Inspection	C / NC	Test / Doc	Notes
Solderability	C	T	Soldering Iron method
Resistance to solvents	C	D	Resistance to solvent known for all materials
Resistance to soldering heat	C	T	Part of solderability test
Terminal strength	C	T	
Dielectric withstanding voltage (At atm. pressure)	C	T	
Dielectric withstanding voltage (At bar pressure)	NC	-	Not performed due to excessive cost. Test is not required as part of MIL-STD-981 group B inspection.
Induced voltage	C	T	Only for machine wound components
Insulation resistance	C	T	
Electrical characteristics	C	T	
Temperature rise	NC	-	Component performance not relevant for process qualification.
Corona discharge	N/A	-	All components operate below 100V/mil
Salt spray	NC	-	No components are subjected to salty environment
Vibration	C	T	
Shock	C	T	Test conditions E used
Dielectric withstanding voltage (At reduced voltage)	C	T	
Induced voltage	C	T	Only for machine wound components
Winding continuity	C	T	
Thermal shock (10 cycles)	C	T	25 cycles performed
Winding continuity	C	T	
Immersion	NC	-	No components are subjected to wet environment
Moisture resistance	C	T	Test performed without polarisation, no load, excl. vibration
Overload	C	T	
Low Temperature Storage		T	This is an additional test not specified in MIL-PRF-27 ^(RD2)
Dielectric withstanding voltage (At reduced voltage)	C	T	
Induced voltage	C	T	Only for machine wound components
Insulation resistance	C	T	
Winding continuity	C	T	
Visual and mechanical examination	C	T	
Electrical characteristics	C	T	
Flammability	C	D	Flammability data used
Visual and Mechanical examination (Internal)	C	T	
Life test	C	T	
Dielectric withstanding voltage (At reduced voltage)	C	T	
Insulation resistance	C	T	
Visual and mechanical examination	C	T	
Electrical characteristics	C	T	
Fungus	C	D	All materials used are fungus resistant

Table 4-3 Compliance Matrix



5. TEST METHODS AND REQUIREMENTS

5.1 Screening

Screening shall be performed in accordance with FT08711502^(RD6) as specified in the detail specifications and the test matrix in table 4-2.

5.2 Electrical characteristics

The applicable electrical characteristics and tolerances shall be as specified on the transformer or inductor manufacturing drawing.

5.2.1 Electrical characteristics test method

Electrical characteristics are defined as inductance. The applicable electrical characteristics for each sample are specified on the detail specifications. Measurements shall be performed in accordance with FT08711502^(RD6) with the test conditions as specified in the detailed specifications.

5.2.2 Electrical characteristics requirements

The measured electrical characteristics shall fall within the limits specified on the detailed specifications. Drift shall be calculated with reference to first measurement after production screening.

5.3 Visual inspection

Visual inspection shall be performed as specified in table 4-2.

5.3.1 Visual inspection method

Visual inspection shall be aided by magnification appropriate to the size of inspection item, between 4x to 10x magnification. Additional magnification shall be used to resolve suspected anomalies or defects.

5.3.2 Visual inspection requirements

5.3.2.1 External

The qualification models shall be examined to verify that the materials, external design and construction, physical dimensions, marking and workmanship are in accordance with the requirements defined in the relevant procedures and the applicable documents given in chapter 2.

5.3.2.2 Post-test

Not more than 10% of the surface shall have pooling, flaking, chipping, cracking, crazing or other impairment of the protective coating. There shall be no leakage of the filling material, no evidence of other physical damage, such as cracks, bursting, or bulging of the case or corrosion affecting the mechanical or electrical operation of the samples in accordance with MIL-PRF-27^(RD2).



5.4 Thermal Shock

5.4.1 Thermal shock method

Thermal shock shall be performed using an environmental chamber. The following test conditions shall be used:

Test Conditions	
Minimum temperature	- 55°C ±3°C
Maximum temperature	+120°C ±3°C
Transition temperature	Room Temperature
Dwell time at min. and max. temperature	30 min.
Dwell time at transition temperature	4 min.
Transfer time	< 5 min.
Number of cycles	25

Table 5-1 Thermal Shock

The first five cycles shall be run continuously. After five cycles, the test may be interrupted after the completion of any full cycle, and the components allowed returning to room ambient temperature before testing is resumed.

5.4.2 Thermal shock requirement

The components shall be examined for evidence of leakage and other visible damage according to MIL-PRF-27^(RD2), section 3.24.

5.5 Dielectric Withstanding Voltage

Atmospheric pressure is applicable for all components

5.5.1 Dielectric withstanding voltage method

The dielectric withstanding voltage test serves to determine whether insulating materials and spacing between different parts in the magnetic component are adequate.

The test consists of the application of an AC voltage higher than rated voltage for a specific time between mutually insulated portions of a component part or between insulated portions and ground.

The test shall be applied between each winding and shield and all of the other windings and shields connected to the core (if accessible). Alternatively the test shall be applied between each winding and shield and each of the other windings, shields and core (if accessible).

For toroids where the core is not accessible, the components shall be wrapped in conductive material (ESD-foam) and the test shall be applied between each winding and the conductive material.

Voltage	500 V rms.
Max. Current	0.10 mA ± 0.02 mA
Ramp Time	Max. 1 s
Dwell Time	Min. 5 s
Frequency	50 Hz

Table 5-2 Dielectric Withstanding Voltage(DWV)



5.5.2 Dielectric withstanding voltage requirements

During and after the test the magnetic device shall be inspected for evidence of arcing, flashover, breakdown of insulation, and damage in accordance with MIL-PRF-27^(RD2), section 4.7.9.1.

5.6 Solderability

Solderability shall be performed on samples with PCB terminals. Solderability is not applicable for flying leads.

5.6.1 Solderability method

Solderability shall be tested by the "Soldering iron method", specified in MIL-STD-202^(RD3), method 208. By using the "Soldering iron method" no separate test for resistance to soldering heat will be performed, and the purpose of this test will be:

- a) Qualification of the component resistance to heat when soldered with a soldering iron.
- b) Qualification of the solderability of the component terminals.

Practical test method to be applied:

- Minimum two of each type of terminals shall be tested
- A standard soldering iron shall be used. Tip temperature shall be 330 °C +/- 10 °C
- Solder alloy shall be Sn63Pb37 and FLUX shall be type RMA.
- The solder tip shall be held on the middle of the terminal for 2 Sec +/- 0,5 sec
- Solder iron tip shall be calibrated to reach 280°C on the calibration wire in 2 sec

5.6.2 Solderability requirements

The pins shall be visually inspected. Any termination that has less than 5% of the examination area dewetted, nonwetted or with pinholes will be accepted. Inspection is in accordance with MIL-STD-202^(RD3), method 208.

5.7 Resistance to solvent

Not applicable when resistance to solvent data is available. This data is available for the labels used by FLUX, as confirmation FLUX will subject 10 labels to test. These labels will be affixed to dummy units and tested as follows.

5.7.1 Resistance to solvent method

Components shall be tested in accordance with MIL-STD-202^(RD3), method 215.

The following shall apply:

- The marked portion of the components shall be brushed.
- The solvents tested shall be:
 - Demineralized water
 - 2-propanol

5.7.2 Resistance to solvent requirements

Not more than 10 % of the surface shall have peeling, flaking, cracking or corrosion affecting the mechanical or electrical operation of the component in accordance with MIL-PRF-27^(RD2), section 3.24.

5.8 Terminal strength

Up to a maximum of 4 identical terminals per sample is to be subjected to terminal strength test. Terminal strength test is not applicable for flying leads.

5.8.1 Pull method

The components shall be tested in accordance with MIL-STD-202, method 211. The following details shall apply:



A force shall be applied in the direction of the axis of the termination. The force shall be gradually applied up to 10 N and this force shall be held for 5 – 10 seconds.

5.8.2 Terminal strength requirements

After each test the terminals shall be examined for loosening and rupturing and other mechanical damage in accordance with MIL-PRF-27^(RD2), section 4.7.7. Unless otherwise specified, all terminals on each test sample shall be subjected to the above-mentioned tests, up to a maximum of four identical terminals per sample.

5.9 Vibration

Components from subgroup 3 shall be exposed to vibration test. The components shall be mounted on PCB's.

5.9.1 Vibration test method

The components shall be mounted on PCBs on vibration fixture. The components shall be exposed to random vibration according to MIL-STD-202^(RD3), method 214, condition H.

Test conditions are as follows:

- Random vibration
- Vibration level: 30 g rms.
- Duration: 5 minutes per axis.
- Level applied to fixture.

Axis	Frequency Range (Hz)	Level	G rms. Acceleration	Duration per axis
X,Y,Z	20 -100	+ 6 dB/oct	30	300 sec.
	100-1600	0.5 g ² /Hz		
	1600-2000	- 12 dB/oct		

Table 5-3 Vibration Test Level

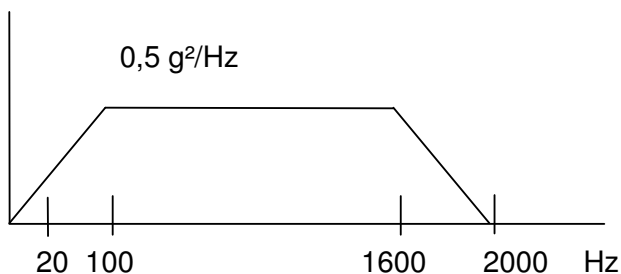


Table 5-4 Vibration test PSD spectrum

5.9.2 Vibration test requirements

There shall be no evidence of physical damage in accordance with MIL-PRF-27^(RD2), section 3.18



5.10 Mechanical Shock

5.10.1 Mechanical shock method

The components shall be mounted on a PCB and a vibration fixture. The components shall be exposed to three shocks in each direction of the three perpendicular axes.

Due to the high demands of space industry, FLUX has elected to increase the demands specified by MIL-PRF-27^(RD1), which states the units be tested accordance with MIL-STD-202^(RD2), method 213 condition I which has a peak value of 100G shock with a sawtooth shape.

To this end, FLUX has decided that the peak value of the shocks is to be 500G with a half sine shape in accordance with MIL-STD-202^(RD2), method 213 condition D Mechanical shock requirements.

5.10.2 Mechanical shock requirements

There shall be no evidence of physical damage in accordance with MIL-PRF-27^(RD1), section 4.7.17.

5.11 Moisture resistance

5.11.1 Moisture resistance method

Moisture resistance is to be performed by exposing the components to a number of temperature and humidity cycles as specified in MIL-STD-202^(RD3), method 106F. The components are not to be polarised or loaded during humidity cycles. Cycle steps 7a (-10°C conditioning) and 7b (vibration) are not applicable.

5.11.2 Moisture resistance requirements

There shall be no evidence of physical damage, or corrosion affecting the mechanical or electrical operation of the component, in accordance with MIL-PRF-27^(RD2), section 4.7.20.

5.12 Overload

5.12.1 Overload method

Overload test is performed by applying operating conditions as specified for each component, with the following exceptions:

- Input voltage is to be at 112% of normal input voltage
- Temperature: +125° C - 5° C +0°C

The operating conditions are applied for at least 48h in accordance with in accordance with MIL-PRF-27^(RD2), section 6.11.

5.12.2 Moisture resistance requirements

There shall be no evidence of physical damage, or corrosion affecting the mechanical or electrical operation of the component, in accordance with MIL-PRF-27^(RD2), section 4.7.20.



5.13 Life test

5.13.1 Operating Life test method

Components shall be tested in accordance with MIL-PRF-27^(RD2). Life test shall be performed by exposing the components to 5 cycles a week for 12 weeks. Four of the cycles consist of 20 hours at 105 degree C with operating conditions applied and 3 hours at room temperature, with no operations conditions applied.

The fifth cycle consist of 68 hours at 105 degree C with operating conditions applied and 3 hours at room temperature, with no operations conditions applied.

The transition times are to be 30 min +/- 5 min each. During transition the samples shall be applied with operating conditions.

5.13.2 Life test requirements

There shall be no evidence of physical damage in accordance with MIL-PRF-27^(RD2), section 3.24.

5.14 Visual and Mechanical Examination (DPA)

5.14.1 Visual and Mechanical Examination method

The components are to be moulded into adequate material and cut and polished. The cross section cut shall include solderings if any, and the core. Multiple cutplanes may be necessary. The components are to be visually inspected and photographed.

5.14.2 Visual and Mechanical Examination Pass Criteria

There shall not be any evidence of physical damage of core, wires, coilformer, solderings, and insulation materials or impregnation material.

5.15 Cold Temperature Storage

This is an additional test not specified in MIL-PRF-27^(RD2)

5.15.1 Cold Temperature Storage method

Units will be placed in a thermal chamber at their minimum storage temperature for a period of 96h, after the period the temperature of the chamber shall be gradually increased to room temperature within a period of no more than 8 hours.

5.15.2 Cold Temperature Storage requirements

There shall be no evidence of cracks or other damage.

6. ACCEPT / REJECT CRITERIA

Qualification samples where one or more sample units do not fulfil the requirements for any one or more tests are to be removed and are considered not acceptable. If, however, the cause of the failure can be identified as bad workmanship, wrong handling or similar reasons and is clearly not related to the general performance of material, process or topology, the sample can be considered as acceptable.

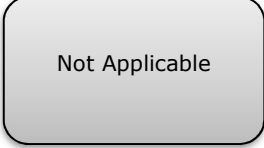
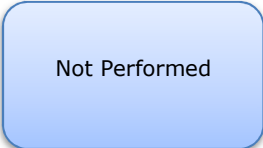
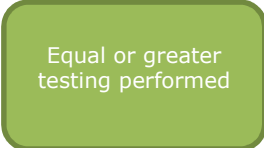
7. REPORTING

Reporting shall be in English writing.



8. COMPLIANCE TO ESCC 3201 QUALIFICATION

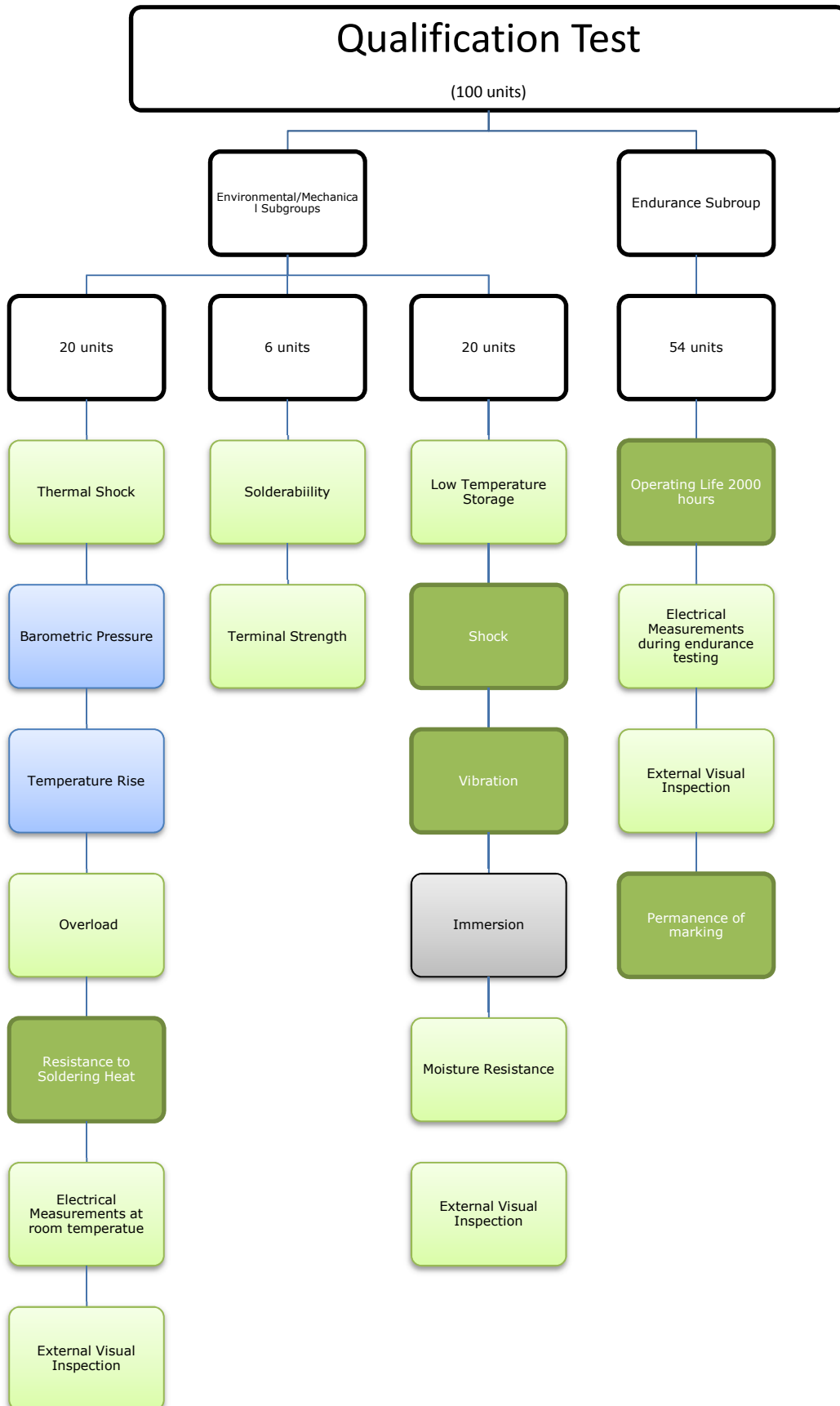
This section compares the testing performed to the requirements of ESCC 3201^(RD11).



Key to Testing compliance in sections 8.1 through 8.5

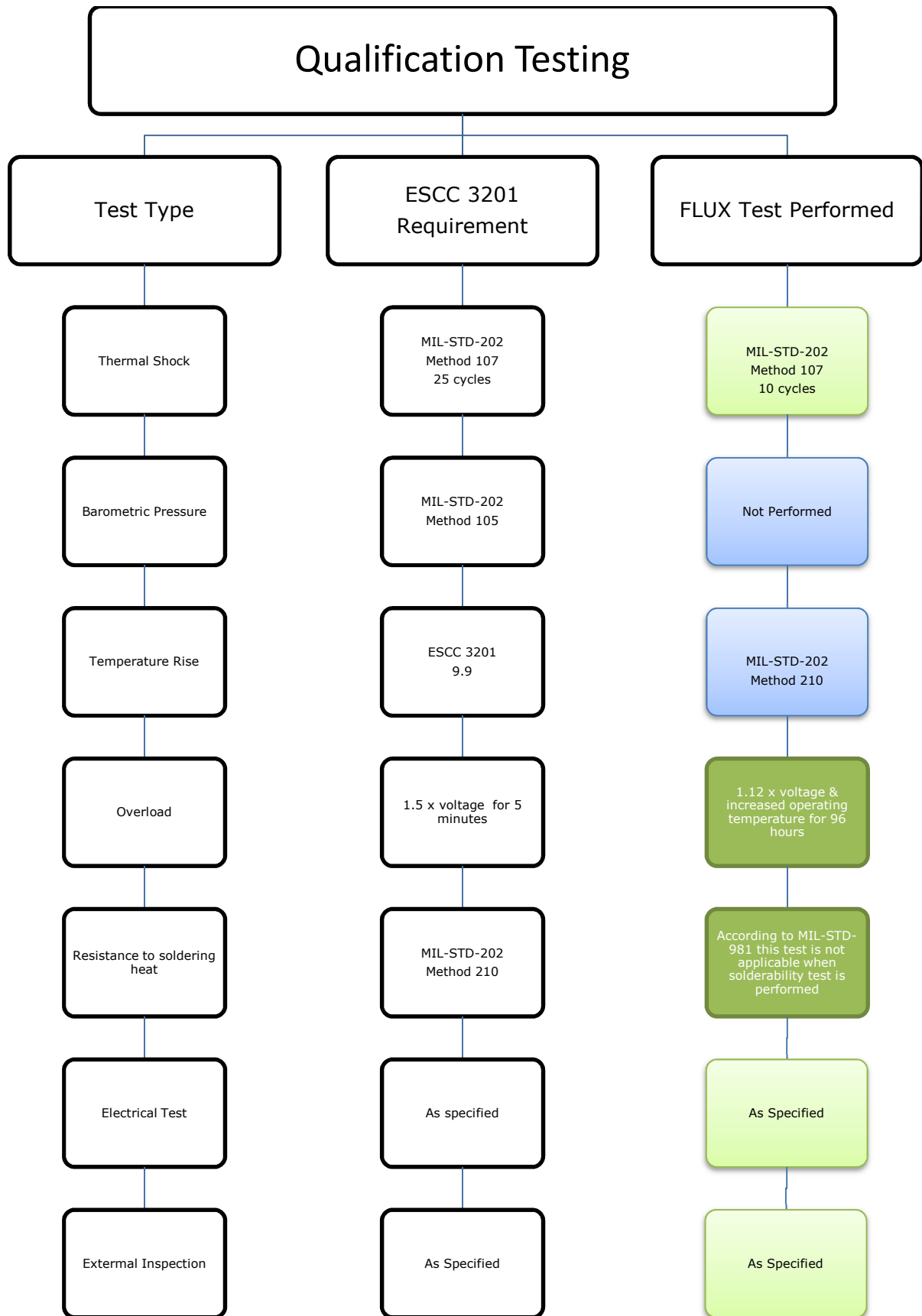


8.1 Qualification Testing



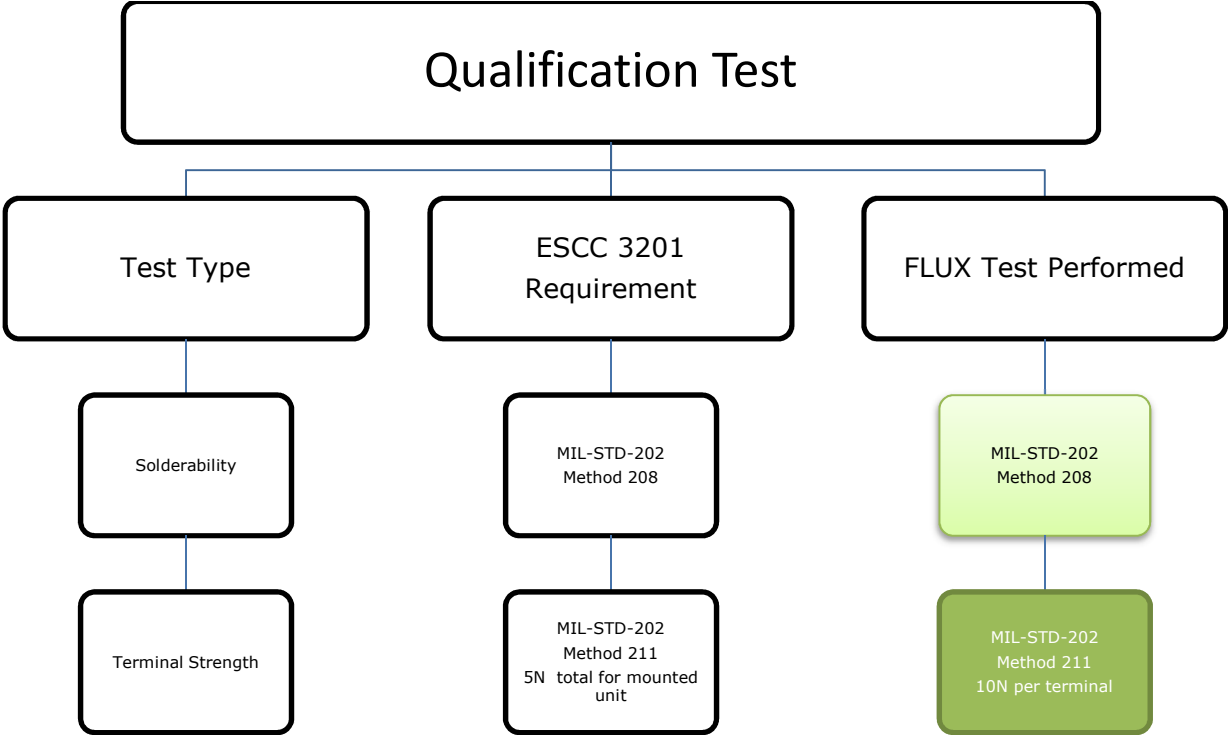


8.2 Sub-Group 1



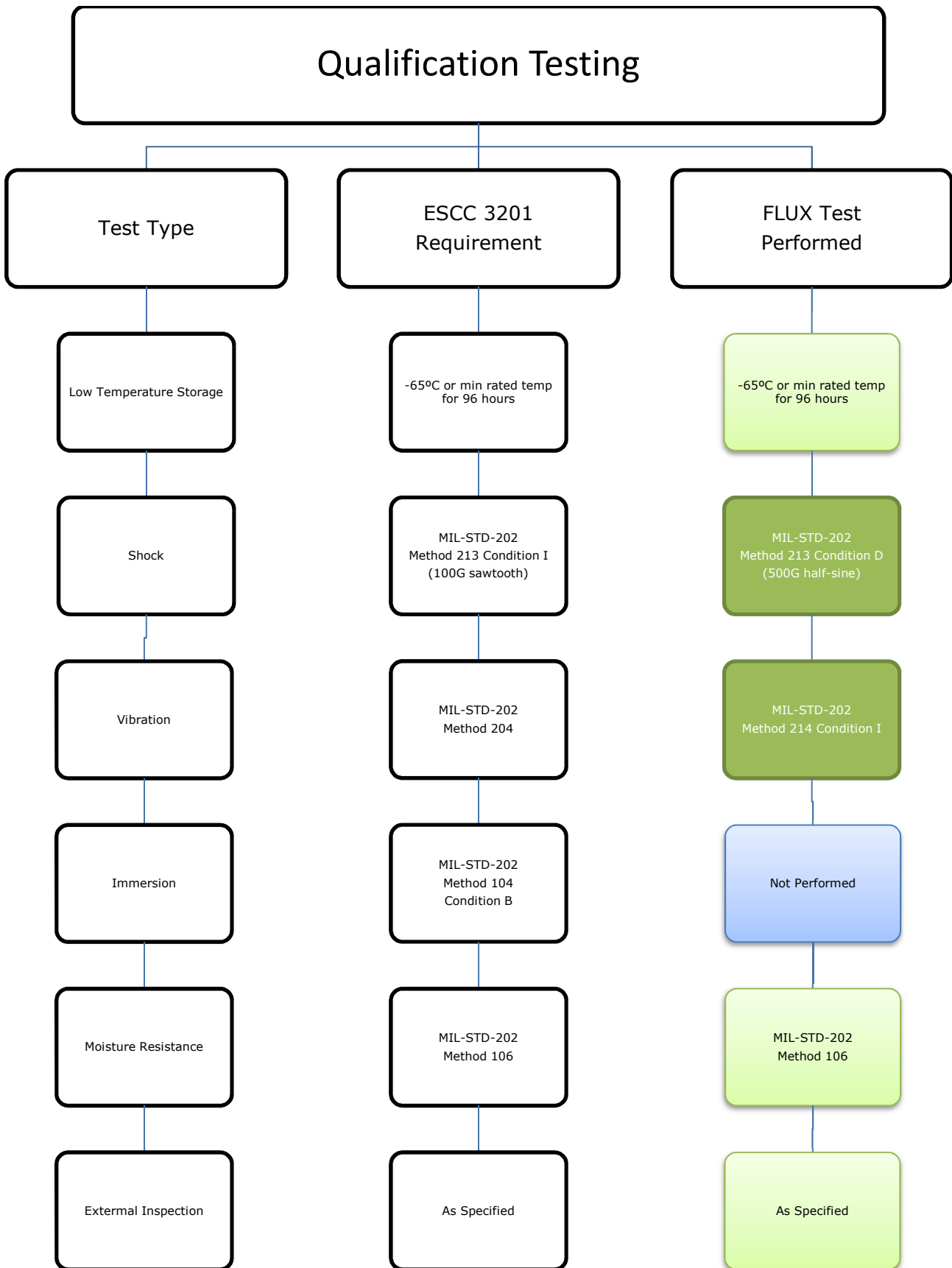


8.3 Sub-Group 2



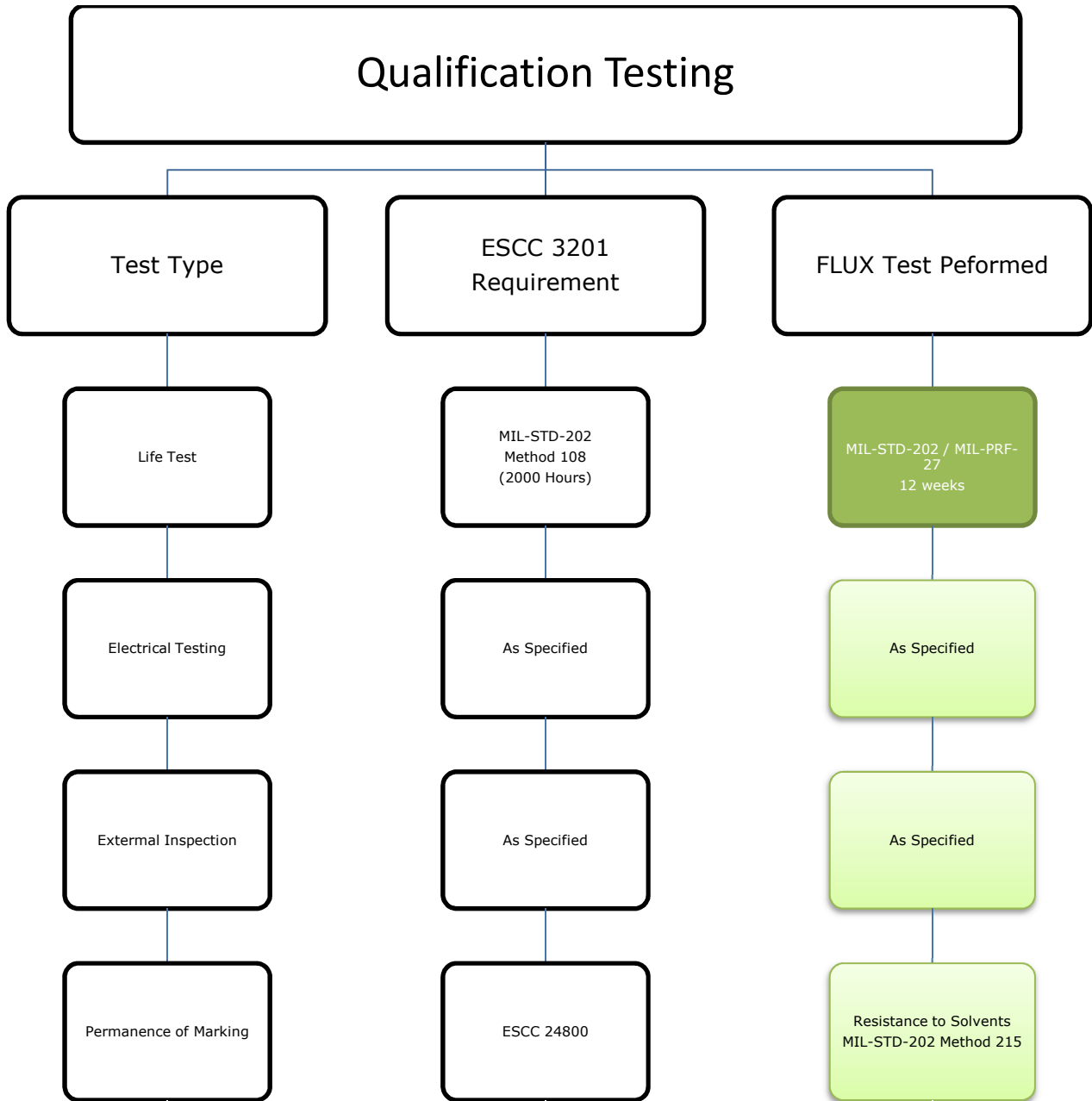


8.4 Sub-Group 3





8.5 Sub-Group 4





9. STATUS

All testing is complete.



10. TEST RESULTS

10.1 Presentation of results

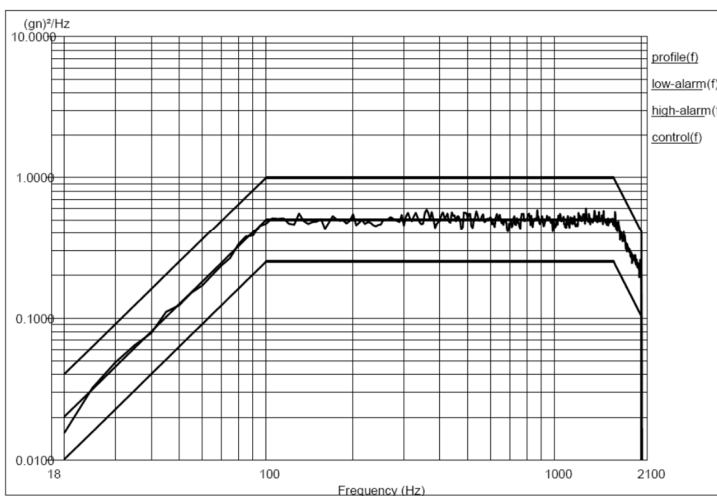
The results are presented and summarised in section 9, any remarks relevant to the test campaign are detailed in sections 10.5 through 10.7.

10.2 Vibration and Mechanical Shock

Vibration and Mechanical shock was performed at Delta all units passed without comments

10.2.1 Random Vibration

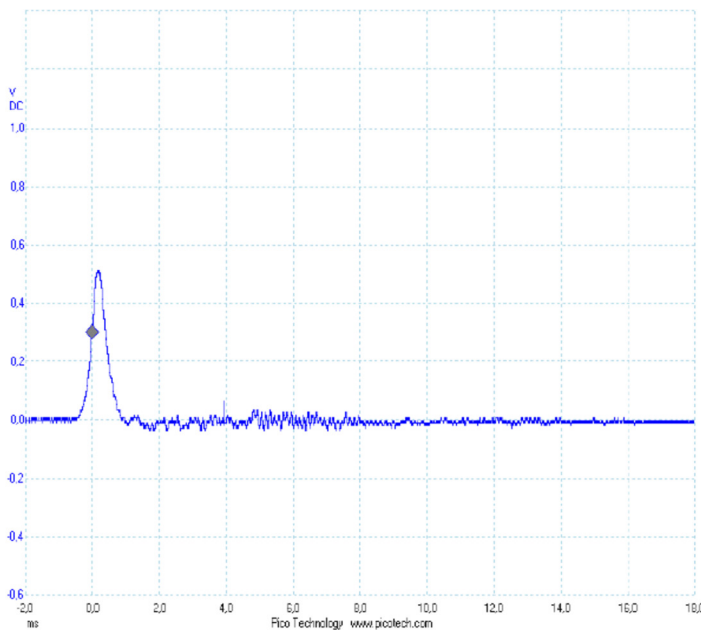
This was performed on all units from subgroup 3



Vibration

Recorded PSD from run 1.
30 g_{rms} , 5 min.

10.2.2 Mechanical Shock 500g



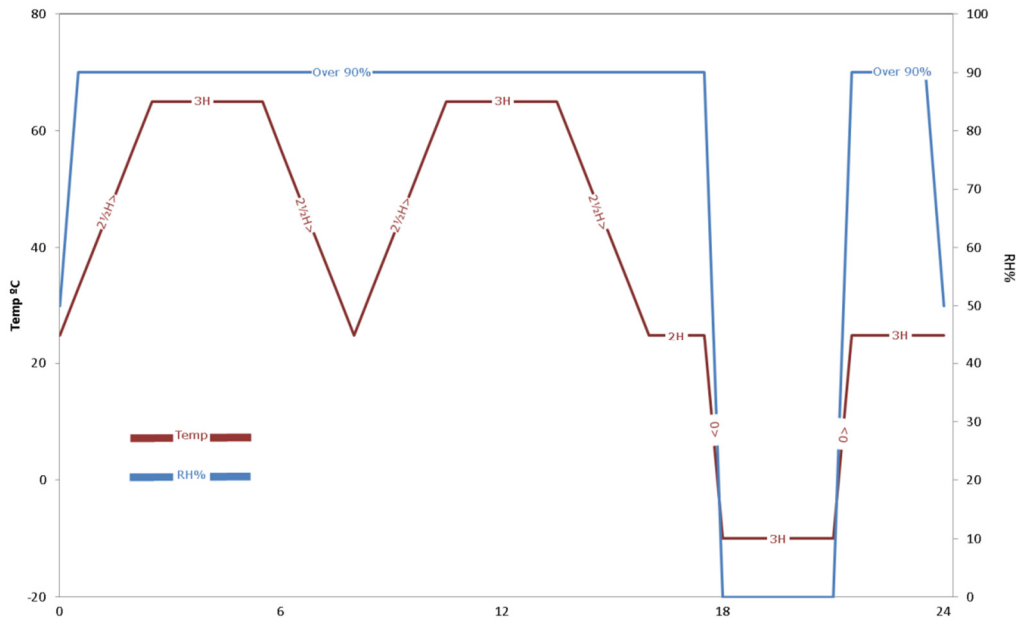
Shock 500g

Recorded shock pulse
1 mV/g vertically.
500 g, 1 ms

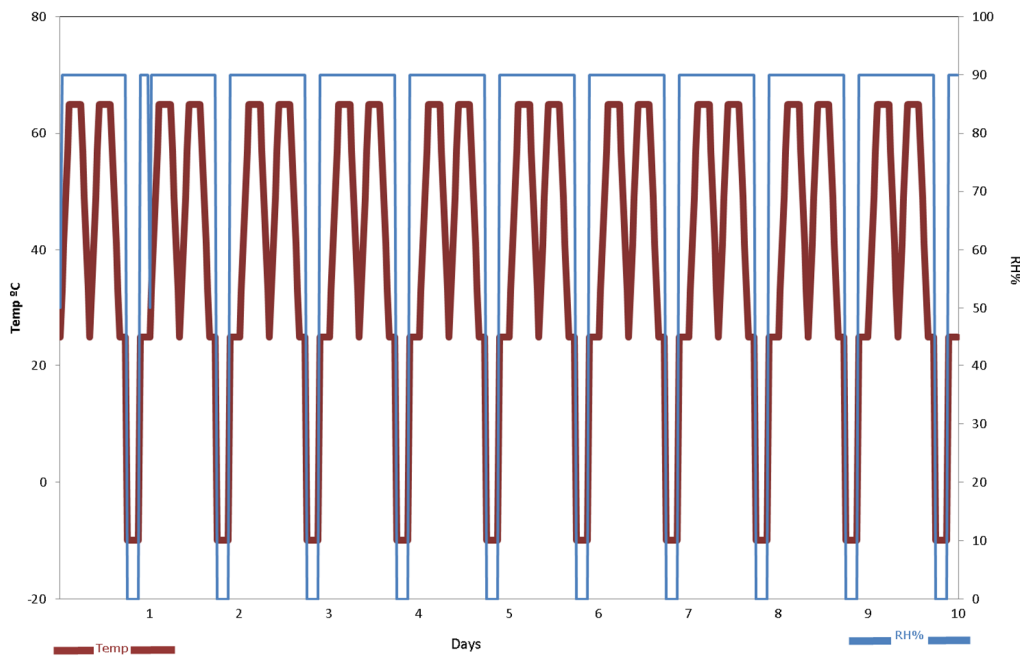


10.3 Moisture Test

10.3.1 One cycle

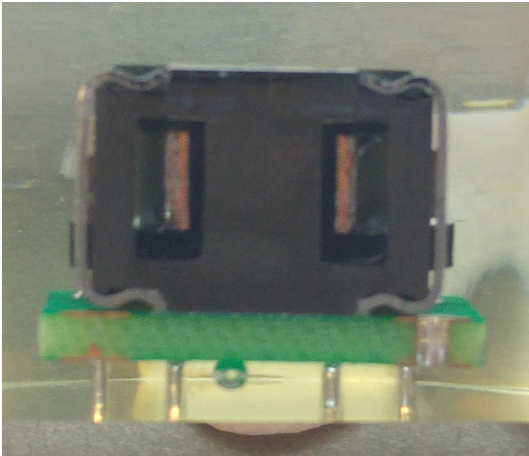


10.3.2 Full Test



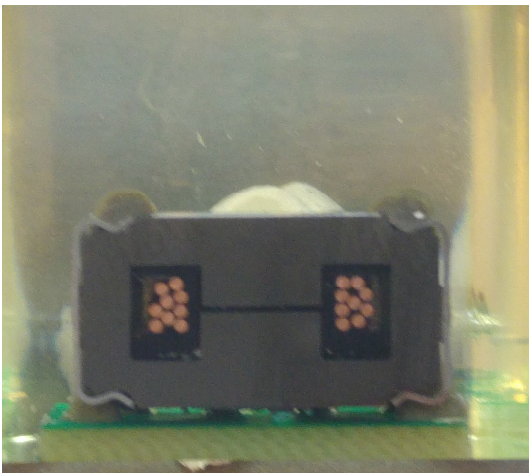
10.4 Internal Examination (DPA)

10.4.1 Q1 - 12110029-4-B



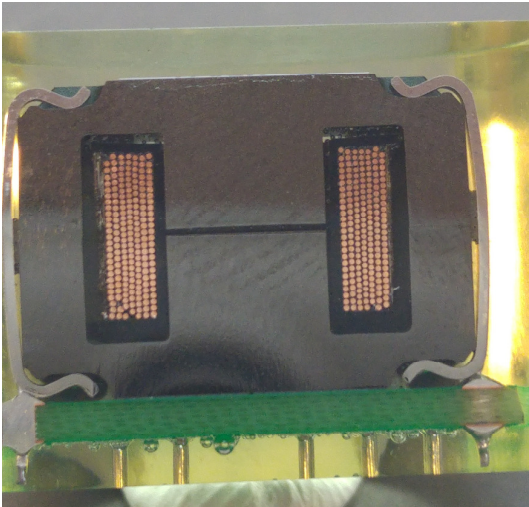
Comments: None

10.4.2 Q3 - 12750009-1-B



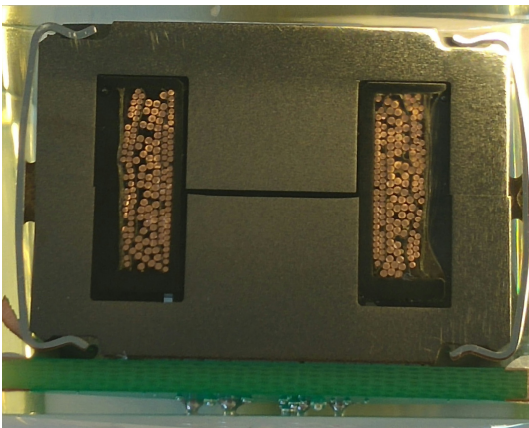
Comments: None.

10.4.3 Q4 – 14170194-2-B



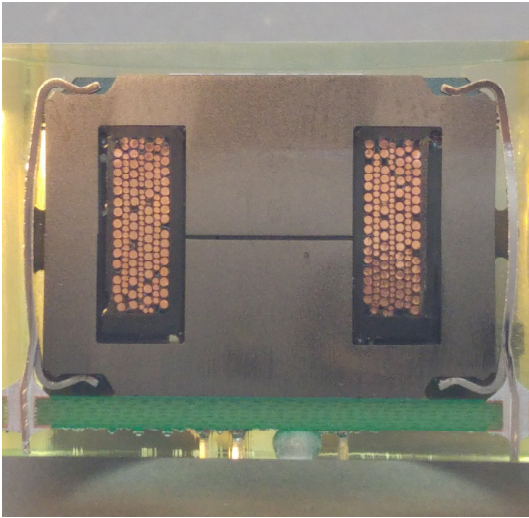
Comments: None

10.4.4 Q5 – 14220158-2-B



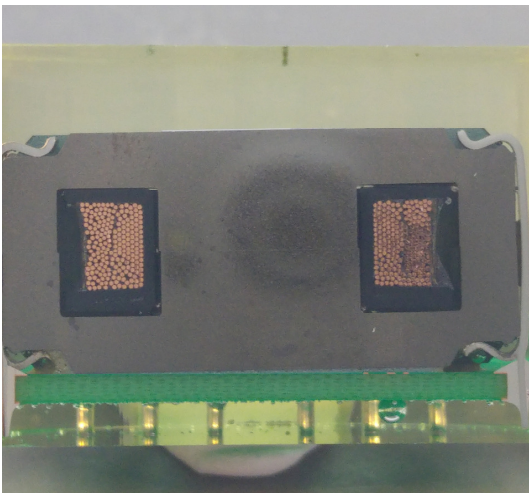
Comments: None

10.4.5 Q6 – 12200096-2-B



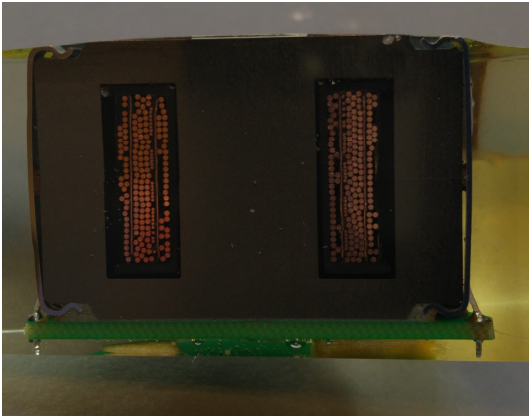
Comments: None

10.4.6 Q7 – 14220153-2-B



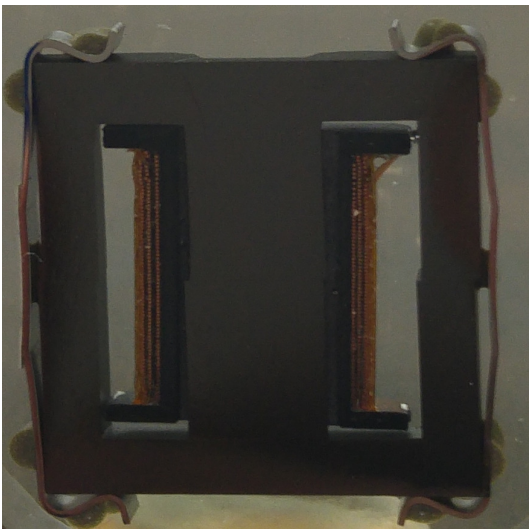
Comments: None.

10.4.7 Q8 – 14311008-2-B



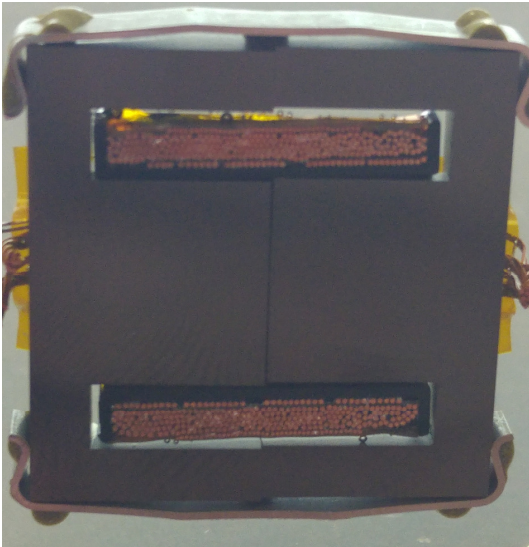
Comments: None

10.4.8 Q9 – 14149006-4-B



Comments: None

10.4.9 Q10 – 14230080-1-B



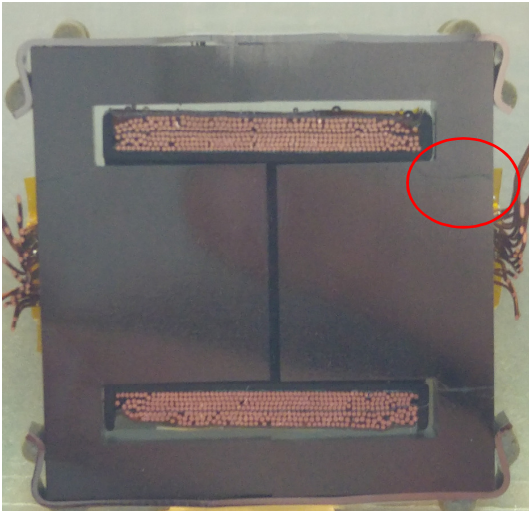
Comments: None

10.4.10 Q11 – 14260119-1-B



Comments: None

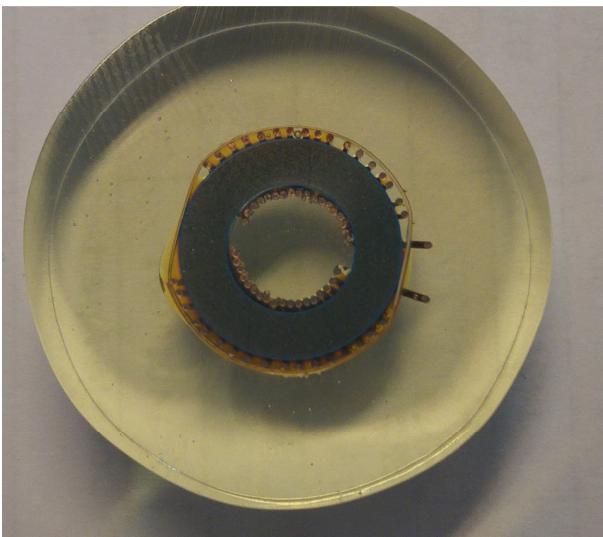
10.4.11 Q12 – 14260082-2-B



Comments:

There are small cracks present in the ferrite core. Examination of the other half of the cutplane and the electrical data indicate that this is a result of the microsectioning process and not the testing.

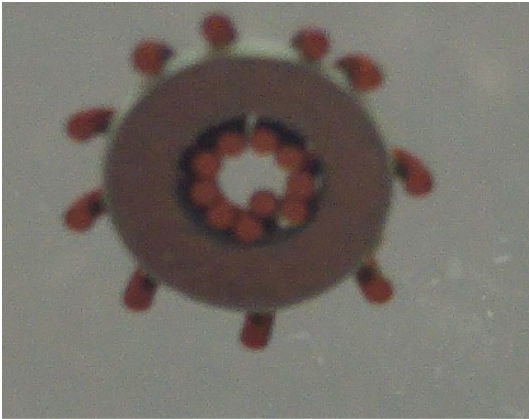
10.4.12 Q13 – 14011001-5



Comments: None



10.4.13 Q14 – 12021008-2-B



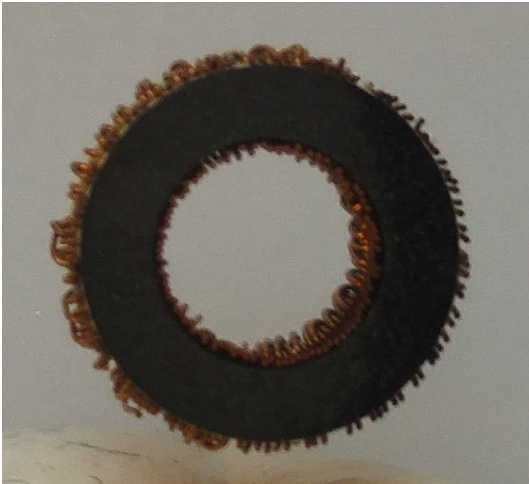
Comments: None

10.4.14 Q15 – 14050029-2-B



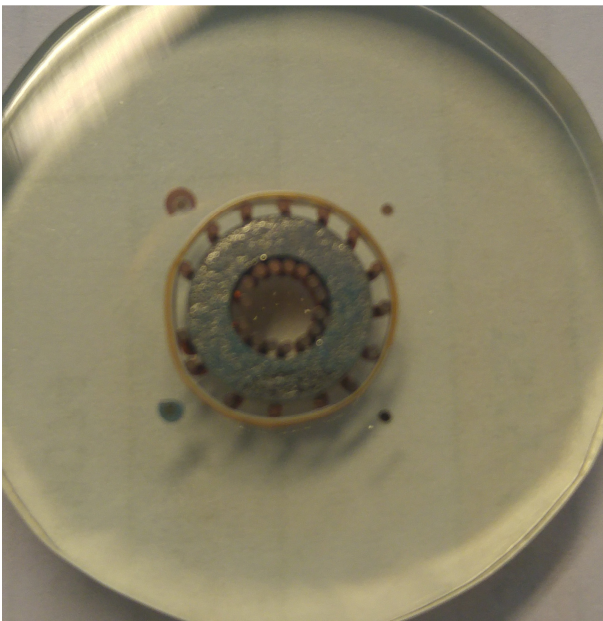
Comments: None

10.4.15 Q16 - 14050013-3-B



Comments: None

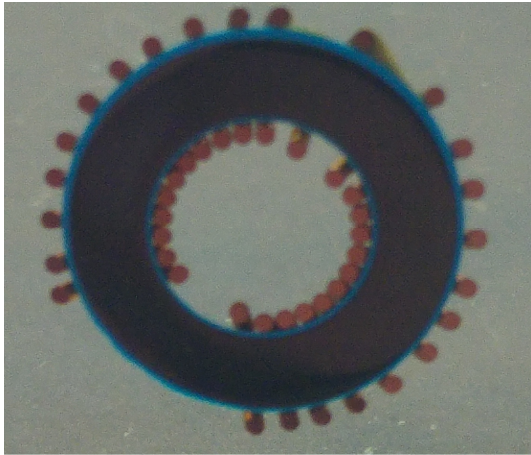
10.4.16 Q17 - 12060006-1-B



Comments: None

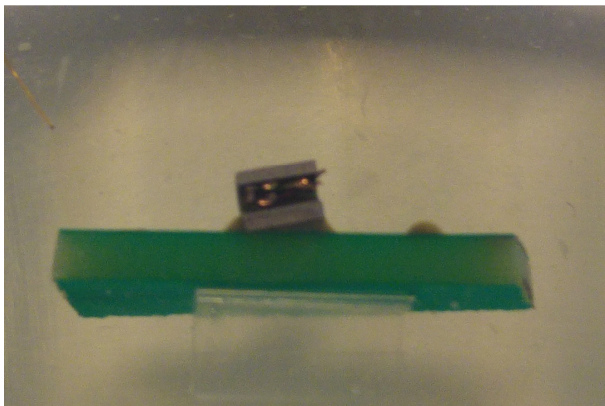


10.4.17 Q19 - 12121115-1-B



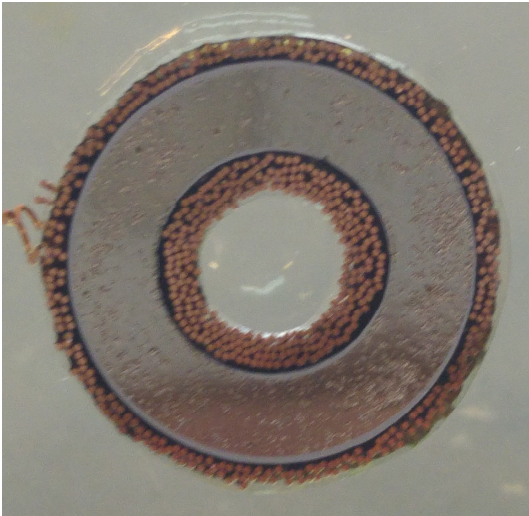
Comments: None.

10.4.18 Q20 - 12141041-4-B



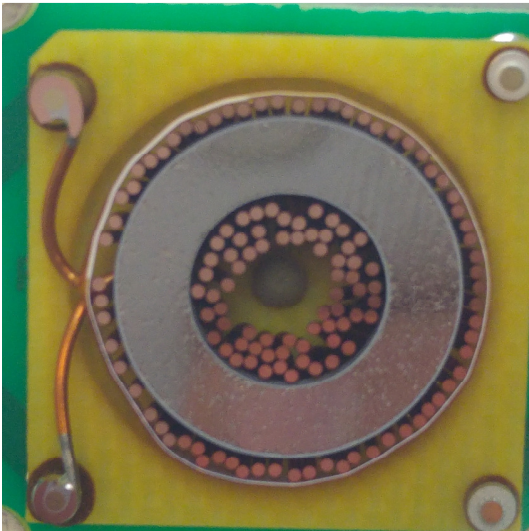
Comments: None

10.4.19 Q21 - 14141004-3-B



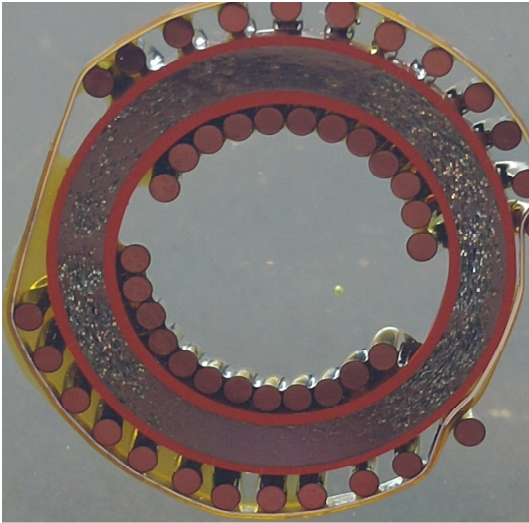
Comments: None

10.4.20 Q22 - 12140026-1-B



Comments: None

10.4.21 Q24 – 12210082-2-B



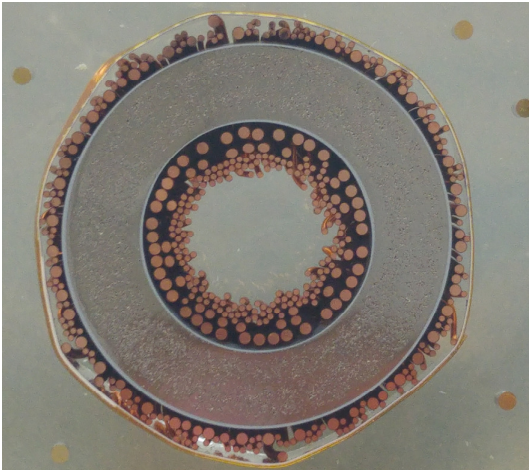
Comments: None

10.4.22 Q25 – 12251037-1-B



Comments: None

10.4.23 Q26 – 14210147-1-B



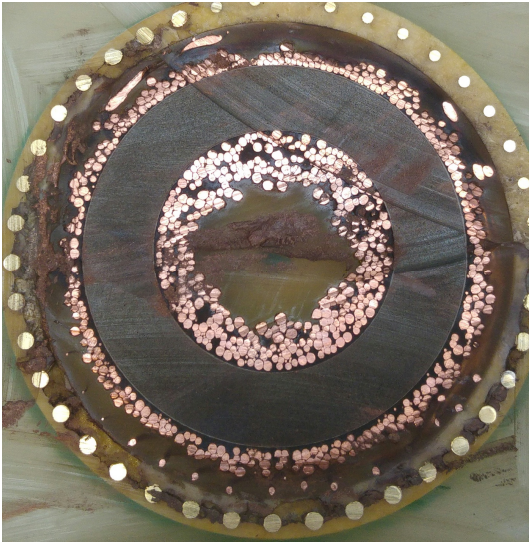
Comments: None

10.4.24 Q27 – 12341031-2-B



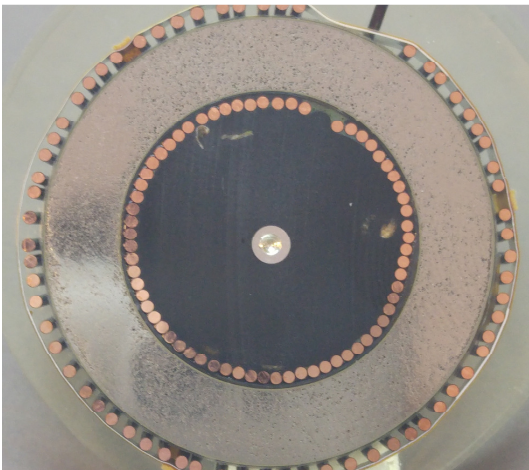
Comments: None

10.4.25 Q28 – 14320201-2-B



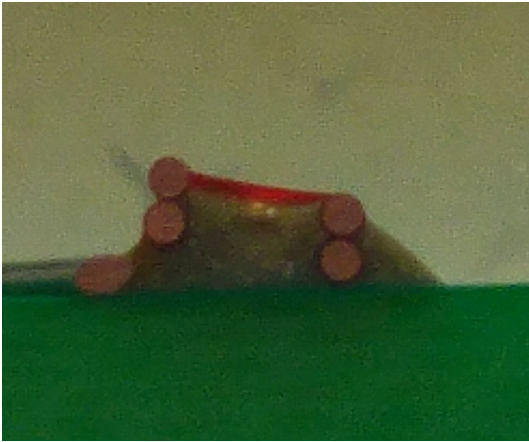
Comments: None

10.4.26 Q29 – 12311047-3-B



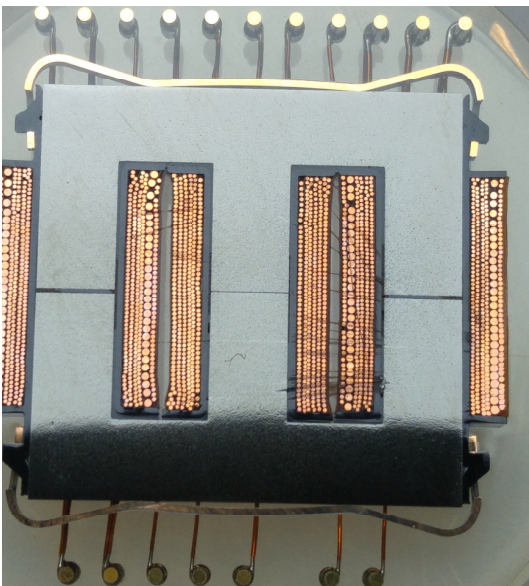
Comments: None

10.4.27 Q30 – 12001166-1



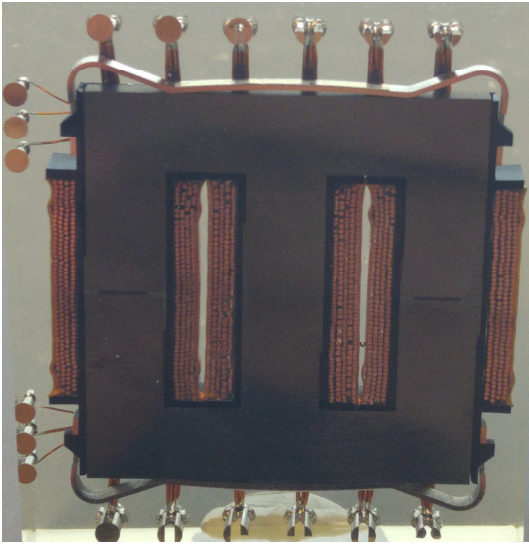
Comments: None

10.4.28 Q32 – 14240183-1-B



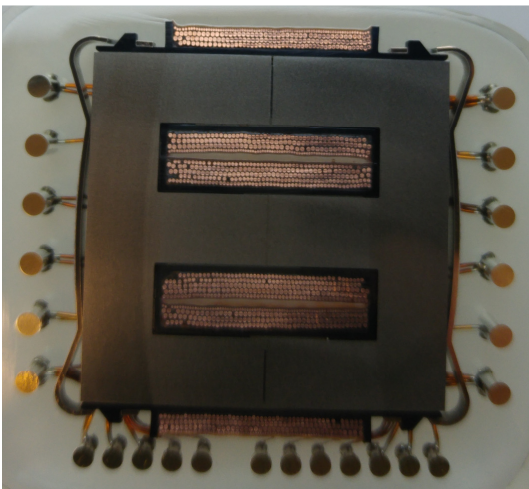
Comments: None

10.4.29 Q33 – 14280027-3-B



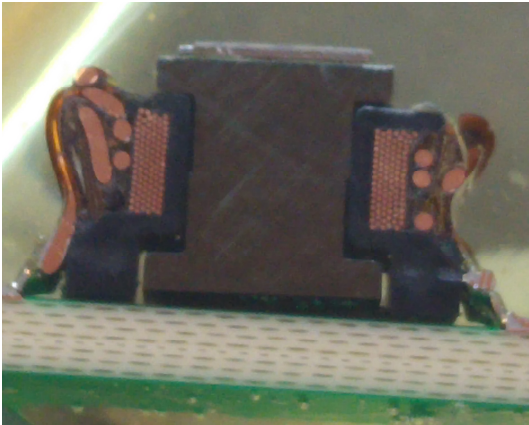
Comments: None

10.4.30 Q34 – 14280016-4-B



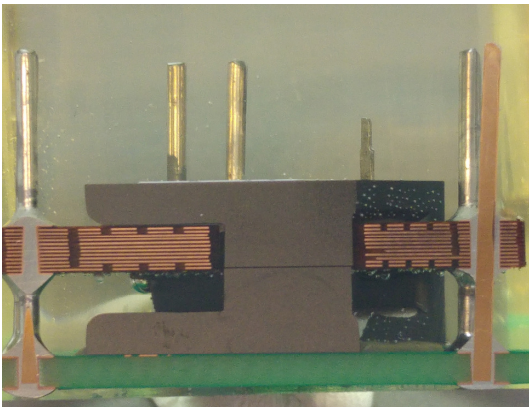
Comments: None

10.4.31 Q35 – 14790201-1-B



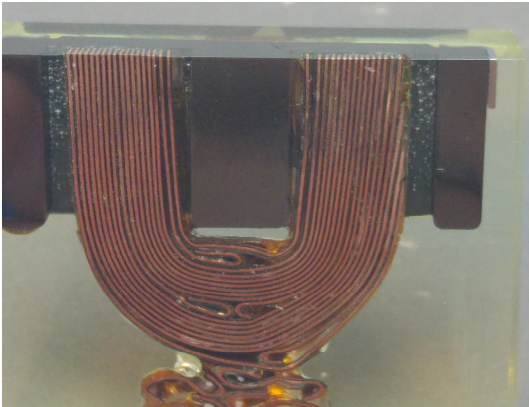
Comments: None

10.4.32 Q36 – 14170209-1-B



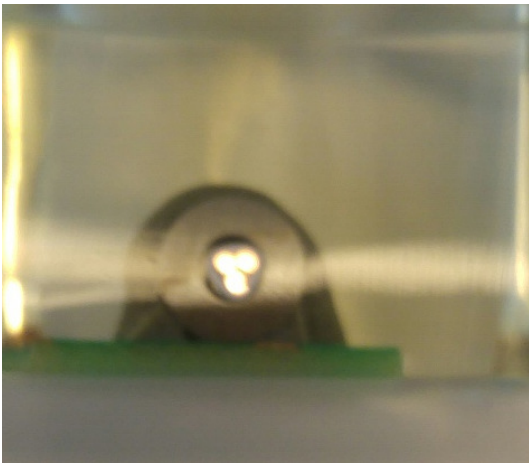
Comments: None

10.4.33 Q37 - 14270163-1-B



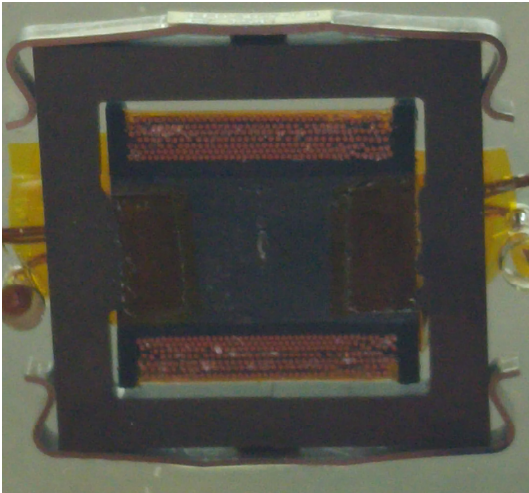
Comments: None

10.4.34 Q38 - 12051014-1-B



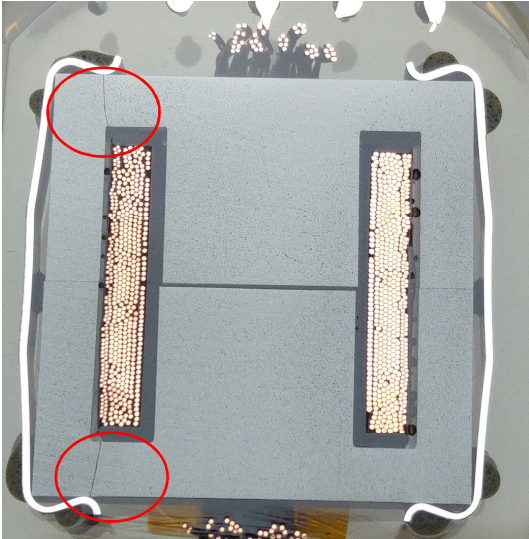
Comments: None

10.4.35 Q40 – 14140024-1-B



Comments: None

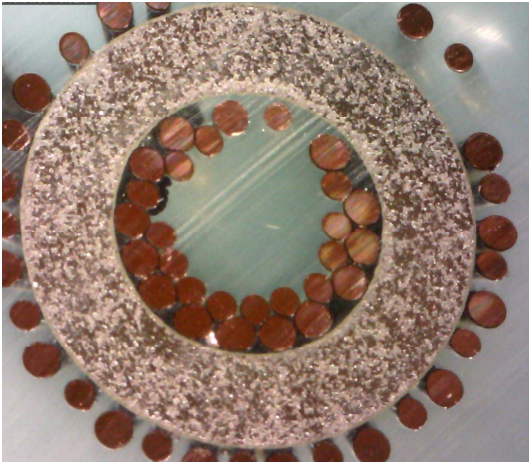
10.4.36 Q41 – 14230081-1-B



Comments:
 There are small cracks present in the ferrite core. Examination of the other half of the cutplane and the electrical data indicate that this is a result of the microsectioning process and not the testing.

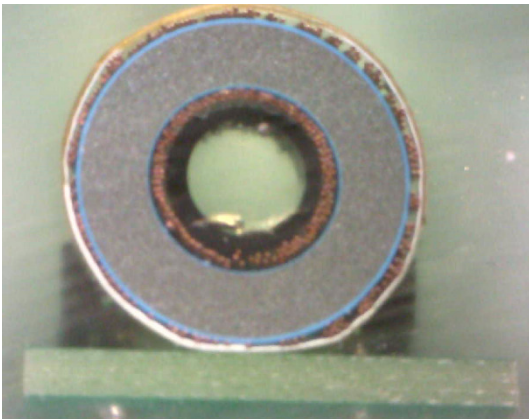


10.4.37 QS1 - 12211118-1-B



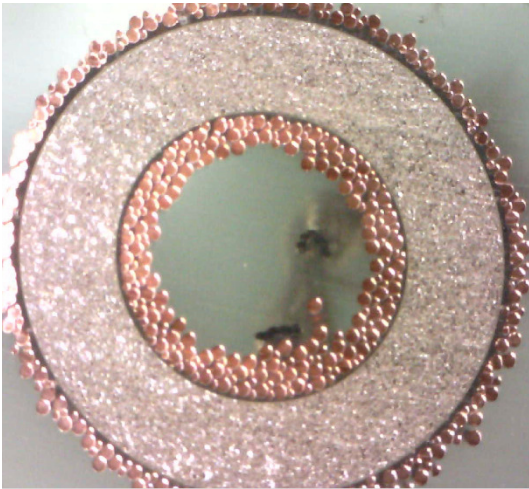
Comments: None

10.4.38 QS2 - 14121023-3-B



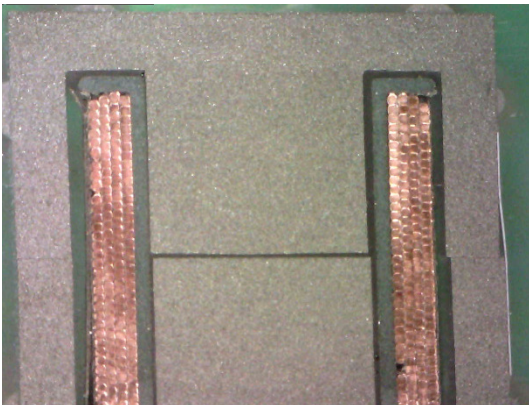
Comments:

10.4.39 QS3 - 12251007-1



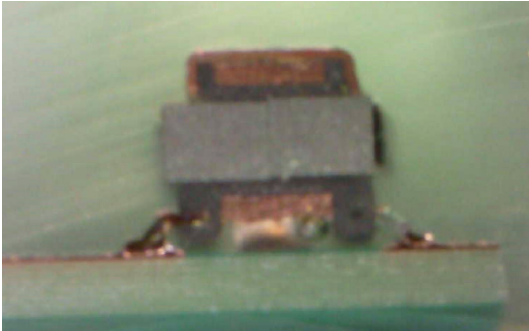
Comments: None

10.4.40 QS4 - 14210071-1



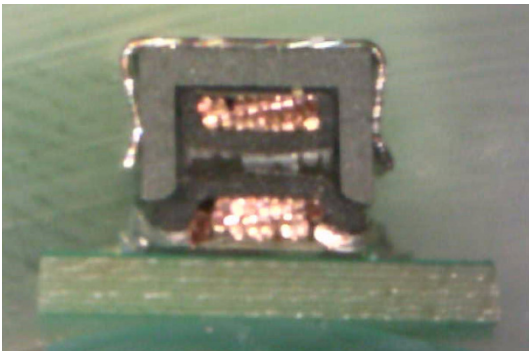
Comments:

10.4.41 QS5 - 14790101-1-B



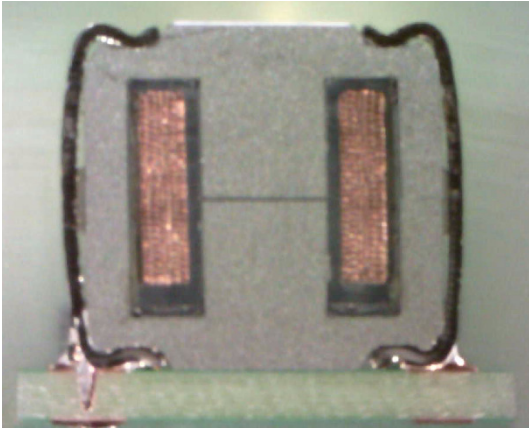
Comments: None

10.4.42 QS6 - 12800014-1-B



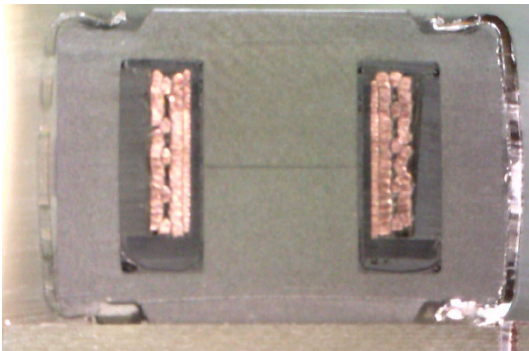
Comments:

10.4.43 QS7 - 14110246-1-B



Comments: None

10.4.44 QS8 - 14170305-1-B



Comments:



10.5 Observations and Observations on testing

- Q3 – Terminal Strength. Due the shape of the terminal it is not possible to apply the force perpendicular to the terminal without deforming the terminal. Samples of unmounted terminals/base were tested and survived over 25N.
- Q9 – Terminal Strength. Due the shape of the terminal it is not possible to apply the force perpendicular to the terminal without deforming the terminal. Samples of unmounted terminals/base were tested and survived over 25N.
- Q14 – Electrical inductance. The measured inductance is slightly above limits, however this is only a 1% from the previous test point . The MPP cores used had a high grade value and where always measured at the top of the range
- Q25 - - Electrical inductance. The inductance was slightly above limits from screening, the decreased slight through screening to be within specification. The total variation was less than 2%
- Q35 – Terminal Strength. Due the shape of the terminal it is not possible to apply the force perpendicular to the terminal without deforming the terminal. Samples of unmounted terminals/base were tested and survived over 25N.
- Q40 – Terminal Strength. Due the shape of the terminal it is not possible to apply the force perpendicular to the terminal without deforming the terminal. Samples of unmounted terminals/base were tested and survived over 25N.
- QS6 – Electrical Characteristics. Post mounting on the PCB the inductance increased by 0.05μH on all units this figure remained consistent on all subsequent testing.

10.6 Minor Nonconformances

None

10.7 Critical Failures

- Q15 Life Testing. The two units from subgroup 4 show physical damage post life testing. The coating on the wire has bubbled and melted, the wire is rated at 180°C

An error in the test setup resulted in the units exceeding the curie point and in the subsequent damage. 2 replacement units will be subjected to subgroup 4 at the earliest opportunity. Based on the points below, the parts passed provisionally.

- This is an old design that has been tested and used for a number of years
- The units from subgroup 3 successfully passed overload testing
- Units of this type are regularly subjected to power burn in and have never failed previously.
- The part passed active life testing as part of LAT testing in 2014
- Q16 also contains the same R6.3 N30 toroid and passed successfully

Two samples were retested with the supplemental qualification testing and passed without comment

11. CONCLUSION

All units are deemed to have passed qualification as defined in FT 08690268^(RD1).



Annex 1 – Test Sheets



Q1 - 12110029-4-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.5V f=10kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 2.8 Min: 1.4	Min: 5000			
S/N 3181	✓	✓	✓	✓	✓	1.9	✓	✓	✓	✓
S/N 3182	✓	✓	✓	✓	✓	2.1	✓	✓	✓	✓
S/N 3183	✓	✓	✓	✓	✓	2.1	✓	✓	✓	✓
S/N 3184	✓	✓	✓	✓	✓	2.1	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.5V f=10kHz	V=500	External Test		§ 5.3	V=0.5V f=10kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 2.8 Min: 1.4	Min: 5000				Max: 2.8 Min: 1.4	Min: 5000		
S/N 3181	✓	1.9	✓	✓	✓	✓	1.9	✓	✓	✓
S/N 3182	✓	2.1	✓	✓	✓	✓	2.1	✓	✓	✓
S/N 3183	✓	2.0	✓							
S/N 3184	✓	2.1	✓							



Q1 - 12110029-4-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.5V f=10kHz	V=500	§ 5.3
LIMITS								Max: 2.8 Min: 1.4	Min: 5000V	
S/N 3181	✓	✓	✓	✓	✓	✓	✓	1.9	✓	✓
S/N 3182	✓	✓	✓	✓	✓	✓	✓	2.2	✓	✓
S/N 3183										
S/N 3184										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=0.5V f=10kHz	V=500	§ 5.14	§ 5.13	V=375V 5s	Surge Test	§ 5.3	V=0.5V f=10kHz	V=500V	§ 5.3
LIMITS	Max: 2.8 Min: 1.4	Min: 5000						Max: 2.8 Min: 1.4	Min: 5000	
S/N 3181	2.0	✓	✓							
S/N 3182	2.1	✓								
S/N 3183				✓	✓	✓	✓	2.1	✓	✓
S/N 3184				✓	✓	✓	✓	2.1	✓	✓



Q3 – 12750009

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 0.963 Min: 0.837	Min: 5000			
S/N 001	✓	✓	See section 10.5	✓	✓	0.958	✓	✓	✓	✓
S/N 002	✓	✓		✓	✓	0.957	✓	✓	✓	✓
S/N 003	✓	✓		✓	✓	0.937	✓	✓	✓	✓
S/N 004	✓	✓		✓	✓	0.926	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	
LIMITS		Max: 0.963 Min: 0.837	Min: 5000				Max: 0.963 Min: 0.837	Min: 5000		
S/N 001	✓	0.958	✓	✓	✓	✓	0.947	✓	✓	✓
S/N 002	✓	0.957	✓	✓	✓	✓	0.902	✓	✓	✓
S/N 003	✓	0.937	✓							
S/N 004	✓	0.926	✓							



Q3 – 12750009

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s			V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 0.963 Min: 0.837	Min: 5000	
S/N 001	✓	✓	✓	✓	✓	✓	✓	0.884	✓	✓
S/N 002	✓	✓	✓	✓	✓	✓	✓	0.878	✓	✓
S/N 003										
S/N 004										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s		§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 0.963 Min: 0.837	Min: 5000						Max: 0.963 Min: 0.837	Min: 5000	
S/N 001	0.957	✓	✓							
S/N 002	0.954	✓								
S/N 003				✓	✓	✓	✓	0.938	✓	✓
S/N 004				✓	✓	✓	✓	0.882	✓	✓



Q4 - 14170194-2-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500 5 s	V=0.300V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 472.5 Min: 427.5	Min: 5000			
S/N 272	✓	✓	✓	✓	✓	445.9	✓	✓	✓	✓
S/N 273	✓	✓	✓	✓	✓	443.7	✓	✓	✓	✓
S/N 274	✓	✓	✓	✓	✓	455.4	✓	✓	✓	✓
S/N 275	✓	✓	✓	✓	✓	445.6	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.300V f=100kHz	V=500V	External Test		§ 5.3	V=0.300V f=100kHz	V=500V	V=375 5 s	Beep Test
LIMITS		Max: 472.5 Min: 427.5	Min: 5000				Max: 472.5 Min: 427.5	Min: 5000		
S/N 272	✓	444.8	✓	✓	✓	✓	444.7	✓	✓	✓
S/N 273	✓	442.6	✓	✓	✓	✓	442.6	✓	✓	✓
S/N 274	✓	453.5	✓							
S/N 275	✓	444.0	✓							



Q4 - 14170194-2-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.300V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 472.5		
								Min: 427.5	Min: 5000	
S/N 272	✓	✓	✓	✓	✓	✓	✓	445.0	✓	✓
S/N 273	✓	✓	✓	✓	✓	✓	✓	443.0	✓	✓
S/N 274										
S/N 275										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.300V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.300V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 472.5							Max: 472.5		
	Min: 427.5	Min: 5000						Min: 427.5	Min: 5000	
S/N 272	444.9	✓	✓							
S/N 273	443.1	✓								
S/N 274				✓	✓	✓	✓	454.9	✓	✓
S/N 275				✓	✓	✓	✓	445.2	✓	✓



Q5 – 14220158

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.25V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 67.2 Min: 60.8	Min: 500			
S/N 023	✓	✓	✓	✓	✓	62.8	✓	✓	✓	✓
S/N 024	✓	✓	✓	✓	✓	63.7	✓	✓	✓	✓
S/N 025	✓	✓	✓	✓	✓	64.8	✓	✓	✓	✓
S/N 026	✓	✓	✓	✓	✓	64.4	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.25V f=100kHz	V=500V	External Test		§ 5.3	V=0.25V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 67.2 Min: 60.8	Min: 500				Max: 67.2 Min: 60.8	Min: 500		
S/N 023	✓	62.3	✓	✓	✓	✓	62.4	✓	✓	✓
S/N 024	✓	63.2	✓	✓	✓	✓	63.2	✓	✓	✓
S/N 025	✓	64.4	✓							
S/N 026	✓	64.0	✓							



Q5 – 14220158

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.25V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 67.2		
								Max: 60.8	Min: 500	
S/N 023	✓	✓	✓	✓	✓	✓	✓	62.4	✓	✓
S/N 024	✓	✓	✓	✓	✓	✓	✓	63.3	✓	✓
S/N 025										
S/N 026										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.25V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.25V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 67.2							Max: 67.2		
	Min: 60.8	Min: 500						Min: 60.8	Min: 500	
S/N 023	62.6	✓	✓							
S/N 024	63.5	✓								
S/N 025				✓	✓	✓	✓	64.5	✓	✓
S/N 026				✓	✓	✓	✓	63.9	✓	✓



Q6 – 12220096

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics				Mount on PCB & Fixture	
						Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm		
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=1V f=200kHz				V-500V	ECSS-Q-ST-70-08
LIMITS						Max: 81.9 Min: 74.1	Max: 46.1 Min: 41.8	Max: 81.9 Min: 74.1	Min: 5000		
S/N 033	✓	✓	✓	✓	✓	79.6	45.6	80.1	✓	✓	✓
S/N 034	✓	✓	✓	✓	✓	79.8	45.7	80.2	✓	✓	✓
S/N 035	✓	✓	✓	✓	✓	80.3	46.0	81.1	✓	✓	✓
S/N 036	✓	✓	✓	✓	✓	79.6	45.6	80.2	✓	✓	✓

TEST	Visual Inspection	Photo	Electrical Characteristics				Vibration	Mechanical Shock	Visual Inspection
			Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm			
CONDITIONS	ECSS-Q-ST-70-08		V=1V f=200kHz				External Test	External Test	§ 5.3
LIMITS			Max: 81.9 Min: 74.1	Max: 46.1 Min: 41.8	Max: 81.9 Min: 74.1	Min: 5000			
S/N 033	✓	✓	78,5	45.2	79.1	✓	✓	✓	✓
S/N 034	✓	✓	78,8	45,3	79.3	✓	✓	✓	✓
S/N 035	✓	✓	78,4	45.1	79.1	✓			
S/N 036	✓	✓	79,2	45.6	79.1	✓			



Q6 – 12220096

TEST	Electrical Characteristics				DWV	Winding Continuity	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	
	Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm							
CONDITIONS	V=1V f=200kHz				V-500V	V=375V 5 s	Surge Test	§ 5.4	§ 5.11	§ 5.15	§ 5.12
LIMITS	Max: 81.9	Max: 46.1	Max: 81.9								
	Min: 74.1	Min: 41.8	Min: 74.1	Min: 5000							
S/N 033	78.8	45.3	79.3	✓	✓	✓	✓	✓	✓	✓	✓
S/N 034	79.0	45.4	79.5	✓	✓	✓	✓	✓	✓	✓	✓
S/N 035											
S/N 036											

TEST	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics				Visual Inspection	
				Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm		
CONDITIONS	V=375V 5 s	Surge Test	Beep Test	V=1V f=200kHz				V-500V	§ 5.3
LIMITS				Max: 81.9	Max: 46.1	Max: 81.9			
				Min: 74.1	Min: 41.8	Min: 74.1	Min: 5000		
S/N 033	✓	✓	✓	78.82	45.33	79.34	✓	✓	
S/N 034	✓	✓	✓	79.01	45.40	79.52	✓	✓	
S/N 035									
S/N 036									



Q6 – 12220096

TEST	Electrical Characteristics				DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	
	Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm						
CONDITIONS	V=1V f=200kHz				V-500V	§ 5.14	§ 5.13	§ 5.4	§ 5.11	§ 5.3
LIMITS	Max: 81.9	Max: 46.1	Max: 81.9							
	Min: 74.1	Min: 41.8	Min: 74.1	Min: 5000						
S/N 033	78,8	45,3	79.4	✓	✓					
S/N 034	79.07	45,4	79.6	✓						
S/N 035						✓	✓	✓	✓	✓
S/N 036						✓	✓	✓	✓	✓

TEST	Electrical Characteristics				Visual Inspection	
	Inductance μH N1(1,2,3-12,11,10)*	Inductance μH N2(5,6-8,7)*	Inductance μH N2(5,6-8,7)*	Insul MOhm		
CONDITIONS	V=1V f=200kHz				External Test	§ 5.3
LIMITS	Max: 81.9	Max: 46.1	Max: 81.9			
	Min: 74.1	Min: 41.8	Min: 74.1	Min: 5000		
S/N 033						
S/N 034						
S/N 035	80.4	46.1	80.4	✓	✓	✓
S/N 036	79.2	45.5	79.9	✓	✓	✓

* All other wires to be shorted



Q7 – 14220153

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.100V f=150kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 320.0 Min: 190.0	Min: 500			
S/N 059	✓	✓	✓	✓	✓	243.7	✓	✓	✓	✓
S/N 060	✓	✓	✓	✓	✓	226.2	✓	✓	✓	✓
S/N 061	✓	✓	✓	✓	✓	247.2	✓	✓	✓	✓
S/N 062	✓	✓	✓	✓	✓	204.1	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.100V f=150kHz	V=500V	External Test		§ 5.3	V=0.100V f=150kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 320.0 Min: 190.0	Min: 500				Max: 320.0 Min: 190.0	Min: 500		
S/N 059	✓	242.4	✓	✓	✓	✓	239.1	✓	✓	✓
S/N 060	✓	225.2	✓	✓	✓	✓	221	✓	✓	✓
S/N 061	✓	245.7	✓							
S/N 062	✓	203.2	✓							



Q7 - 14220153

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.100V f=150kHz	V=500V	§ 5.3
LIMITS								Max: 320.0		
								Min: 190.0	Min: 500	
S/N 059	✓	✓	✓	✓	✓	✓	✓	253.5	✓	✓
S/N 060	✓	✓	✓	✓	✓	✓	✓	233.3	✓	✓
S/N 061										
S/N 062										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.100V f=150kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.100V f=150kHz	V=500V	§ 5.3
LIMITS	Max: 320.0							Max: 320.0		
	Min: 190.0	Min: 500						Min: 190.0	Min: 500	
S/N 059	244.6	✓	✓							
S/N 060	226.8	✓								
S/N 061				✓	✓	✓	✓	247.5	✓	✓
S/N 062				✓	✓	✓	✓	203.0	✓	✓



Q8 – 14311008-2-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics								Mount on PCB & Fixture	
						Inductance									Insul MOhm
						N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16		
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz				V=500V	ECSS-Q-ST-70-08
LIMITS						157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8		
						94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300	
S/N 009	Performed as part of PCB mounting		Bypassed		✓	126,8	126,9	2227,9	2227,9	126,8	126,8	126,8	126,8	✓	✓
S/N 010					✓	117,7	117,8	2068,3	2068,3	117,8	117,7	117,7	117,8	✓	✓
S/N 011					✓	125,1	125,1	2199,8	2199,6	125,1	125,0	125,1	125,1	✓	✓
S/N 012					✓	128,3	128,3	2254,1	2254,1	128,2	128,2	128,2	128,3	✓	✓

TEST	Visual Inspection	Photo	Electrical Characteristics								Vibration	Mechanical Shock	Visual Inspection	
			Inductance											Insul MOhm
			N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16				
CONDITIONS	ECSS-Q-ST-70-08		V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz				V=500V	External Test	§ 5.3	
LIMITS			157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8				
			94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300			
S/N 009	✓	✓	122.9	123.0	2160,3	2160.1	123.0	123.0	123.1	123.0	✓	✓	✓	
S/N 010	✓	✓	113.6	113.6	1994.6	1995.0	117.7	113.7	113.7	113.6	✓	✓	✓	
S/N 011	✓	✓	121.1	121.1	2128.5	2128.9	121.2	121.2	121.3	121.2	✓			
S/N 012	✓	✓	123.8	123.8	2175.8	2175.9	123.8	123.9	123.9	123.8	✓			



Q8 - 14311008-2-B

TEST	Electrical Characteristics								DWV	Winding Continuity	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	
	Inductance														Insul MOhm
	N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16							
CONDITIONS	V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz			V=500V	V=375V 5 s	Surge Test	§ 5.4	§ 5.11	§ 5.15	§ 5.12	
LIMITS	157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8							
	94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300						
S/N 009	122.4	122.5	2149.9	2150.4	122.4	122.5	122.5	122.4	✓	✓	✓	✓	✓	✓	
S/N 010	112.2	112.2	1968.5	1969.5	112.2	112.2	112.2	112.2	✓	✓	✓	✓	✓	✓	
S/N 011															
S/N 012															

TEST	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics								Visual Inspection	
				Inductance									Insul MOhm
				N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16		
CONDITIONS	V=375V 5 s	Surge Test	Beep Test	V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz			V=500V	§ 5.3	
LIMITS				157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8		
				94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300	
S/N 009	✓	✓	✓	124.8	124.7	2189.5	2190.0	124.6	124.7	124.7	124.7	✓	✓
S/N 010	✓	✓	✓	115.1	115.1	2019.8	2020.1	115.0	115.1	115.1	115.0	✓	✓
S/N 011													
S/N 012													



Q8 - 14311008-2-B

TEST	Electrical Characteristics								Insul MOhm	DPA	Life Test	DWV	Insulation Resistance	Visual Inspection
	Inductance													
	N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16						
CONDITIONS	V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz			V=500V	§ 5.14	§ 5.13	§ 5.4	§ 5.11	§ 5.3	
LIMITS	157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8						
	94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300					
S/N 009	122.4	122.5	2151.6	2151.9	122.4	122.5	122.5	122.4	✓	✓				
S/N 010	113.7	113.7	1997.8	1998.1	113.7	113.8	113.8	113.7	✓					
S/N 011										✓	✓	✓	✓	
S/N 012										✓	✓	✓	✓	

TEST	Electrical Characteristics								Insul MOhm	Visual Inspection
	Inductance									
	N3-4	N4-5	N7-8	N9-10	N11-12	N12-13	N14-15	N15-16		
CONDITIONS	V=0.250V f=10kHz		V=1V f=10kHz		V=0.250V f=10kHz			V=500V	§ 5.3	
LIMITS	157.8	157.8	2783.8	2783.8	157.8	157.8	157.8	157.8		
	94.7	94.7	1670.3	1670.3	94.7	94.7	94.7	94.7	Min: 300	
S/N 009										
S/N 010										
S/N 011	121.3	121.2	2129.5	2128.9	122.2	122.2	122.3	122.2	✓	✓
S/N 012	123.8	123.8	2175.8	2175.9	123.7	123.9	124.9	124.8	✓	✓



Q9 – 14149006

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.100V f=10kHz N _p (1-10)	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 1293.0 Min: 775.9	Min: 500			
S/N 204	Performed as part of PCB mounting		See section 10.5		✓	965.6	✓	✓	✓	✓
S/N 205					✓	1061.9	✓	✓	✓	✓
S/N 206					✓	1007.9	✓	✓	✓	✓
S/N 207					✓	1088.1	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μH	Insul MOhm				Inductance μH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.100V f=10kHz N _p (1-10)	V=500V	External Test		§ 5.3	V=0.100V f=10kHz N _p (1-10)	V=500V	V=375V 5 s	
LIMITS		Max: 1293.0 Min: 775.9	Min: 500				Max: 1293.0 Min: 775.9	Min: 500		
S/N 204	✓	947.3	✓	✓	✓	✓	931.3	✓	✓	✓
S/N 205	✓	1034.8	✓	✓	✓	✓	1011.9	✓	✓	✓
S/N 206	✓	962.2	✓							
S/N 207	✓	1042.8	✓							



Q9 – 14149006

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.100V f=10kHz N _p (1-10)	V=500V	§ 5.3
LIMITS								Max: 1293.0 Min: 775.9	Min: 500	
S/N 204	✓	✓	✓	✓	✓	✓	✓	924.5	✓	✓
S/N 205	✓	✓	✓	✓	✓	✓	✓	1037.9	✓	✓
S/N 206										
S/N 207										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μH	Insul MOhm						Inductance μH	Insul MOhm	
CONDITIONS	V=0.100V f=10kHz N _p (1-10)	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.100V f=10kHz N _p (1-10)	V=500V	§ 5.3
LIMITS	Max: 1293.0 Min: 775.9	Min: 500						Max: 1293.0 Min: 775.9	Min: 500	
S/N 204	942.2	✓	✓							
S/N 205	1035.1	✓								
S/N 206				✓	✓	✓	✓	931.3	✓	✓
S/N 207				✓	✓	✓	✓	1011.9	✓	✓



Q10 – 14230080

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	0.100V 125KHz	500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 10.56				
						Min: 8.64	Min: 500			
S/N 006	✓	✓	✓	✓	✓	9.31	✓	✓	✓	✓
S/N 007	✓	✓	✓	✓	✓	9.53	✓	✓	✓	✓
S/N 008	✓	✓	✓	✓	✓	9.66	✓	✓	✓	✓
S/N 009	✓	✓	✓	✓	✓	9.51	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	0.100V 125KHz	500V	External Test		§ 5.3	0.100V 125KHz	500V	V=375V 5 s	
LIMITS		Max: 10.56								
		Min: 8.64	Min: 500					Min: 500		
S/N 006	✓	9.37	✓	✓	✓	✓	9.35	✓	✓	✓
S/N 007	✓	9.57	✓	✓	✓	✓	9.57	✓	✓	✓
S/N 008	✓	9.74	✓							
S/N 009	✓	9.56	✓							



Q10 – 14230080

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s			0.100V 125KHz	500V	§ 5.3
LIMITS								Max: 10.56		
								Min: 8.64	Min: 500	
S/N 006	✓	✓	✓	✓	✓	✓	✓	9.43	✓	✓
S/N 007	✓	✓	✓	✓	✓	✓	✓	9.63	✓	✓
S/N 008										
S/N 009										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	0.100V 125KHz	500V	§ 5.14	§ 5.13	V=375V 5 s		§ 5.3	0.100V 125KHz	500V	§ 5.3
LIMITS	Max: 10.56							Max: 10.56		
	Min: 8.64	Min: 500						Min: 8.64	Min: 500	
S/N 006	9.37	✓	✓							
S/N 007	9.58	✓								
S/N 008				✓	✓	✓	✓	9.81	✓	✓
S/N 009				✓	✓	✓	✓	9.61	✓	✓



Q11 – 14260119

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 279,5 Min: 150,5	Min: 5000			
S/N 007	✓	✓	✓	✓	✓	211.59	✓	✓	✓	✓
S/N 008	✓	✓	✓	✓	✓	205.11	✓	✓	✓	✓
S/N 009	✓	✓	✓	✓	✓	204.43	✓	✓	✓	✓
S/N 010	✓	✓	✓	✓	✓	206.38	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	500V	External Test		§ 5.3	V=0.250V f=100kHz	500V	V=375V 5 s	
LIMITS		Max: 279,5 Min: 150,5	Min: 5000				Max: 279,5 Min: 150,5	Min: 5000		
S/N 007	✓	204.91	✓	✓	✓	✓	199.19	✓	✓	✓
S/N 008	✓	200.19	✓	✓	✓	✓	195.98	✓	✓	✓
S/N 009	✓	203.69	✓							
S/N 010	✓	202.38	✓							



Q11 – 14260119

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s			V=0.250V f=100kHz	500V	§ 5.3
LIMITS								Max: 279,5 Min: 150,5	Min: 5000	
S/N 007	✓	✓	✓	✓	✓	✓	✓	210.48	✓	✓
S/N 008	✓	✓	✓	✓	✓	✓	✓	209.58	✓	✓
S/N 009										
S/N 010										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	500V	§ 5.14	§ 5.13	V=375V 5 s		§ 5.3	V=0.250V f=100kHz	500V	§ 5.3
LIMITS	Max: 279,5 Min: 150,5	Min: 5000						Max: 279,5 Min: 150,5	Min: 5000	
S/N 007	208.51	✓	✓							
S/N 008	203.46	✓								
S/N 009				✓	✓	✓	✓	201.92	✓	✓
S/N 010				✓	✓	✓	✓	206.10	✓	✓



Q12 – 14260082

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 34.1 Min: 27.9	Min: 5000			
S/N 021	✓	✓	✓	✓	✓	30.7	✓	✓	✓	✓
S/N 022	✓	✓	✓	✓	✓	30.9	✓	✓	✓	✓
S/N 023	✓	✓	✓	✓	✓	30.8	✓	✓	✓	✓
S/N 024	✓	✓	✓	✓	✓	30.5	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	
LIMITS		Max: 34.1 Min: 27.9					Max: 34.1 Min: 27.9	Min: 5000		
S/N 021	✓	30.7	✓	✓	✓	✓	30.7	✓	✓	✓
S/N 022	✓	30.8	✓	✓	✓	✓	30.9	✓	✓	✓
S/N 023	✓	30.7	✓							
S/N 024	✓	30.5	✓							



Q12 – 14260082

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 34.1		
								Min: 27.9	Min: 5000	
S/N 021	✓	✓	✓	✓	✓	✓	✓	30.7	✓	✓
S/N 022	✓	✓	✓	✓	✓	✓	✓	30.9	✓	✓
S/N 023										
S/N 024										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 34.1							Max: 34.1		
	Min: 27.9	Min: 5000						Min: 27.9	Min: 5000	
S/N 021	30.7	✓	✓							
S/N 022	30.9	✓								
S/N 023				✓	✓	✓	✓	30.73	✓	✓
S/N 024				✓	✓	✓	✓	3048	✓	✓



Q13 – 14011001

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance nH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	I=mA f=300kHz	V=300V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 165 Min: 110	Min: 500			
S/N A								✓	✓	✓
S/N B								✓	✓	✓
S/N C								✓	✓	✓
S/N D								✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance nH	Insul MOhm				Inductance nH	Insul MOhm		
CONDITIONS	§ 5.3	I=mA f=300kHz	V=300V	External Test		§ 5.3	I=mA f=300kHz	V=300V	V=375V 5 s	Beep Test
LIMITS		Max: 165 Min: 110	Min: 500				Max: 165 Min: 110	Min: 500		
S/N A	✓	141	✓	✓	✓	✓	131	✓	✓	✓
S/N B	✓	147	✓	✓	✓	✓	125	✓	✓	✓
S/N C	✓	131	✓							
S/N D	✓	114	✓							



Q13 – 14011001

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance nH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	I=mA f=300kHz	V=300V	§ 5.3
LIMITS								Max: 165 Min: 110	Min:	
S/N A	✓	✓	✓	✓	✓	✓	✓	160	✓	✓
S/N B	✓	✓	✓	✓	✓	✓	✓	150	✓	✓
S/N C										
S/N D										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance nH	Insul MOhm						Inductance nH	Insul MOhm	
CONDITIONS	I=mA f=300kHz	V=300V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	I=mA f=300kHz	V=300V	§ 5.3
LIMITS	Max: 165 Min: 110	Min: 500						Max: 165 Min: 110	Min: 500	
S/N A	165	✓	✓							
S/N B	123	✓								
S/N C				✓	✓	✓	✓	161	✓	✓
S/N D				✓	✓	✓	✓	147	✓	✓



Q14 – 12021008-2

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo	
						Inductance μ H	Insul MOhm				
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.1V f=100kHz		ECSS-Q-ST-70-08	ECSS-Q-ST-70-08		
LIMITS						Max: 3.78 Min: 3.22					
S/N B331	N/A for flying leads		N/A for flying leads					✓	✓	✓	
S/N B332									✓	✓	✓
S/N B333									✓	✓	✓
S/N B334									✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.1V f=100kHz		External Test		§ 5.3	V=0.1V f=100kHz		V=375V 5 s	
LIMITS		Max: 3.78 Min: 3.22					Max: 3.78 Min: 3.22			
S/N B331	✓	3.76		✓	✓	✓	3.73		✓	✓
S/N B332	✓	3.75		✓	✓	✓	3.78		✓	✓
S/N B333	✓	3.73								
S/N B334	✓	3.62								



Q14 – 12021008-2

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.1V f=100kHz		§ 5.3
LIMITS								Max: 3.78 Min: 3.22		
S/N B331	✓	✓	✓	✓	✓	✓	✓	3.76		✓
S/N B332	✓	✓	✓	✓	✓	✓	✓	3.81		✓
S/N B333										
S/N B334										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.1V f=100kHz		§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.1V f=100kHz		§ 5.3
LIMITS	Max: 3.78 Min: 3.22							Max: 3.78 Min: 3.22		
S/N B331	3.78		✓							
S/N B332	3.80									
S/N B333				✓	✓	✓	✓	3.74		✓
S/N B334				✓	✓	✓	✓	3,64		✓



Q15 – 14050029-2-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.300V f=10kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 27.2 Min: 16.4	Min: 5000			
S/N 274	✓	✓	✓	✓	✓	21.2	✓	✓	✓	✓
S/N 275	✓	✓	✓	✓	✓	22.2	✓	✓	✓	✓
S/N 276	✓	✓	✓	✓	✓	22.5	✓	✓	✓	✓
S/N 277	✓	✓	✓	✓	✓	22.6	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.300V f=10kHz	V=500V	External Test		§ 5.3	V=0.300V f=10kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 27.2 Min: 16.4	Min: 5000				Max: 27.2 Min: 16.4	Min: 5000		
S/N 274	✓	22.6	✓	✓	✓	✓	22.9	✓	✓	✓
S/N 275	✓	21.6	✓	✓	✓	✓	21.6	✓	✓	✓
S/N 276	✓	22.5	✓							
S/N 277	✓	22.5	✓							



Q15 – 14050029-2-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.300V f=10kHz	V=500V	§ 5.3
LIMITS								Max: 27.2 Min: 16.4	Min: 5000	
S/N 274	✓	✓	✓	✓	✓	✓	✓	22.2	✓	✓
S/N 275	✓	✓	✓	✓	✓	✓	✓	21.2	✓	✓
S/N 276										
S/N 277										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=0.300V f=10kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.300V f=10kHz	V=500V	§ 5.3
LIMITS	Max: 27.2 Min: 16.4	Min: 5000						Max: 27.2 Min: 16.4	Min: 5000	
S/N 274	23.0	✓	✓							
S/N 275	21.8	✓								
S/N 276										
S/N 277										



Q16 – 14050013

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH N1 N4	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=250mV f=10kHz		V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08
LIMITS						27.30	13.70			
						16.40	8.20	Min: 5000		
S/N 605	✓	✓	✓	✓	✓	22.52	11.52	✓	✓	✓
S/N 606	✓	✓	✓	✓	✓	22.30	11.33	✓	✓	✓
S/N 607	✓	✓	✓	✓	✓	21.88	10.64	✓	✓	✓
S/N 608	✓	✓	✓	✓	✓	22.21	11.63	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity		
		Inductance mH N1 N4	Insul MOhm				Inductance mH N1 N4	Insul MOhm				
CONDITIONS	§ 5.3	V=250mV f=10kHz		External Test		§ 5.3	V=250mV f=10kHz		V=500V	V=375V 5 s		
LIMITS		27.30	13.70						27.30	13.70		
		16.40	8.20			Min:	5000		16.40	8.20	Min:	5000
S/N 605	✓	20.76	11.66	✓	✓	✓	20.57	11.63	✓	✓		
S/N 606	✓	22.60	11.,63	✓	✓	✓	22.69	11.43	✓	✓		
S/N 607	✓	22.35	10,92									
S/N 608	✓	22.69	11.88									



Q16 – 14050013

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection	
								Inductance mH N1 N4	Insul MOhm		
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=250mV f=10kHz		V=500V	§ 5.3
LIMITS								27.30	13.70		
								16.40	8.20	Min: 5000	
S/N 605	✓	✓	✓	✓	✓	✓	✓	20.63	11.71	✓	✓
S/N 606	✓	✓	✓	✓	✓	✓	✓	22.51	11.53	✓	✓
S/N 607											
S/N 608											

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection	
	Inductance mH N1 N4	Insul MOhm						Inductance mH N1 N4	Insul MOhm		
CONDITIONS	V=250mV f=10kHz		§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=250mV f=10kHz		V=500V	§ 5.3
LIMITS	27.30	13.70						27.30	13.70		
	16.40	8.20	Min: 5000					16.40	8.20	Min: 5000	
S/N 605	20.29	11.39	✓	✓							
S/N 606	22.14	11.24	✓								
S/N 607				✓	✓	✓	✓	20.69	10.86	✓	✓
S/N 608				✓	✓	✓	✓	20.42	11.78	✓	✓



Q17 – 12060006

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 41.1 Min: 33.6	Min: 5000			
S/N 062	✓	✓	✓	✓	✓	35.3	✓	✓	✓	✓
S/N 060	✓	✓	✓	✓	✓	38.7	✓	✓	✓	✓
S/N 051	✓	✓	✓	✓	✓	36.7	✓	✓	✓	✓
S/N 064	✓	✓	✓	✓	✓	35.9	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 41.1 Min: 33.6	Min: 5000				Max: 41.1 Min: 33.6	Min: 5000		
S/N 062	✓	35.3	✓	✓	✓	✓	35.5	✓	✓	✓
S/N 060	✓	38.6	✓	✓	✓	✓	38.8	✓	✓	✓
S/N 051	✓	36.5	✓							
S/N 064	✓	35.8	✓							



Q17 – 12060006

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 41.1		
								Min: 33.6	Min: 5000	
S/N 062	✓	✓	✓	✓	✓	✓	✓	35.4	✓	✓
S/N 060	✓	✓	✓	✓	✓	✓	✓	38.7	✓	✓
S/N 051										
S/N 064										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 41.1							Max: 41.1		
	Min: 33.6	Min: 5000						Min: 33.6	Min: 5000	
S/N 062	35.2□	✓	✓							
S/N 060	38.6□	✓								
S/N 051				✓	✓	✓	✓	36.81	✓	✓
S/N 064				✓	✓	✓	✓	36.01	✓	✓



Q19 – 12121115-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=100mV f=10kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 316.25 Min: 189.75	Min: 5000			
S/N 200	N/A for flying leads		N/A for flying leads		✓	259.98	✓	✓	✓	✓
S/N 201					✓	271.27	✓	✓	✓	✓
S/N 202					✓	279.96	✓	✓	✓	✓
S/N 203					✓	261.70	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=100mV f=10kHz	V=500V	External Test		§ 5.3	V=100mV f=10kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 316.25 Min: 189.75	Min: 5000				Max: 316.25 Min: 189.75	Min: 5000		
S/N 200	✓	257.84	✓	✓	✓	✓	254.48	✓	✓	✓
S/N 201	✓	263.97	✓	✓	✓	✓	260.78	✓	✓	✓
S/N 202	✓	276.56	✓							
S/N 203	✓	259.59	✓							



Q19 – 12121115-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=100mV f=10kHz	V=500V	§ 5.3
LIMITS								Max: 316.25 Min: 189.75	Min: 5000	
S/N 200	✓	✓	✓	✓	✓	✓	✓	256.06	✓	✓
S/N 201	✓	✓	✓	✓	✓	✓	✓	265.80	✓	✓
S/N 202										
S/N 203										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=100mV f=10kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=100mV f=10kHz	V=500V	§ 5.3
LIMITS	Max: 316.25 Min: 189.75	Min: 5000						Max: 316,25 Min: 189,75	Min: 5000	
S/N 200	259.50	✓	✓							
S/N 201	262.45	✓								
S/N 202				✓	✓	✓	✓	275.99	✓	✓
S/N 203				✓	✓	✓	✓	251.48	✓	✓



Q20 – 12141041

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.1V f=10kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 2.152 Min: 1.156	Min: 500			
S/N 213	N/A for flying leads		N/A for flying leads		✓	1.666	✓	✓	✓	✓
S/N 214					✓	1.666	✓	✓	✓	✓
S/N 215					✓	1.315	✓	✓	✓	✓
S/N 216					✓	1.493	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.1V f=10kHz	V=500V	External Test		§ 5.3	V=0.1V f=10kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 2.152 Min: 1.156	Min: 500				Max: 2.152 Min: 1.156	Min: 500		
S/N 213	✓	1.747	✓	✓	✓	✓	1.778	✓	✓	✓
S/N 214	✓	1.772	✓	✓	✓	✓	1.827	✓	✓	✓
S/N 215	✓	1.490	✓							
S/N 216	✓	1.540	✓							



Q20 – 12141041

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.1V f=10kHz	V=500V	§ 5.3
LIMITS								Max: 2.152 Min: 1.156	Min: 500	
S/N 213	✓	✓	✓	✓	✓	✓	✓	1.891	✓	✓
S/N 214	✓	✓	✓	✓	✓	✓	✓	1.921	✓	✓
S/N 215										
S/N 216										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.1V f=10kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.1V f=10kHz	V=500V	§ 5.3
LIMITS	Max: 2.152 Min: 1.156	Min: 500						Max: 2.152 Min: 1.156	Min: 500	
S/N 213	1.768	✓	✓							
S/N 214	1.840	✓								
S/N 215				✓	✓	✓	✓	1.163	✓	✓
S/N 216				✓	✓	✓	✓	1.178	✓	✓



Q21 - 14141004-3-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=10kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 6,600 Min: 5,404	Min: 5000			
S/N 022	N/A for flying leads		N/A for flying leads		✓	5.974	✓	✓	✓	✓
S/N 023					✓	5.969	✓	✓	✓	✓
S/N 024					✓	6.000	✓	✓	✓	✓
S/N 025					✓	5.975	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=10kHz	V=500V	External Test		§ 5.3	V=0.250V f=10kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 6,600 Min: 5,404	Min: 5000				Max: 6.600 Min: 5.404	Min: 5000		
S/N 022	✓	5.992	✓	✓	✓	✓	5.992	✓	✓	✓
S/N 023	✓	6.002	✓	✓	✓	✓	6.002	✓	✓	✓
S/N 024	✓	6.009	✓							
S/N 025	✓	5.993	✓							



Q21 - 14141004-3-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=10kHz	V=500V	§ 5.3
LIMITS								Max: 6,600		
								Min: 5,404	Min: 5000	
S/N 022	✓	✓	✓	✓	✓	✓	✓	5.975	✓	✓
S/N 023	✓	✓	✓	✓	✓	✓	✓	5.985	✓	✓
S/N 024										
S/N 025										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=0.250V f=10kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=10kHz	V=500V	§ 5.3
LIMITS	Max: 6,600							Max: 6,600		
	Min: 5,404	Min: 5000						Min: 5,404	Min: 5000	
S/N 022	5.990	✓	✓							
S/N 023	5.998	✓								
S/N 024				✓	✓	✓	✓	6.012	✓	✓
S/N 025				✓	✓	✓	✓	5.996	✓	✓



Q22 – 12140026

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 444 Min: 364	Min: 5000			
S/N 058	✓	✓	✓	✓	✓	372	✓	✓	✓	✓
S/N 059	✓	✓	✓	✓	✓	382	✓	✓	✓	✓
S/N 060	✓	✓	✓	✓	✓	371	✓	✓	✓	✓
S/N 061	✓	✓	✓	✓	✓	385	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 444 Min: 364	Min: 5000				Max: 444 Min: 364	Min: 5000		
S/N 058	✓	373	✓	✓	✓	✓	374	✓	✓	✓
S/N 059	✓	384	✓	✓	✓	✓	385	✓	✓	✓
S/N 060	✓	372	✓							
S/N 061	✓	384	✓							



Q22 – 12140026

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 444		
								Min: 364	Min: 5000	
S/N 058	✓	✓	✓	✓	✓	✓	✓	375	✓	✓
S/N 059	✓	✓	✓	✓	✓	✓	✓	385	✓	✓
S/N 060										
S/N 061										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 444							Max: 444		
	Min: 364	Min: 5000						Min: 364	Min: 5000	
S/N 058	375	✓	✓							
S/N 059	385	✓								
S/N 060				✓	✓	✓	✓	380	✓	✓
S/N 061				✓	✓	✓	✓	391	✓	✓



Q24 – 12210082

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 990 Min: 510	Min: 500			
S/N 262	✓	✓	✓	✓	✓	781	✓	✓	✓	✓
S/N 263	✓	✓	✓	✓	✓	814	✓	✓	✓	✓
S/N 264	✓	✓	✓	✓	✓	802	✓	✓	✓	✓
S/N 265	✓	✓	✓	✓	✓	850	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 990 Min: 510	Min: 500				Max: 990 Min: 510	Min: 500		
S/N 262	✓	784	✓	✓	✓	✓	795	✓	✓	✓
S/N 263	✓	817	✓	✓	✓	✓	824	✓	✓	✓
S/N 264	✓	805	✓							
S/N 265	✓	853	✓							



Q24 – 12210082

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 990		
								Min: 510	Min: 500	
S/N 262	✓	✓	✓	✓	✓	✓	✓	796	✓	✓
S/N 263	✓	✓	✓	✓	✓	✓	✓	825	✓	✓
S/N 264										
S/N 265										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 990							Max: 990		
	Min: 510	Min: 500						Min: 510	Min: 500	
S/N 262	786	✓	✓							
S/N 263	825	✓								
S/N 264				✓	✓	✓	✓	817	✓	✓
S/N 265				✓	✓	✓	✓	874	✓	✓



Q25 – 12251037

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 21.34 Min: 17.46	Min: 5000			
S/N 014	N/A for flying leads		N/A for flying leads		✓	21.70	✓	✓	✓	✓
S/N 015					✓	21.61	✓	✓	✓	✓
S/N 016					✓	21.78	✓	✓	✓	✓
S/N 017					✓	21.75	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 21.34 Min: 17.46	Min: 5000				Max: 21.34 Min: 17.46	Min: 5000		
S/N 014	✓	21.68	✓	✓	✓	✓	21.36	✓	✓	✓
S/N 015	✓	21.54	✓	✓	✓	✓	21,58	✓	✓	✓
S/N 016	✓	21.88	✓							
S/N 017	✓	21.91	✓							



Q25 – 12251037

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 21.34		
								Min: 17.46	Min: 5000	
S/N 014	✓	✓	✓	✓	✓	✓	✓	21,32	✓	✓
S/N 015	✓	✓	✓	✓	✓	✓	✓	21,24	✓	✓
S/N 016										
S/N 017										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μH	Insul MOhm						Inductance μH	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 21.34							Max: 21.34		
	Min: 17.46	Min: 5000						Min: 17.46	Min: 5000	
S/N 014	21,28	✓	✓							
S/N 015	21,21	✓								
S/N 016				✓	✓	✓	✓	21.76	✓	✓
S/N 017				✓	✓	✓	✓	21.68	✓	✓



Q26 – 14210147

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 138.2				
						Min: 92.2	Min: 5000			
S/N 005	✓	✓	✓	✓	✓	123.2	✓	✓	✓	✓
S/N 006	✓	✓	✓	✓	✓	123.4	✓	✓	✓	✓
S/N 007	✓	✓	✓	✓	✓	123.4	✓	✓	✓	✓
S/N 008	✓	✓	✓	✓	✓	124.4	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 138.2					Max: 138.2			
		Min: 92.2	Min: 5000				Min: 92.2	Min: 5000		
S/N 005	✓	123.1	✓	✓	✓	✓	122.9	✓	✓	✓
S/N 006	✓	123.2	✓	✓	✓	✓	123.0	✓	✓	✓
S/N 007	✓	122.9	✓							
S/N 008	✓	124.2	✓							



Q26 – 14210147

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 138.2		
								Min: 92.2	Min: 5000	
S/N 005	✓	✓	✓	✓	✓	✓	✓	123.3	✓	✓
S/N 006	✓	✓	✓	✓	✓	✓	✓	123.5	✓	✓
S/N 007										
S/N 008										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 138.2							Max: 138.2		
	Min: 92.2	Min: 5000						Min: 92.2	Min: 5000	
S/N 005	122.8	✓	✓							
S/N 006	122.9	✓								
S/N 007				✓	✓	✓	✓	123.2	✓	✓
S/N 008				✓	✓	✓	✓	124.7	✓	✓



Q27 – 12341031-2-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 2798.5 Min: 1214.2	Min: 5000			
S/N 031	N/A for flying leads		N/A for flying leads		✓	2076.5	✓	✓	✓	✓
S/N 035					✓	2128.1	✓	✓	✓	✓
S/N 032					✓	2065.2	✓	✓	✓	✓
S/N 033					✓	2060.6	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 2798.5 Min: 1214.2	Min: 5000				Max: 2798.5 Min: 1214.2	Min: 5000		
S/N 031	✓	2056.6	✓	✓	✓	✓	2142.1	✓	✓	✓
S/N 035	✓	2123.2	✓	✓	✓	✓	2216.9	✓	✓	✓
S/N 032	✓	2234.2	✓							
S/N 033	✓	2138.9	✓							



Q27 – 12341031-2-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 2798.5		
								Min: 1214.2	Min: 5000	
S/N 031	✓	✓	✓	✓	✓	✓	✓	2243.9	✓	✓
S/N 035	✓	✓	✓	✓	✓	✓	✓	2347.3	✓	✓
S/N 032										
S/N 033										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 2798.5							Max: 2798.5		
	Min: 1214.2	Min: 5000						Min: 1214.2	Min: 5000	
S/N 031	2163.2	✓	✓							
S/N 035	2248.5	✓								
S/N 032				✓	✓	✓	✓	2265.2	✓	✓
S/N 033				✓	✓	✓	✓	2248.9	✓	✓



Q28 – 14320201-2-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=10kHz	V=100VDC	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 1336 Min: 730	Min: 1			
S/N 067	✓	✓	✓	✓	✓	1031	✓	✓	✓	✓
S/N 068	✓	✓	✓	✓	✓	1047	✓	✓	✓	✓
S/N 069	✓	✓	✓	✓	✓	1033	✓	✓	✓	✓
S/N 070	✓	✓	✓	✓	✓	1020	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.250V f=10kHz	V=100VDC	External Test		ECSS-Q-ST-70-08	V=0.250V f=10kHz	V=100VDC	V=375V 5 s	Beep Test
LIMITS		Max: 1336 Min: 730	Min: 1				Max: 1336 Min: 730	Min: 1		
S/N 067		1033	✓	✓	✓	✓	1029	✓	✓	✓
S/N 068		1047	✓	✓	✓	✓	1036	✓	✓	✓
S/N 069		1006	✓							
S/N 070		976	✓							



Q28 – 14320201-2-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=10kHz	V=100VDC	ECSS-Q-ST-70-08
LIMITS								Max: 1336		
								Min: 730	Min: 1	
S/N 067	✓	✓	✓	✓	✓	✓	✓	1025	✓	✓
S/N 068	✓	✓	✓	✓	✓	✓	✓	1041	✓	✓
S/N 069										
S/N 070										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=10kHz	V=100VDC	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=10kHz	V=100VDC	§ 5.3
LIMITS	Max: 1336							Max: 1336		
	Min: 730	Min: 1						Min: 730	Min: 1	
S/N 067	1025	✓	✓							
S/N 068	1041	✓								
S/N 069				✓	✓	✓	✓	969	✓	✓
S/N 070				✓	✓	✓	✓	951	✓	✓



Q29 – 12311047-3-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 483.9 Min: 396.0	Min: 5000			
S/N 2773	N/A for flying leads		N/A for flying leads		✓	414,1	✓	✓	✓	✓
S/N 2774					✓	425.0	✓	✓	✓	✓
S/N 2775					✓	413.9	✓	✓	✓	✓
S/N 2776					✓	413.1	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 483.9 Min: 396.0	Min: 5000				Max: 483.9 Min: 396.0	Min: 5000		
S/N 2773	✓	417.0	✓	✓	✓	✓	413.9	✓	✓	✓
S/N 2774	✓	427.8	✓	✓	✓	✓	424.8	✓	✓	✓
S/N 2775	✓	419.0	✓							
S/N 2776	✓	418.6	✓							



Q29 – 12311047-3-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 483.9		
								Min: 396.0	Min: 5000	
S/N 2773	✓	✓	✓	✓	✓	✓	✓	416.0	✓	✓
S/N 2774	✓	✓	✓	✓	✓	✓	✓	426.8	✓	✓
S/N 2775										
S/N 2776										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 483.9							Max: 483.9		
	Min: 396.0	Min: 5000						Min: 396.0	Min: 5000	
S/N 2773	414.2	✓	✓							
S/N 2774	424.8	✓								
S/N 2775				✓	✓	✓	✓	417.9	✓	✓
S/N 2776				✓	✓	✓	✓	414.8	✓	✓



Q30 – 12001166

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=10mV f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max:				
						Min:	Min: 5000			
S/N 001	N/A for flying leads		N/A for flying leads		✓	0.017	✓	✓	✓	✓
S/N 002					✓	0.015	✓	✓	✓	✓
S/N 003					✓	0.020	✓	✓	✓	✓
S/N 004					✓	0.015	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=10mV f=100kHz	V=500V	External Test		§ 5.3	V=10mV f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max:					Max:			
		Min:	Min: 5000				Min:	Min: 5000		
S/N 001	✓	0.052	✓	✓	✓	✓	0.012	✓	✓	✓
S/N 002	✓	0.062	✓	✓	✓	✓	0.028	✓	✓	✓
S/N 003	✓	0.028	✓							
S/N 004	✓	0.014	✓							



Q30 – 12001166

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=10mV f=100kHz	V=500V	ECSS-Q-ST-70-08
LIMITS									Min: 5000	
S/N 001	✓	✓	✓	✓	✓	✓	✓	0.047	✓	✓
S/N 002	✓	✓	✓	✓	✓	✓	✓	0.056	✓	✓
S/N 003										
S/N 004										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=10mV f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=10mV f=100kHz	V=500V	§ 5.3
LIMITS		Min: 5000							Min: 5000	
S/N 001	0.051	✓	✓							
S/N 002	0.035	✓								
S/N 003				✓	✓	✓	✓	0.045	✓	✓
S/N 004				✓	✓	✓	✓	0.036	✓	✓



Q32 – 14240183-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics				Mount on PCB & Fixture
						Inductance μH			Insul MOhm	
						A	B	C		
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=100mV f=120kHz			V=500V	ECSS-Q-ST-70-08
LIMITS						Max: 110.99	Max:	Max: 110.99		
						Min: 90.81	Min:	Min: 90.81	Min: 500	
S/N 038	✓	✓	✓	✓	✓	100.57	180.72	100.94	✓	✓
S/N 039	✓	✓	✓	✓	✓	99.05	175.04	99.60	✓	✓
S/N 040	✓	✓	✓	✓	✓	99.77	178.29	100.98	✓	✓
S/N 041	✓	✓	✓	✓	✓	99.57	176.55	99.86	✓	✓

TEST	Visual Inspection	Photo	Electrical Characteristics				Vibration	Mechanical Shock	Visual Inspection
			A	B	C	Insul MOhm			
CONDITIONS	ECSS-Q-ST-70-08		V=100mV f=120kHz			V=500V	External Test		§ 5.3
LIMITS			Max: 110.99	Max:	Max: 110.99				
			Min: 90.81	Min:	Min: 90.81	Min: 500			
S/N 038	✓	✓	100.37	180.37	100.84	✓	✓	✓	✓
S/N 039	✓	✓	98.70	174.38	99.24	✓	✓	✓	✓
S/N 040	✓	✓	99.62	178.29	100.83	✓			
S/N 041	✓	✓	99.45	176.39	99.70	✓			



Q32 – 14240183-1-B

TEST	Electrical Characteristics				DWV	Winding Continuity	Thermal Shock	Moisture Resistance	Cold Temperature	Overload
	A	Inductance μH		Insul MOhm						
CONDITIONS	V=100mV f=120kHz			V=500V	V=375V 5 s	Surge Test	§ 5.4	§ 5.11	§ 5.15	§ 5.12
LIMITS	Max: 110.99	Max:	Max: 110.99							
	Min: 90.81	Min:	Min: 90.81	Min: 500						
S/N 038	100.39	180.47	100.92	✓	✓	✓	✓	✓	✓	✓
S/N 039	98.73	174.30	99.36	✓	✓	✓	✓	✓	✓	✓
S/N 040										
S/N 041										

TEST	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics				Visual Inspection
				A	B	C	Insul MOhm	
CONDITIONS	V=375V 5 s	Surge Test	Beep Test	V=100mV f=120kHz			V=500V	§ 5.3
LIMITS				Max: 110.99	Max:	Max: 110.99		
				Min: 90.81	Min:	Min: 90.81	Min: 500	
S/N 038	✓	✓	✓	100.51	180.74	101.03	✓	✓
S/N 039	✓	✓	✓	98.89	174.83	99.51	✓	✓
S/N 040								
S/N 041								



Q32 – 14240183-1-B

TEST	Electrical Characteristics				DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	
	A	Inductance μ H		C						Insul MOhm
CONDITIONS	V=100mV f=120kHz				V=500V	§ 5.14	§ 5.13	V=375V 5 s	§ 5.11	§ 5.3
LIMITS	Max:	110.99	Max:	110.99						
	Min:	90.81	Min:	90.81	Min: 500					
S/N 038	100.71	181.05	101.18	✓	✓					
S/N 039	99.03	175.14	99.58	✓						
S/N 040						✓	✓	✓	✓	
S/N 041						✓	✓	✓	✓	

TEST	Electrical Characteristics				Visual Inspection	
	A	Inductance μ H		C		Insul MOhm
CONDITIONS	V=100mV f=120kHz				V=500V	§ 5.3
LIMITS	Max:	110.99	Max:	110.99		
	Min:	90.81	Min:	90.81	Min: 500	
S/N 038						
S/N 039						
S/N 040	100.51	180.74	101.03	✓	✓	
S/N 041	98.39	173.23	98.91	✓	✓	



Q33 – 14280027-3-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics				Mount on PCB & Fixture
						Inductance μH			Insul MOhm	
						A	B	C		
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=100mV f=100kHz			V=500V	ECSS-Q-ST-70-08
LIMITS						Max: 13.04		Max: 13.04		
						Min: 11.80	Min: 25.50	Min: 11.80	Min: 5000	
S/N 271	✓	✓	✓	✓	✓	12.43	27.56	12.36	✓	✓
S/N 272	✓	✓	✓	✓	✓	12.72	28.34	13.45	✓	✓
S/N 273	✓	✓	✓	✓	✓	12.43	27.71	12.36	✓	✓
S/N 274	✓	✓	✓	✓	✓	12.37	27.19	12.23	✓	✓

TEST	Visual Inspection	Photo	Electrical Characteristics				Vibration	Mechanical Shock	Visual Inspection
			A	B	C	Insul MOhm			
CONDITIONS	ECSS-Q-ST-70-08		V=100mV f=100kHz			V=500V	External Test		§ 5.3
LIMITS			Max: 13.04		Max: 13.04				
			Min: 11.80	Min: 25.50	Min: 11.80	Min: 5000			
S/N 271	✓	✓	12.36	26.79	12.38	✓	✓	✓	✓
S/N 272	✓	✓	12.40	27.00	12.46	✓	✓	✓	✓
S/N 273	✓	✓	12.41	27.45	12.35	✓			
S/N 274	✓	✓	12.29	26.85	12.21	✓			



Q33 – 14280027-3-B

TEST	Electrical Characteristics				DWV	Winding Continuity	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	
	A	Inductance μH		C							Insul MOhm
CONDITIONS	V=100mV f=100kHz				V=500V	V=375V 5 s	Surge Test	§ 5.4	§ 5.11	§ 5.15	§ 5.12
LIMITS	Max:	13.04		Max:	13.04						
	Min:	11.80	Min:	25.50	Min:	11.80	Min:	5000			
S/N 271	12.43	26.71	12.37	✓	✓	✓	✓	✓	✓	✓	
S/N 272	12.45	27.00	12.48	✓	✓	✓	✓	✓	✓	✓	
S/N 273											
S/N 274											

TEST	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics				Visual Inspection		
				A	Inductance μH		C		Insul MOhm	
CONDITIONS	V=375V 5 s	Surge Test	Beep Test	V=100mV f=100kHz				V=500V	§ 5.3	
LIMITS				Max:	13.04		Max:	13.04		
				Min:	11.80	Min:	25.50	Min:	11.80	Min:
S/N 271	✓	✓	✓	12.40	26.73	12.39	✓	✓		
S/N 272	✓	✓	✓	12.41	26.95	12.43	✓	✓		
S/N 273										
S/N 274										



Q33 – 14280027-3-B

TEST	Electrical Characteristics				DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	
	A	Inductance μ H		C						Insul MOhm
CONDITIONS	V=100mV f=100kHz				V=500V	§ 5.14	§ 5.13	V=375V 5 s	§ 5.11	§ 5.3
LIMITS	Max:	13.04		Max:	13.04					
	Min:	11.80	Min:	25.50	Min:	11.80	Min:	5000		
S/N 271	12.42	26.71	12.39	✓	✓					
S/N 272	12.44	26.91	12.42	✓						
S/N 273						✓	✓	✓	✓	✓
S/N 274						✓	✓	✓	✓	✓

TEST	Electrical Characteristics				Visual Inspection			
	A	Inductance μ H		C		Insul MOhm		
CONDITIONS	V=100mV f=100kHz				V=500V	§ 5.3		
LIMITS	Max:	13.04		Max:	13.04			
	Min:	11.80	Min:	25.50	Min:	11.80	Min:	5000
S/N 271								
S/N 272								
S/N 273	12.25	27.07	12.13	✓	✓			
S/N 274	12.51	28.32	12.62	✓	✓			



Q34 – 14280016-4-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics				Mount on PCB & Fixture
						Inductance μH			Insul MOhm	
						A	B	C		
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=100mV f=100kHz			V=500V	ECSS-Q-ST-70-08
LIMITS						Max: 18.90	Max: 37.80	Max: 18.90		
						Min: 17.10	Min: 29.16	Min: 17.10	Min: 5000	
S/N 139	✓	✓	✓	✓	✓	18.03	32.93	17.89	✓	✓
S/N 140	✓	✓	✓	✓	✓	18.07	33.63	18.25	✓	✓
S/N 141	✓	✓	✓	✓	✓	18.15	33.30	17.98	✓	✓
S/N 142	✓	✓	✓	✓	✓	18.29	33.74	18.28	✓	✓

TEST	Visual Inspection	Photo	Electrical Characteristics				Vibration	Mechanical Shock	Visual Inspection
			A	B	C	Insul MOhm			
CONDITIONS	ECSS-Q-ST-70-08		V=100mV f=100kHz			V=500V	External Test		§ 5.3
LIMITS			Max: 18.90	Max: 37.80	Max: 18.90				
			Min: 17.10	Min: 29.16	Min: 17.10	Min: 5000			
S/N 139	✓	✓	18.02	32.69	17.87	✓	✓	✓	✓
S/N 140	✓	✓	18.03	33.31	18.23	✓	✓	✓	✓
S/N 141	✓	✓	18.06	32.90	17.89	✓			
S/N 142	✓	✓	18.23	33.41	18.22	✓			



Q34 – 14280016-4-B

TEST	Electrical Characteristics				DWV	Winding Continuity	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	
	A	Inductance μH		C							Insul MOhm
CONDITIONS	V=100mV f=100kHz				V=500V	V=375V 5 s	Surge Test	§ 5.4	§ 5.11	§ 5.15	§ 5.12
LIMITS	Max:	18.90	Max: 37.80	Max: 18.90							
	Min:	17.10	Min: 29.16	Min: 17.10	Min: 5000						
S/N 139	17.96	32.55	17.80	✓	✓	✓	✓	✓	✓	✓	✓
S/N 140	18.00	33.27	18.13	✓	✓	✓	✓	✓	✓	✓	✓
S/N 141											
S/N 142											

TEST	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics				Visual Inspection	
				A	Inductance μH		C		Insul MOhm
CONDITIONS	V=375V 5 s	Surge Test	Beep Test	V=100mV f=100kHz				V=500V	§ 5.3
LIMITS				Max:	18.90	Max: 37.80	Max: 18.90		
				Min:	17.10	Min: 29.16	Min: 17.10	Min: 5000	
S/N 139	✓	✓	✓	18.12	32.84	✓	✓	✓	
S/N 140	✓	✓	✓	18.16	33.61	✓	✓	✓	
S/N 141									
S/N 142									



Q34 – 14280016-4-B

TEST	Electrical Characteristics				DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	
	A	Inductance μ H		C						Insul MOhm
CONDITIONS	V=100mV f=100kHz				V=500V	§ 5.14	§ 5.13	V=375V 5 s	§ 5.11	§ 5.3
LIMITS	Max:	18.90	Max: 37.80	Max: 18.90						
	Min:	17.10	Min: 29.16	Min: 17.10	Min: 5000					
S/N 139	17.98	32.58	17.79	✓	✓					
S/N 140	18.03	33.40	18.19	✓						
S/N 141						✓	✓	✓	✓	
S/N 142						✓	✓	✓	✓	

TEST	Electrical Characteristics				Visual Inspection	
	A	Inductance μ H		C		Insul MOhm
CONDITIONS	V=100Mv f=100kHz				V=500V	§ 5.3
LIMITS	Max:	18.90	Max: 37.80	Max: 18.90		
	Min:	17.10	Min: 29.16	Min: 17.10	Min: 5000	
S/N 139						
S/N 140						
S/N 141	17.27	29.36	17.13	✓	✓	
S/N 142	18.27	33.56	18,21	✓	✓	



Q35 – 14790201

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 14.38 Min: 8.63	Min: 5000			
S/N 041	✓	✓	See section 10.5	✓	✓	12.04	✓	✓	✓	✓
S/N 044	✓	✓		✓	✓	11.81	✓	✓	✓	✓
S/N 043	✓	✓		✓	✓	11.56	✓	✓	✓	✓
S/N 045	✓	✓		✓	✓	12.11	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 14.38 Min: 8.63	Min: 5000				Max: 14.38 Min: 8.63	Min: 5000		
S/N 041	✓	11.33	✓	✓	✓	✓	11.38	✓	✓	✓
S/N 044	✓	11.67	✓	✓	✓	✓	11.66	✓	✓	✓
S/N 043	✓	11.83	✓							
S/N 045	✓	11.98	✓							



Q35 – 14790201

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 14.38		
								Min: 8.63	Min: 5000	
S/N 041	✓	✓	✓	✓	✓	✓	✓	11.63	✓	✓
S/N 044	✓	✓	✓	✓	✓	✓	✓	11.73	✓	✓
S/N 043										
S/N 045										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 14.38							Max: 14.38		
	Min: 8.63	Min: 5000						Min: 8.63	Min: 5000	
S/N 041	11.44	✓	✓							
S/N 044	11.79	✓								
S/N 043				✓	✓	✓	✓	11.81	✓	✓
S/N 045				✓	✓	✓	✓	12.02	✓	✓



Q36 – 14170209

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=125kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 185.1				
						Min: 167.5	Min: 5000			
S/N 011	✓	✓	✓	✓	✓	182.1	✓	✓	✓	✓
S/N 012	✓	✓	✓	✓	✓	188.6	✓	✓	✓	✓
S/N 013	✓	✓	✓	✓	✓	183.4	✓	✓	✓	✓
S/N 014	✓	✓	✓	✓	✓	182.1	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=125kHz	V=500V	External Test		§ 5.3	V=0.250V f=125kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 185.1					Max: 185.1			
		Min: 167.5	Min: 5000				Min: 167.5	Min: 5000		
S/N 011	✓	182.1	✓	✓	✓	✓	180.7	✓	✓	✓
S/N 012	✓	188.6	✓	✓	✓	✓	183.7	✓	✓	✓
S/N 013	✓	183.4	✓							
S/N 014	✓	182.1	✓							



Q36 – 14170209

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=125kHz	V=500V	§ 5.3
LIMITS								Max: 185.1	Min: 5000	
								Min: 167.5		
S/N 011	✓	✓	✓	✓	✓	✓	✓	182.72	✓	✓
S/N 012	✓	✓	✓	✓	✓	✓	✓	186.43	✓	✓
S/N 013										
S/N 014										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=125kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=125kHz	V=500V	§ 5.3
LIMITS	Max: 185.1	Min: 5000						Max: 185.1	Min: 5000	
	Min: 167.5							Min: 167.5		
S/N 011	180.88	✓	✓							
S/N 012	183.95	✓								
S/N 013				✓	✓	✓	✓	178.47	✓	✓
S/N 014				✓	✓	✓	✓	177.00	✓	✓



Q37 – 14270163

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 977 Min: 562	Min: 5000			
S/N 001	✓	✓	N/A for flying leads	✓	763	✓	✓	✓	✓	✓
S/N 002	✓	✓		✓	771	✓	✓	✓	✓	✓
S/N 003	✓	✓		✓	752	✓	✓	✓	✓	✓
S/N 004	✓	✓		✓	661	✓	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 977 Min: 562	Min: 5000				Max: 977 Min: 562	Min: 5000		
S/N 001	✓	749	✓	✓	✓	✓	745	✓	✓	✓
S/N 002	✓	758	✓	✓	✓	✓	752	✓	✓	✓
S/N 003	✓	734	✓							
S/N 004	✓	647	✓							



Q37 – 14270163

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 977		
								Min: 562	Min: 5000	
S/N 001	✓	✓	✓	✓	✓	✓	✓	767	✓	✓
S/N 002	✓	✓	✓	✓	✓	✓	✓	776	✓	✓
S/N 003										
S/N 004										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 977							Max: 977		
	Min: 562	Min: 5000						Min: 562	Min: 5000	
S/N 001	763	✓	✓							
S/N 002	780	✓								
S/N 003				✓	✓	✓	✓	694	✓	✓
S/N 004				✓	✓	✓	✓	628	✓	✓



Q38 – 12051014

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.250V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 10.92 Min: 5.88	Min: 5000			
S/N 070	N/A for flying leads		N/A for flying leads		✓	6.57	✓	✓	✓	✓
S/N 071					✓	6.68	✓	✓	✓	✓
S/N 072					✓	6.51	✓	✓	✓	✓
S/N 073					✓	6.53	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	§ 5.3	V=0.250V f=100kHz	V=500V	External Test		§ 5.3	V=0.250V f=100kHz	V=500V	V=375V 5 s	Beep Test
LIMITS		Max: 10.92 Min: 5.88	Min: 5000				Max: 10.92 Min: 5.88	Min: 5000		
S/N 070	✓	6.26	✓	✓	✓	✓	6.27	✓	✓	✓
S/N 071	✓	6.38	✓	✓	✓	✓	6.48	✓	✓	✓
S/N 072	✓	6.42	✓							
S/N 073	✓	6.51	✓							



Q38 – 12051014

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep test	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 10.92		
								Min: 5.88	Min: 5000	
S/N 070	✓	✓	✓	✓	✓	✓	✓	6.57	✓	✓
S/N 071	✓	✓	✓	✓	✓	✓	✓	6.68	✓	✓
S/N 072										
S/N 073										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.250V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 10.92							Max: 10.92		
	Min: 5.88	Min: 5000						Min: 5.88	Min: 5000	
S/N 070	6.37	✓	✓							
S/N 071	6.53	✓								
S/N 072				✓	✓	✓	✓	6.39	✓	✓
S/N 073				✓	✓	✓	✓	5.93	✓	✓



Q40 – 14140024

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.100V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 37.71 Min: 27,69	Min: 500			
S/N 005	✓	✓	See section 10.5		✓	32.03	✓	✓	✓	✓
S/N 006	✓	✓			✓	32.27	✓	✓	✓	✓
S/N 007	✓	✓			✓	31.49	✓	✓	✓	✓
S/N 008	✓	✓			✓	32.24	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance	Insul MOhm				Inductance µH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.100V f=100kHz	V=500V	External Test		§ 5.3	V=0.100V f=100kHz	V=500V	V=375V 5 s	
LIMITS		Max: 37.71 Min: 27,69	Min: 500				Max: 37.71 Min: 27,69	Min: 500		
S/N 005	✓	32.00	✓	✓	✓	✓	31.95	✓	✓	✓
S/N 006	✓	32.25	✓	✓	✓	✓	32.19	✓	✓	✓
S/N 007	✓	31.40	✓							
S/N 008	✓	32.20	✓							



Q40 – 14140024

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.100V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 37.71		
								Min: 27,69	Min: 500	
S/N 005	✓	✓	✓	✓	✓	✓	✓	32.03	✓	✓
S/N 006	✓	✓	✓	✓	✓	✓	✓	32.22	✓	✓
S/N 007										
S/N 008										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance	Insul MOhm						Inductance	Insul MOhm	
CONDITIONS	V=0.100V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.100V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 37.71							Max: 37.71		
	Min: 27,69	Min: 500						Min: 27,69	Min: 500	
S/N 005	21,88	✓	✓							
S/N 006	32,20	✓								
S/N 007				✓	✓	✓	✓	31.54	✓	✓
S/N 008				✓	✓	✓	✓	32.28	✓	✓



Q41 - 14230081-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance	Insul MOhm			
CONDITIONS	§ 5.6	§ 5.3	§ 5.8	§ 5.3	V=500V 5 s	V=0.100V f=100kHz	V=500V	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 12.47 Min: 10.21	Min: 500			
S/N 007	✓	✓	✓	✓	✓	11.21	✓	✓	✓	✓
S/N 009	✓	✓	✓	✓	✓	11.48	✓	✓	✓	✓
S/N 008	✓	✓	✓	✓	✓	11.54	✓	✓	✓	✓
S/N 010	✓	✓	✓	✓	✓	11.40	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance	Insul MOhm				Inductance µH	Insul MOhm		
CONDITIONS	§ 5.3	V=0.100V f=100kHz	V=500V	External Test		§ 5.3	V=0.100V f=100kHz	V=500V	V=375V 5 s	
LIMITS		Max: 12.47 Min: 10.21	Min: 500				Max: 12.47 Min: 10.21	Min: 500		
S/N 007	✓	11.18	✓	✓	✓	✓	11.16	✓	✓	✓
S/N 009	✓	11.48	✓	✓	✓	✓	11.50	✓	✓	✓
S/N 008	✓	11.52	✓							
S/N 010	✓	11.40	✓							



Q41 - 14230081-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375V 5 s	Surge Test	Beep Test	V=0.100V f=100kHz	V=500V	§ 5.3
LIMITS								Max: 12.47		
								Min: 10.21	Min: 500	
S/N 007	✓	✓	✓	✓	✓	✓	✓	11.22	✓	✓
S/N 009	✓	✓	✓	✓	✓	✓	✓	11.58	✓	✓
S/N 008										
S/N 010										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance	Insul MOhm						Inductance	Insul MOhm	
CONDITIONS	V=0.100V f=100kHz	V=500V	§ 5.14	§ 5.13	V=375V 5 s	Surge Test	§ 5.3	V=0.100V f=100kHz	V=500V	§ 5.3
LIMITS	Max: 12.47							Max: 12.47		
	Min: 10.21	Min: 500						Min: 10.21	Min: 500	
S/N 007	11.17	✓	✓							
S/N 009	11.53	✓								
S/N 008				✓	✓	✓	✓	11.55	✓	✓
S/N 010				✓	✓	✓	✓	11.48	✓	✓



QS1 - 1221118-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.250V f=100kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 7.41 Min: 6.31	Min: 10			
S/N 044	✓	✓	N/A	✓	✓	6.91	✓	✓	✓	✓
S/N 045	✓	✓	N/A	✓	✓	6.84	✓	✓	✓	✓
S/N 046	✓	✓	N/A	✓	✓	6.80	✓	✓	✓	✓
S/N 047	✓	✓	N/A	✓	✓	6.85	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.250V f=100kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.250V f=100kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 7.41 Min: 6.31	Min: 10				Max: 7.41 Min: 6.31	Min: 10		
S/N 044	✓	6.92	✓	✓	✓	✓	6.81	✓	✓	✓
S/N 045	✓	6.81	✓	✓	✓	✓	6.69	✓	✓	✓
S/N 046	✓	6.83	✓							
S/N 047	✓	6.87	✓							



QS1 - 12211118-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.250V f=100kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 7.41		
								Min: 6.31	Min: 10	
S/N 044	✓	✓	✓	✓	✓	✓	✓	6.83	✓	✓
S/N 045	✓	✓	✓	✓	✓	✓	✓	6.82	✓	✓
S/N 046										
S/N 047										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.250V f=100kHz	V=500	
LIMITS	Max: 7.41							Max: 7.41		
	Min: 6.31	Min: 10						Min: 6.31	Min: 10	
S/N 044	6.83	✓	✓							
S/N 045	6.82	✓								
S/N 046				✓	✓	✓	✓	6.76	✓	✓
S/N 047				✓	✓	✓	✓	6.69	✓	✓



QS2 – 14121023-3-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.250V f=10kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 22.0 Min: 13.2	Min: 10			
S/N 243	✓	✓	✓	✓	✓	17.29	✓	✓	✓	✓
S/N 244	✓	✓	✓	✓	✓	18.45	✓	✓	✓	✓
S/N 246	✓	✓	✓	✓	✓	16.72	✓	✓	✓	✓
S/N 247	✓	✓	✓	✓	✓	17.13	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.250V f=10kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.250V f=10kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 22.0 Min: 13.2	Min: 10				Max: 22.0 Min: 13.2	Min: 10		
S/N 243	✓	17.30	✓	✓	✓	✓	17.19	✓	✓	✓
S/N 244	✓	18.48	✓	✓	✓	✓	18.54	✓	✓	✓
S/N 246	✓	16.76	✓							
S/N 247	✓	17.10	✓							



QS2 – 14121023-3-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.250V f=10kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 22.0		
								Min: 13.2	Min: 10	
S/N 243	✓	✓	✓	✓	✓	✓	✓	17.2	✓	✓
S/N 244	✓	✓	✓	✓	✓	✓	✓	18.6	✓	✓
S/N 246										
S/N 247										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=0.250V f=10kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.250V f=10kHz	V=500	
LIMITS	Max: 22.0							Max: 22.0		
	Min: 13.2	Min: 10						Min: 13.2	Min: 10	
S/N 243	17.2	✓	✓							
S/N 244	18.6	✓								
S/N 246				✓	✓	✓	✓	16.5	✓	✓
S/N 247				✓	✓	✓	✓	17.1	✓	✓



QS3 – 12251007-1

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance mH	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=1V f=100kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 1.08 Min: 0.92	Min: 5000			
S/N 472	✓	✓	N/A	✓	✓	1.00	✓	✓	✓	✓
S/N 473	✓	✓	N/A	✓	✓	0.98	✓	✓	✓	✓
S/N 474	✓	✓	N/A	✓	✓	0.99	✓	✓	✓	✓
S/N 475	✓	✓	N/A	✓	✓	0.99	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=1V f=100kHz	V=500	External Test		ECSS-Q-ST-70-08	V=1V f=100kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 1.08 Min: 0.92	Min: 5000				Max: 1.08 Min: 0.92	Min: 5000		
S/N 472	✓	1.00	✓	✓	✓	✓	1.00	✓	✓	✓
S/N 473	✓	0.98	✓	✓	✓	✓	0.99	✓	✓	✓
S/N 474	✓	0.99	✓							
S/N 475	✓	0.99	✓							



QS3 – 12251007-1

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance mH	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=1V f=100kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 1.08		
								Min: 0.92	Min: 5000	
S/N 472	✓	✓	✓	✓	✓	✓	✓	1.00	✓	✓
S/N 473	✓	✓	✓	✓	✓	✓	✓	0.99	✓	✓
S/N 474										
S/N 475										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance mH	Insul MOhm						Inductance mH	Insul MOhm	
CONDITIONS	V=1V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=1V f=100kHz	V=500	
LIMITS	Max: 1.08							Max: 1.08		
	Min: 0.92	Min: 5000						Min: 0.92	Min: 5000	
S/N 472	1.00	✓	✓							
S/N 473	0.99	✓								
S/N 474				✓	✓	✓	✓	1.00	✓	✓
S/N 475				✓	✓	✓	✓	0.99	✓	✓



QS4 – 14210071-1

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.1V f=10kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 300 Min: 272	Min: 5000			
S/N 135	✓	✓	✓	✓	✓	288	✓	✓	✓	✓
S/N 136	✓	✓	✓	✓	✓	288	✓	✓	✓	✓
S/N 137	✓	✓	✓	✓	✓	286	✓	✓	✓	✓
S/N 138	✓	✓	✓	✓	✓	289	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.1V f=10kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.1V f=10kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 300 Min: 272	Min: 5000				Max: 300 Min: 272	Min: 5000		
S/N 135	✓	288	✓	✓	✓	✓	288	✓	✓	✓
S/N 136	✓	288	✓	✓	✓	✓	286	✓	✓	✓
S/N 137	✓	286	✓							
S/N 138	✓	289	✓							



QS4 – 14210071-1

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.1V f=10kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 300		
								Min: 272	Min: 5000	
S/N 135	✓	✓	✓	✓	✓	✓	✓	293	✓	✓
S/N 136	✓	✓	✓	✓	✓	✓	✓	299	✓	✓
S/N 137										
S/N 138										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.1V f=10kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.1V f=10kHz	V=500	
LIMITS	Max: 300							Max: 300		
	Min: 272	Min: 5000						Min: 272	Min: 5000	
S/N 135	293	✓	✓							
S/N 136	299	✓								
S/N 137				✓	✓	✓	✓	286	✓	✓
S/N 138				✓	✓	✓	✓	289	✓	✓



QS5 – 14790101-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.250V f=100kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 1200 Min: 595	Min: 5000			
S/N 008	✓	✓	N/A	✓	✓	772	✓	✓	✓	✓
S/N 009	✓	✓	N/A	✓	✓	814	✓	✓	✓	✓
S/N 006	✓	✓	N/A	✓	✓	843	✓	✓	✓	✓
S/N 007	✓	✓	N/A	✓	✓	718	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.250V f=100kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.250V f=100kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 1200 Min: 595	Min: 5000				Max: 1200 Min: 595	Min: 5000		
S/N 008	✓	772	✓	✓	✓	✓	814	✓	✓	✓
S/N 009	✓	814	✓	✓	✓	✓	856	✓	✓	✓
S/N 006	✓	843	✓							
S/N 007	✓	718	✓							



QS5 – 14790101-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.250V f=100kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 1200		
								Min: 595	Min: 5000	
S/N 008	✓	✓	✓	✓	✓	✓	✓	833	✓	✓
S/N 009	✓	✓	✓	✓	✓	✓	✓	829	✓	✓
S/N 006										
S/N 007										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.250V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.250V f=100kHz	V=500	
LIMITS	Max: 1200							Max: 1200		
	Min: 595	Min: 5000						Min: 595	Min: 5000	
S/N 008	833	✓	✓							
S/N 009	829	✓								
S/N 006				✓	✓	✓	✓	822	✓	✓
S/N 007				✓	✓	✓	✓	716	✓	✓



QS6 – 12800014-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.010V f=300kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 0.157 Min: 0.131	Min: 5000			
S/N 009	✓	✓	N/A	✓	✓	0.138	✓	✓	✓	✓
S/N 010	✓	✓	N/A	✓	✓	0.135	✓	✓	✓	✓
S/N 011	✓	✓	N/A	✓	✓	0.132	✓	✓	✓	✓
S/N 007	✓	✓	N/A	✓	✓	0.135	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance μ H	Insul MOhm				Inductance μ H	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.010V f=300kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.010V f=300kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 0.157 Min: 0.131	Min: 5000				Max: 0.157 Min: 0.131	Min: 5000		
S/N 009	✓	0.193	✓	✓	✓	✓	0.189	✓	✓	✓
S/N 010	✓	0.180	✓	✓	✓	✓	0.185	✓	✓	✓
S/N 011	✓	0.182	✓							
S/N 007	✓	0.191	✓							



QS6 – 12800017-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.010V f=300kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 0.157		
								Min: 0.131	Min: 5000	
S/N 009	✓	✓	✓	✓	✓	✓	✓	0.184	✓	✓
S/N 010	✓	✓	✓	✓	✓	✓	✓	0.185	✓	✓
S/N 011										
S/N 007										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.010V f=300kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.010V f=300kHz	V=500	
LIMITS	Max: 0.157							Max: 0.157		
	Min: 0.131	Min: 5000						Min: 0.131	Min: 5000	
S/N 009	0.184	✓	✓							
S/N 010	0.185	✓								
S/N 011				✓	✓	✓	✓	0.182	✓	✓
S/N 007				✓	✓	✓	✓	0.191	✓	✓



QS7 – 14110246-1-B

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.300V f=100kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 525 Min: 375	Min: 5000			
S/N 004	✓	✓	✓	✓	✓	497	✓	✓	✓	✓
S/N 006	✓	✓	✓	✓	✓	502	✓	✓	✓	✓
S/N 008	✓	✓	✓	✓	✓	506	✓	✓	✓	✓
S/N 009	✓	✓	✓	✓	✓	508	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.300V f=100kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.300V f=100kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 525 Min: 375	Min: 5000				Max: 525 Min: 375	Min: 5000		
S/N 004	✓	498	✓	✓	✓	✓	497	✓	✓	✓
S/N 006	✓	500	✓	✓	✓	✓	503	✓	✓	✓
S/N 008	✓	506	✓							
S/N 009	✓	507	✓							



QS7 – 14110246-1-B

TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.300V f=100kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 525		
								Min: 375	Min: 5000	
S/N 004	✓	✓	✓	✓	✓	✓	✓	502	✓	✓
S/N 006	✓	✓	✓	✓	✓	✓	✓	501	✓	✓
S/N 008										
S/N 009										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.300V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.300V f=100kHz	V=500	
LIMITS	Max: 525							Max: 525		
	Min: 375	Min: 5000						Min: 375	Min: 5000	
S/N 004	502	✓	✓							
S/N 006	501	✓								
S/N 008				✓	✓	✓	✓	507	✓	✓
S/N 009				✓	✓	✓	✓	508	✓	✓



QS8 – 14170305-1-B (14170272)

TEST	Solderability	Visual Inspection	Terminal Strength	Visual Inspection	DWV	Electrical Characteristics		Mount on PCB & Fixture	Visual Inspection	Photo
						Inductance μ H	Insul MOhm			
CONDITIONS	§ 5.6	ECSS-Q-ST-70-08	§ 5.8	ECSS-Q-ST-70-08	V=500V 5 s	V=0.300V f=100kHz	V=500	ECSS-Q-ST-70-08	ECSS-Q-ST-70-08	
LIMITS						Max: 523 Min: 474	Min: 5000			
S/N 064	✓	✓	✓	✓	✓	500	✓	✓	✓	✓
S/N 065	✓	✓	✓	✓	✓	503	✓	✓	✓	✓
S/N 094	✓	✓	✓	✓	✓	509	✓	✓	✓	✓
S/N 095	✓	✓	✓	✓	✓	501	✓	✓	✓	✓

TEST	Visual Inspection	Electrical Characteristics		Vibration	Mechanical Shock	Visual Inspection	Electrical Characteristics		DWV	Winding Continuity
		Inductance mH	Insul MOhm				Inductance mH	Insul MOhm		
CONDITIONS	ECSS-Q-ST-70-08	V=0.300V f=100kHz	V=500	External Test		ECSS-Q-ST-70-08	V=0.300V f=100kHz	V=500	V=375 5 s	Beep Test
LIMITS		Max: 523 Min: 474	Min: 5000				Max: 523 Min: 474	Min: 5000		
S/N 064	✓	500	✓	✓	✓	✓	499	✓	✓	✓
S/N 065	✓	504	✓	✓	✓	✓	502	✓	✓	✓
S/N 094	✓	510	✓							
S/N 095	✓	500	✓							



QS8 – 14170305-1-B (14170272)

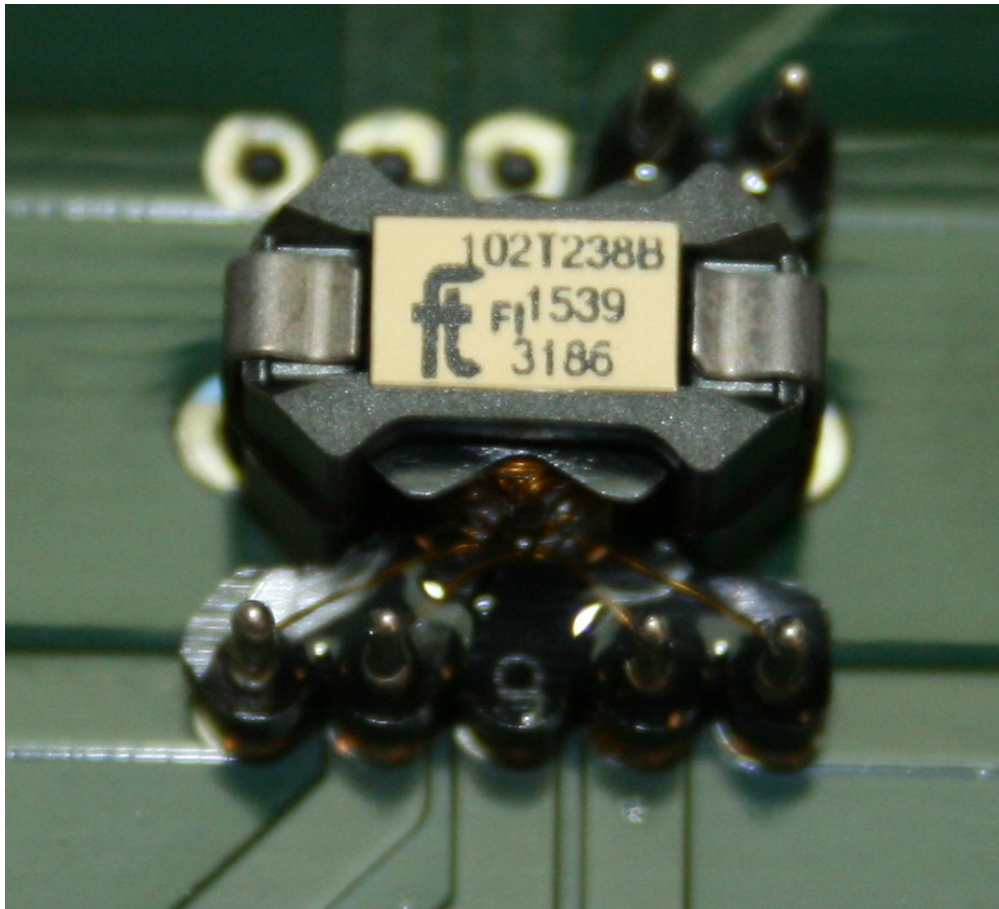
TEST	Thermal Shock	Moisture Resistance	Cold Temperature	Overload	DWV	Insulation Resistance	Winding Continuity	Electrical Characteristics		Visual Inspection
								Inductance μ H	Insul MOhm	
CONDITIONS	§ 5.4	§ 5.11	§ 5.15	§ 5.12	V=375 5 s	Surge Test	Beep Test	V=0.300V f=100kHz	V=500	ECSS-Q-ST-70-08
LIMITS								Max: 523		
								Min: 474	Min: 5000	
S/N 064	✓	✓	✓	✓	✓	✓	✓	508	✓	✓
S/N 065	✓	✓	✓	✓	✓	✓	✓	502	✓	✓
S/N 094										
S/N 095										

TEST	Electrical Characteristics		DPA	Life Test	DWV	Insulation Resistance	Visual Inspection	Electrical Characteristics		Visual Inspection
	Inductance μ H	Insul MOhm						Inductance μ H	Insul MOhm	
CONDITIONS	V=0.300V f=100kHz	V=500	§ 5.14	§ 5.13	V=375 5 s	Surge Test		V=0.300V f=100kHz	V=500	
LIMITS	Max: 523							Max: 523		
	Min: 474	Min: 5000						Min: 474	Min: 5000	
S/N 064	508	✓	✓							
S/N 065	502	✓								
S/N 094				✓	✓	✓	✓	506	✓	✓
S/N 095				✓	✓	✓	✓	495	✓	✓



Annex – Test Samples

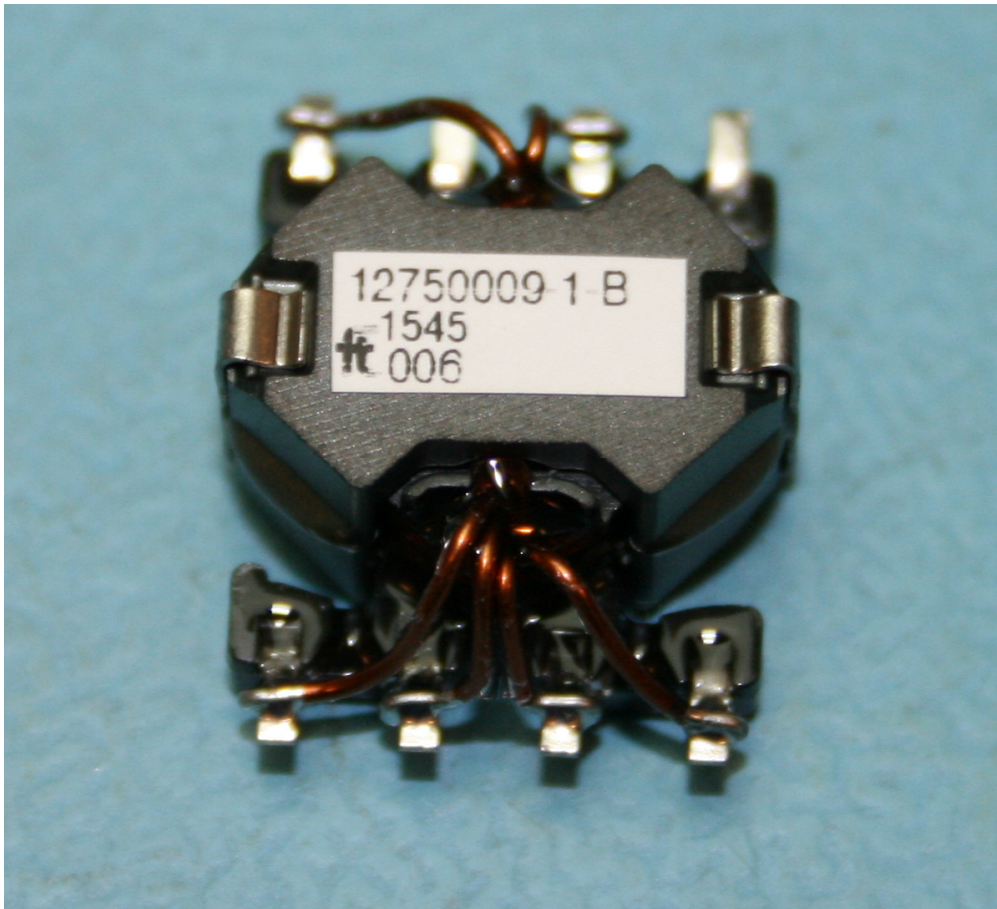
Q1 - 12110029-4-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Trafo 102T238
Epcos T38
RM4
Flux Pins 4-16

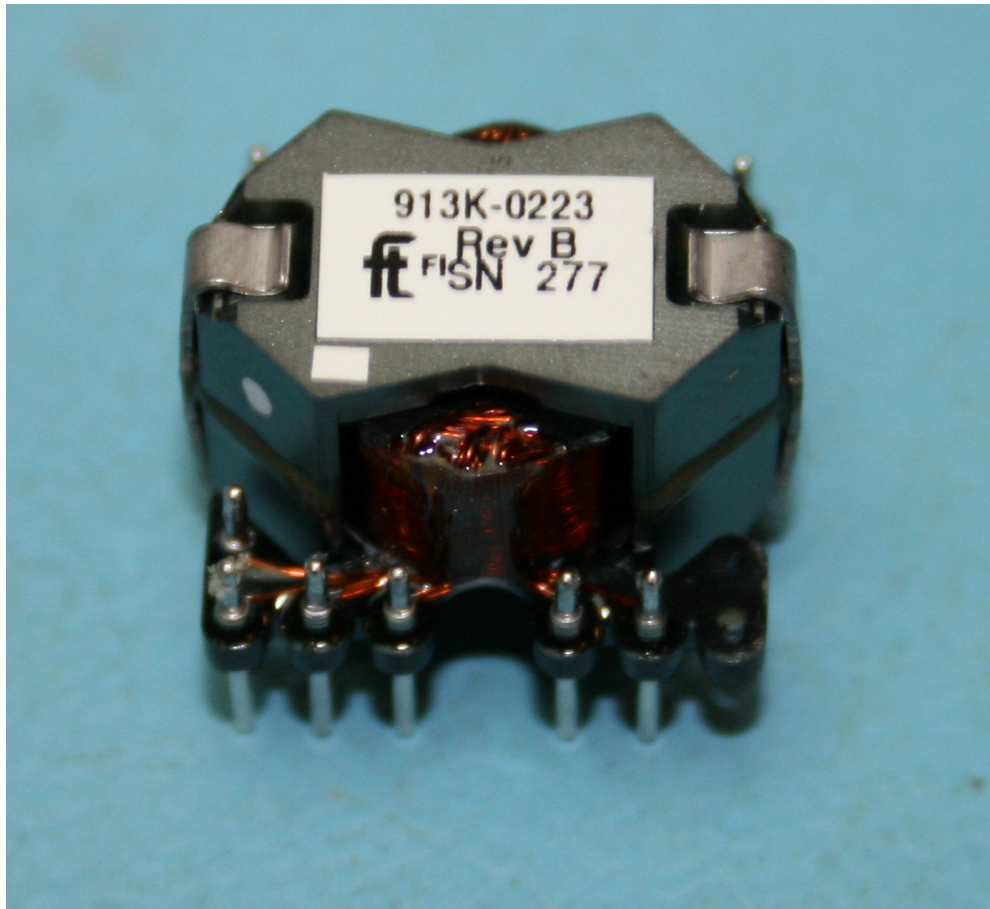
Q3 – 12750009-1-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
-
3F3
RM5
Flux SMT Series

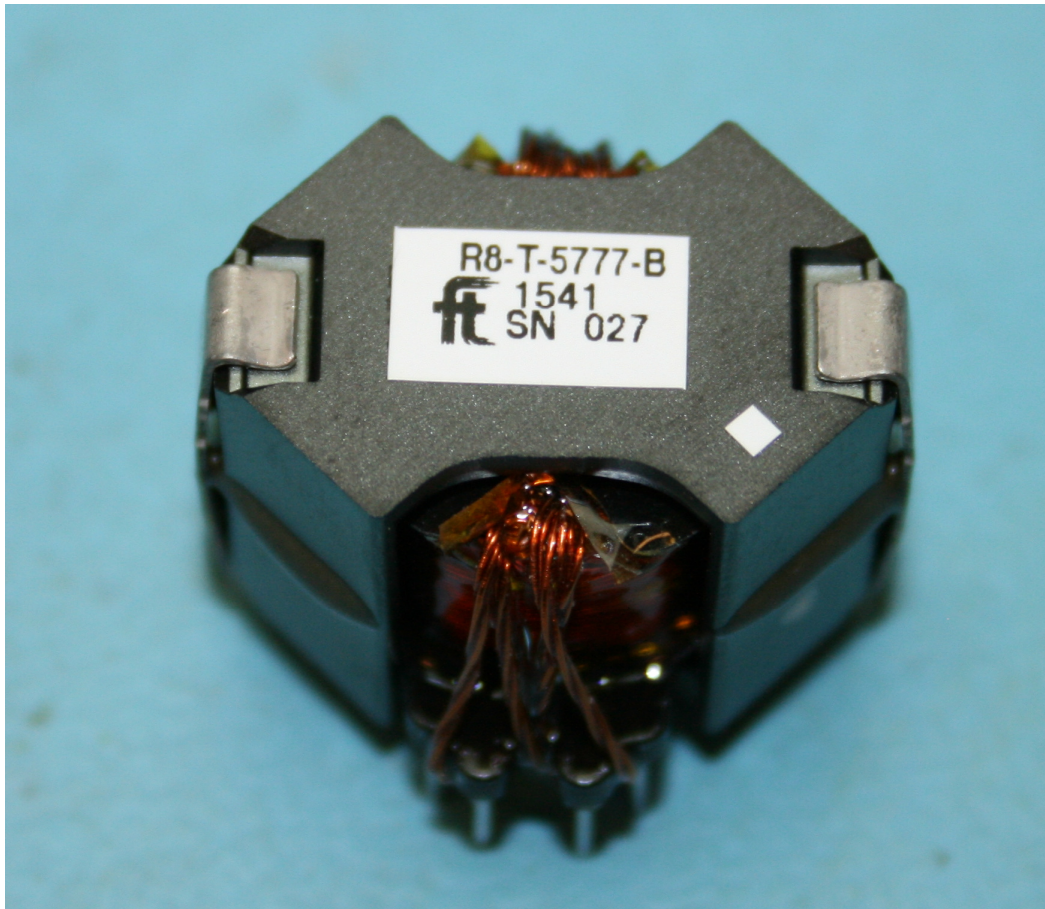
Q4 – 14170194-2-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Flyback Transformer
PC40
RM6
-

Q5 – 14220158-2-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Transformer RM8
Epcos D01
RM8
-

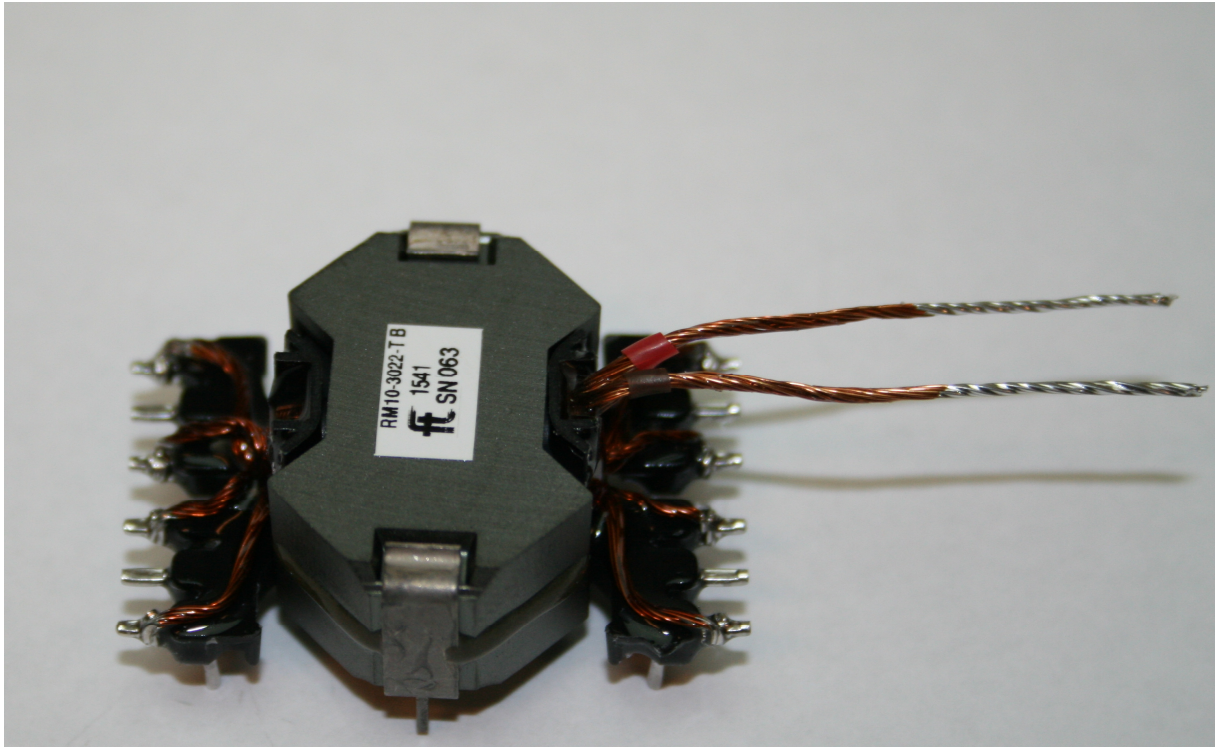
Q6 – 12220096-2-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Coupled Inductor
3C95
RM8
-

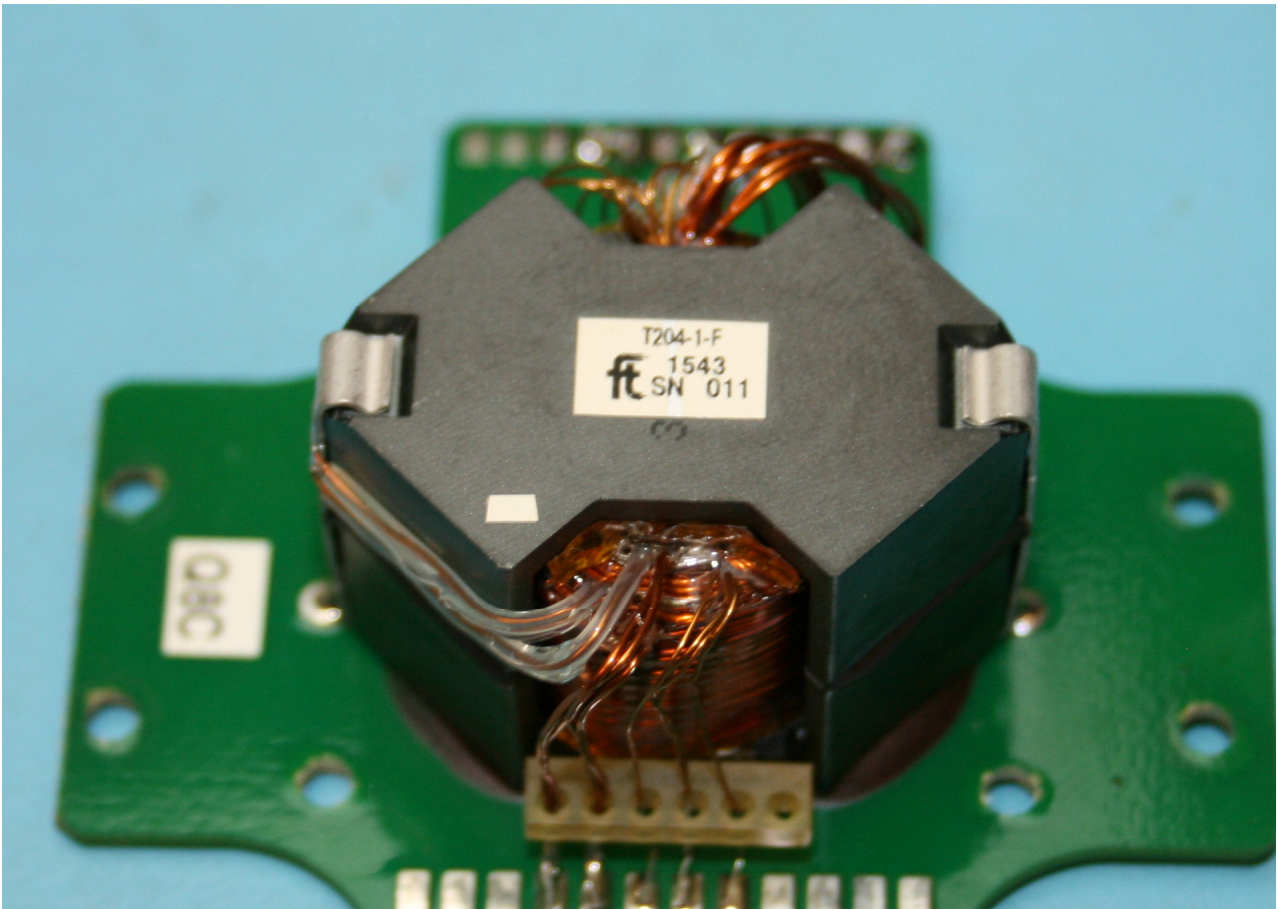
Q7 – 14220153-2-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Power Transformer
3C96
RM10LP
Pins & Flying Leads

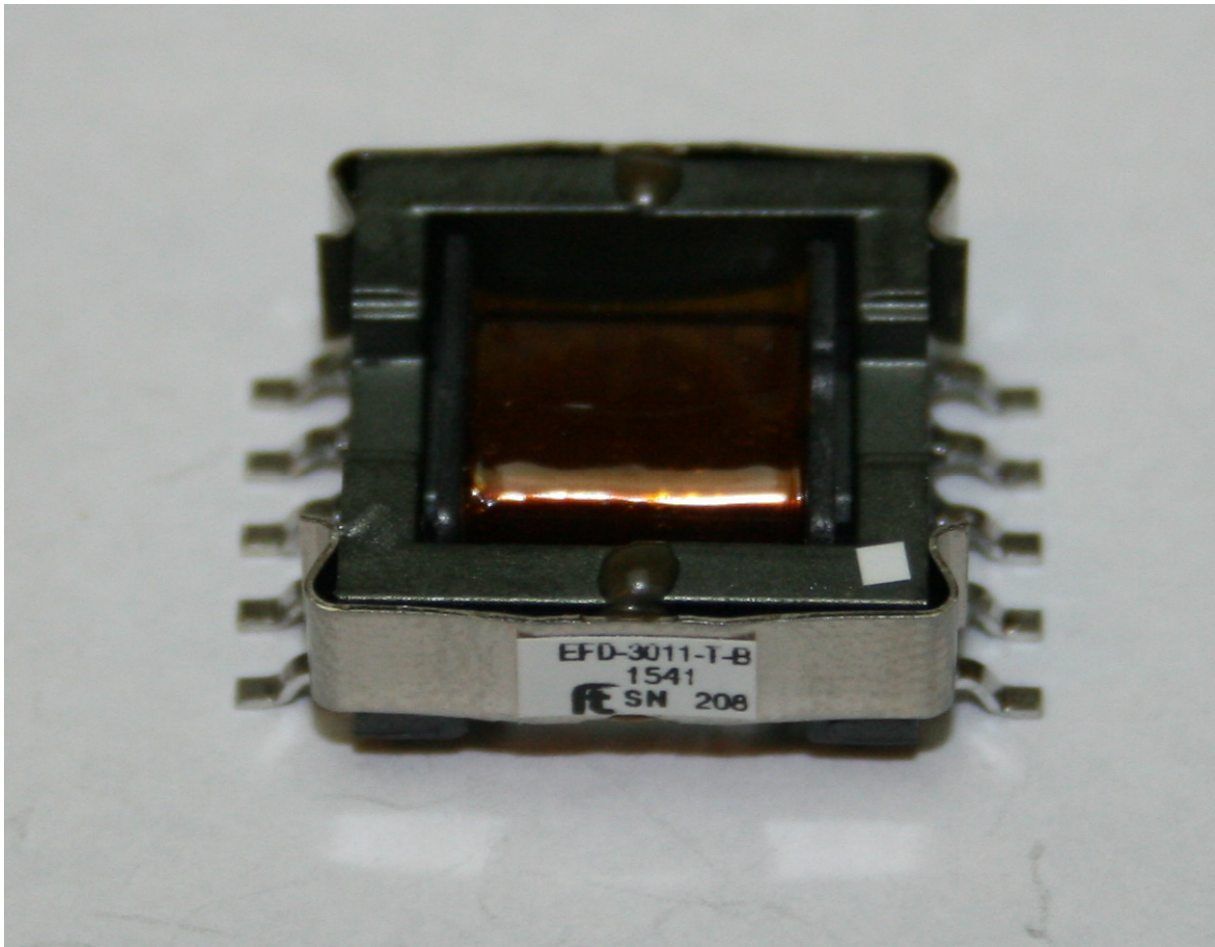
Q8 – 14311008-2-B



Topology:
Customer Ref
Core:
Size:
Other:

RM
Power Transformer
3F3
RM12
Strip lines

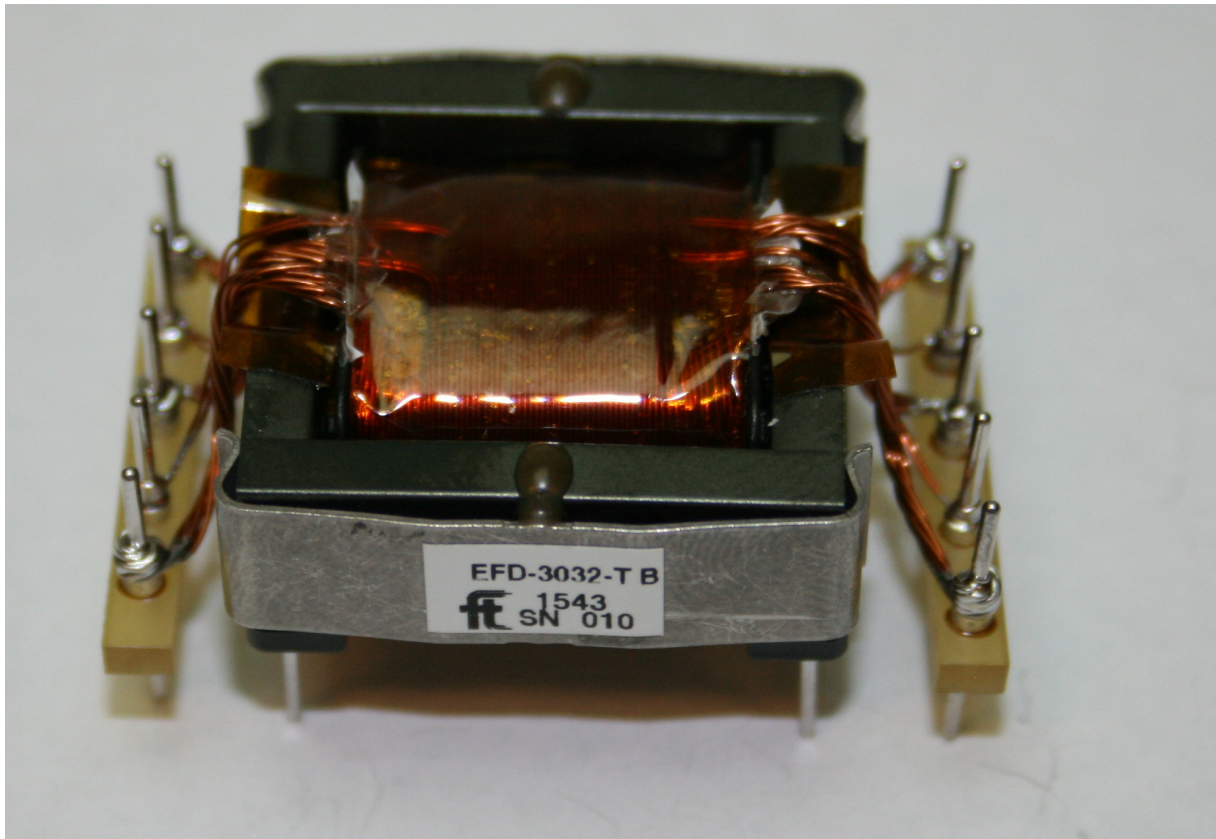
Q9 – 14149006-4-B



Topology:
Customer Ref
Core:
Size:
Other:

EFD
Transformer (3011)
3C94
EFD15
-

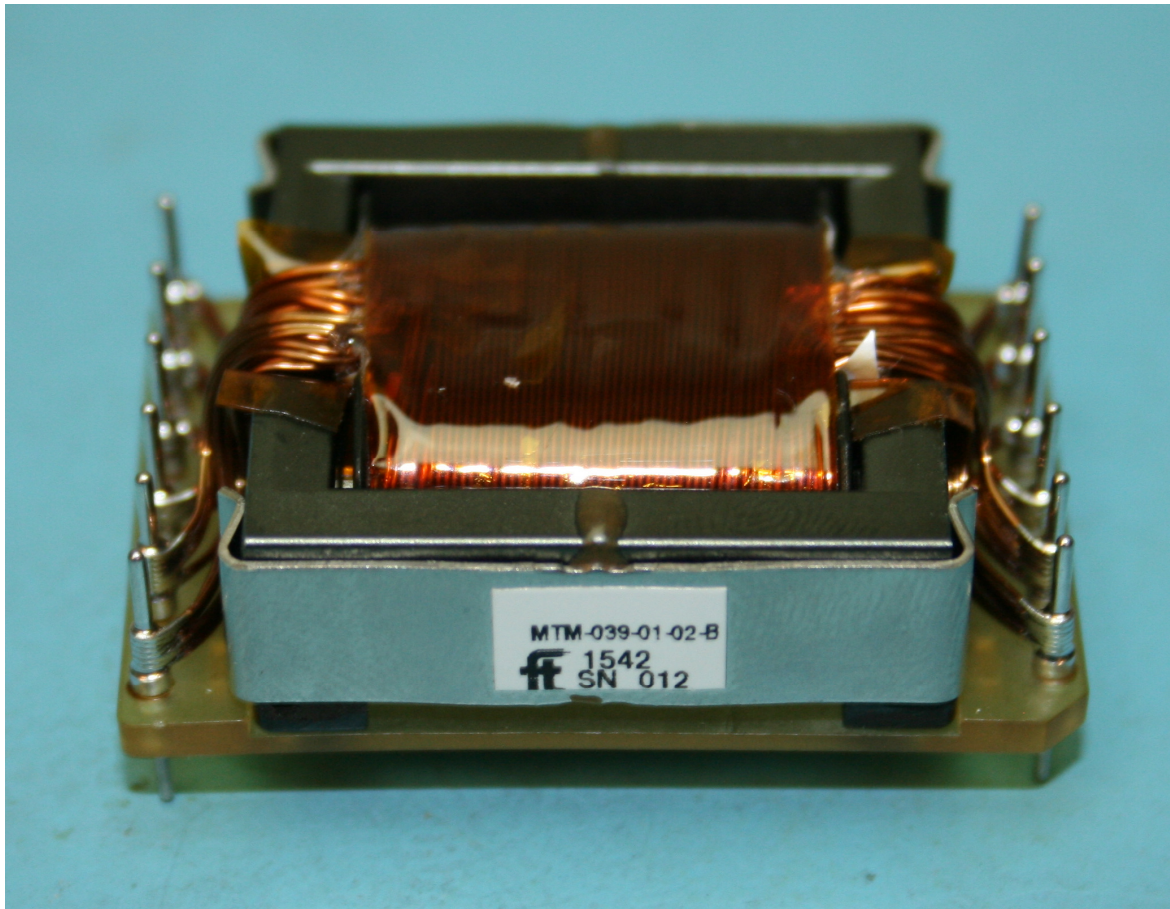
Q10 – 14230080-1-B



Topology:
Customer Ref
Core:
Size:
Other:

EFD
Transformer (3032)
N87
EFD25
-

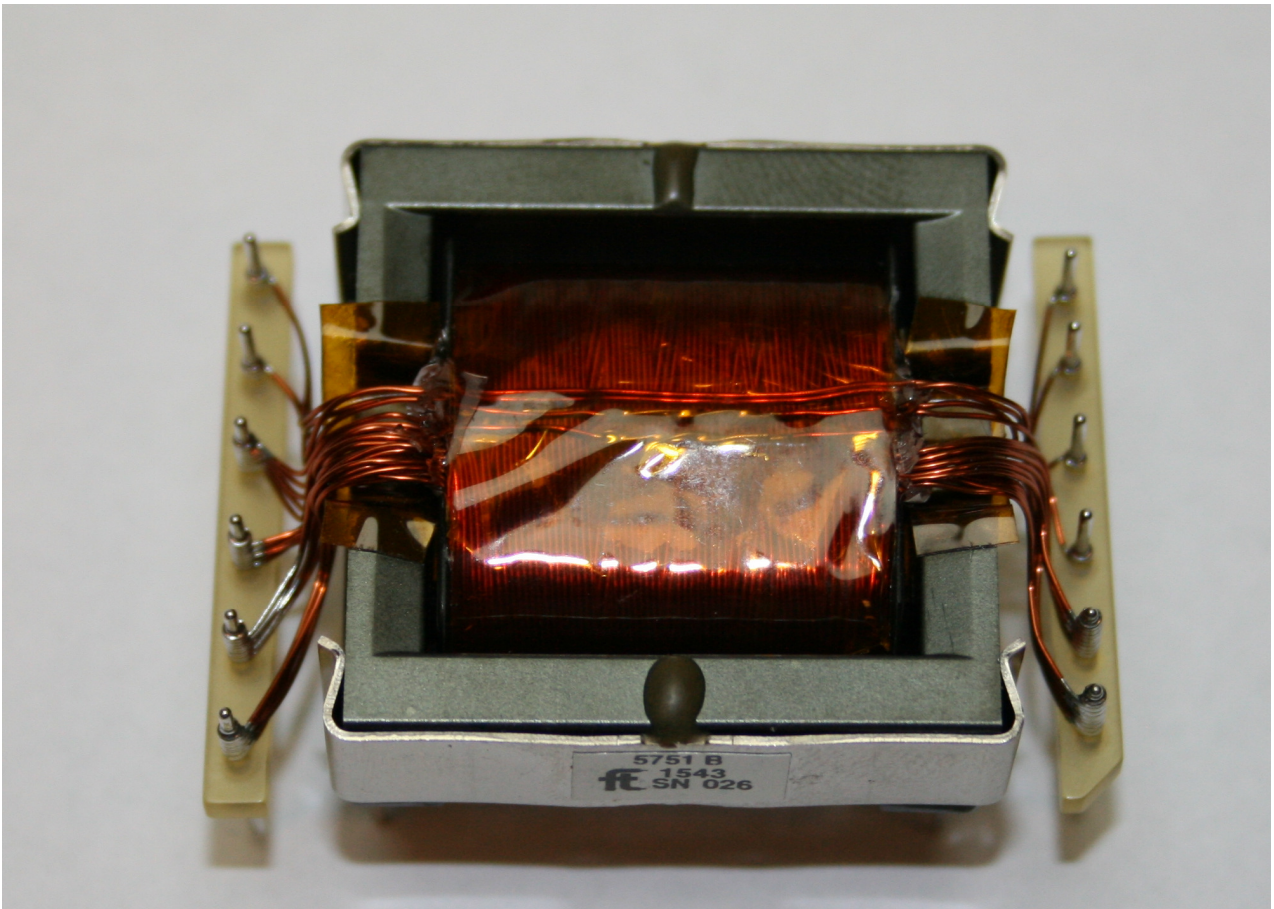
Q11 – 14260119-1-B



Topology:
Customer Ref
Core:
Size:
Other:

EFD
Transformer (180W)
N97
EFD30
On Base

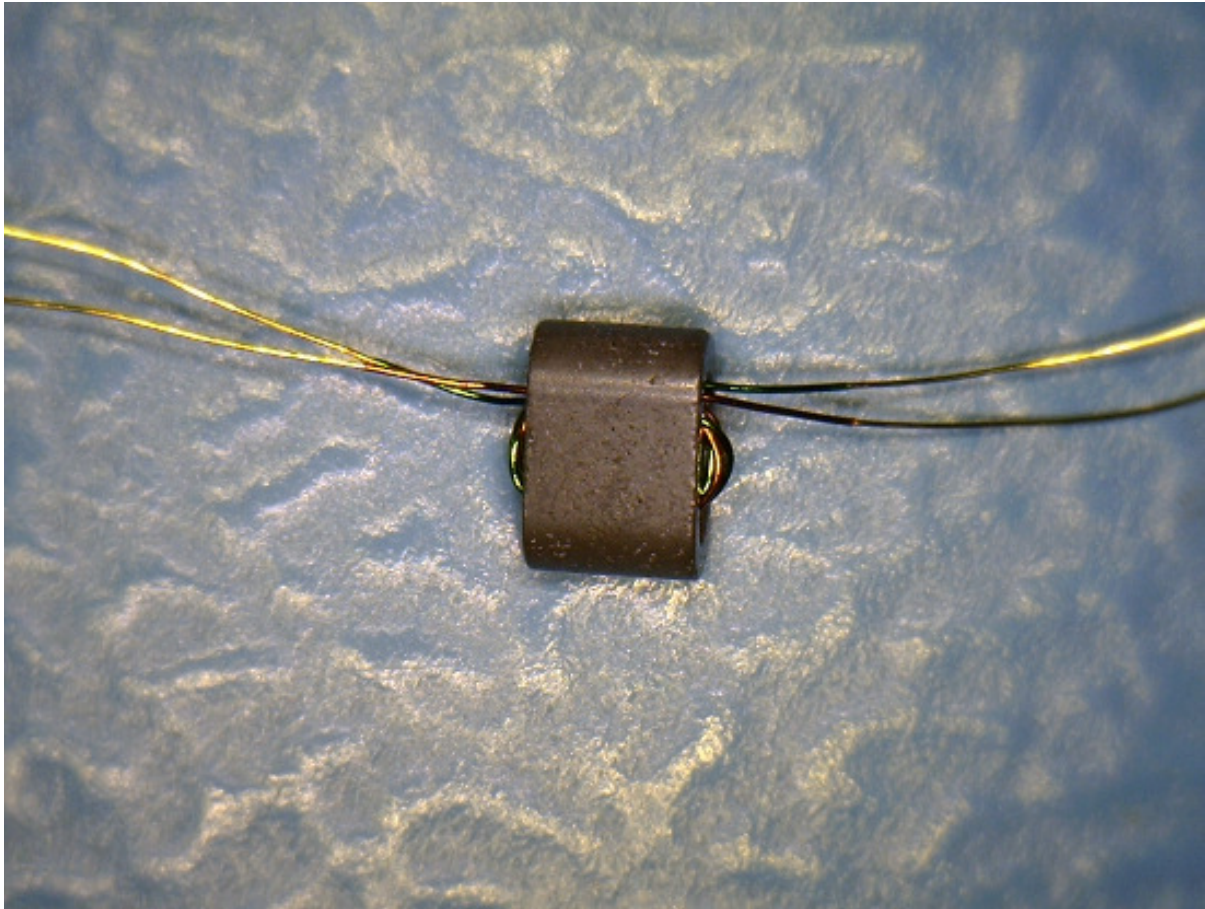
Q12 – 14260082-2-B



Topology:
Customer Ref
Core:
Size:
Other:

EFD
Transformer (5751)
N87
EFD30
-

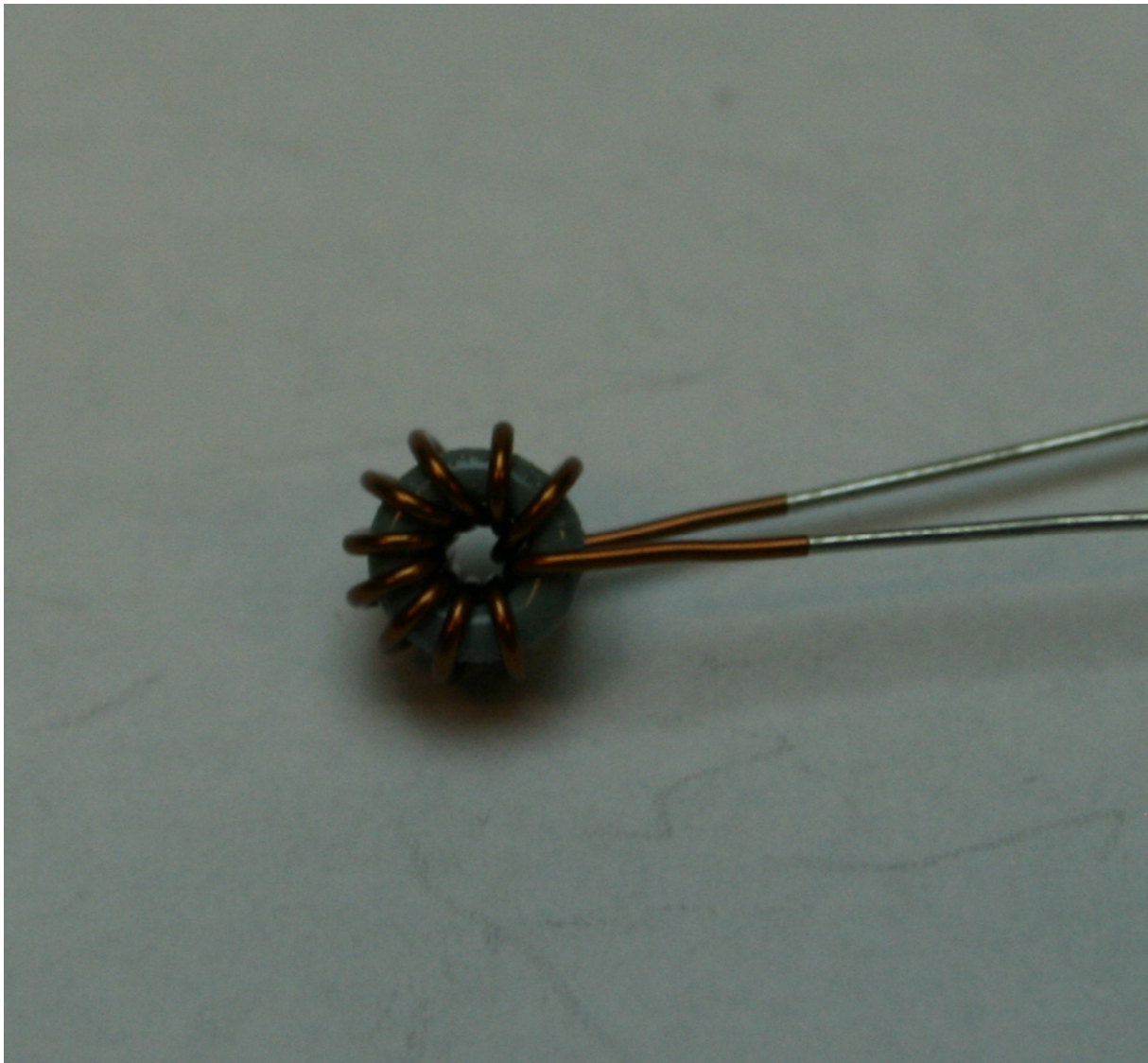
Q13 – 14011001-5



Topology:
Customer Ref
Core:
Size:
Other:

Double Aperture Core
Balun Transformer
Balun
6.2 x7.2 x5
-

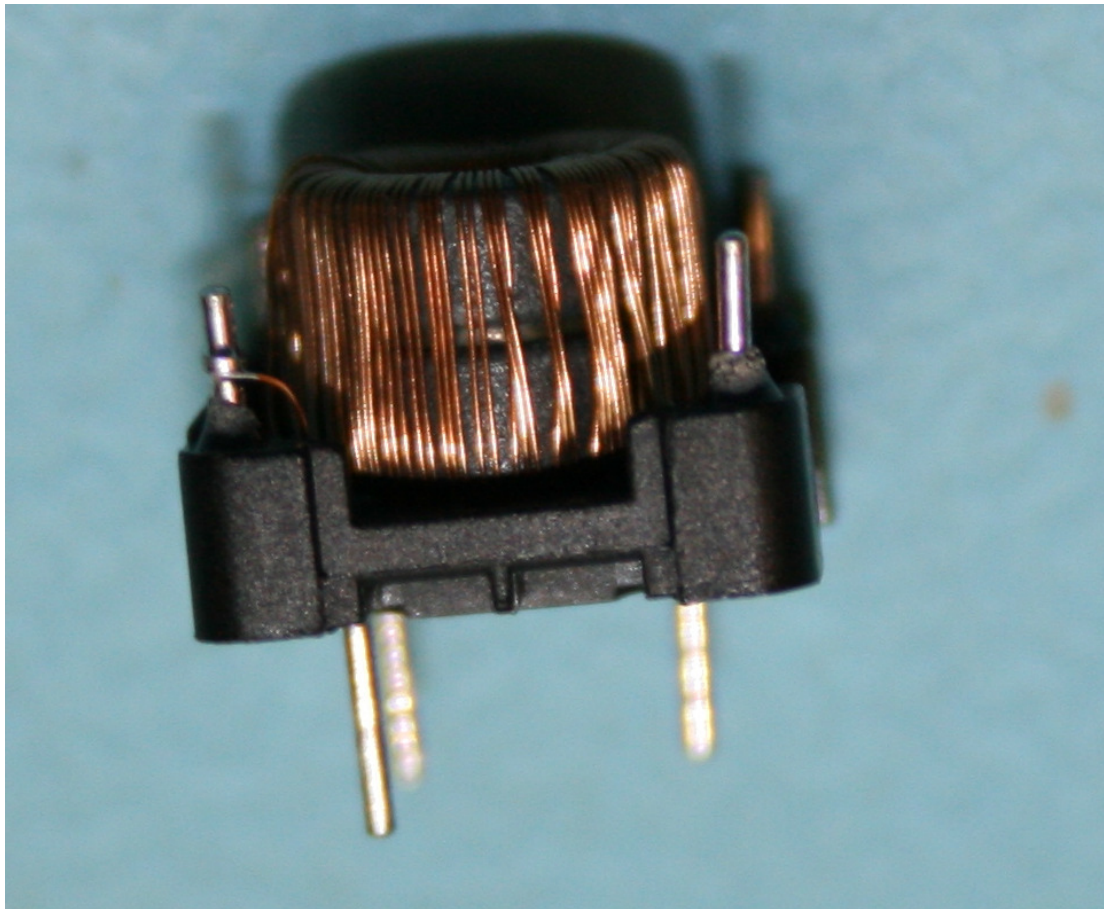
Q14 – 12021008-2-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Inductor 102L375
MPP
Ø3.94mm
Flying Leads

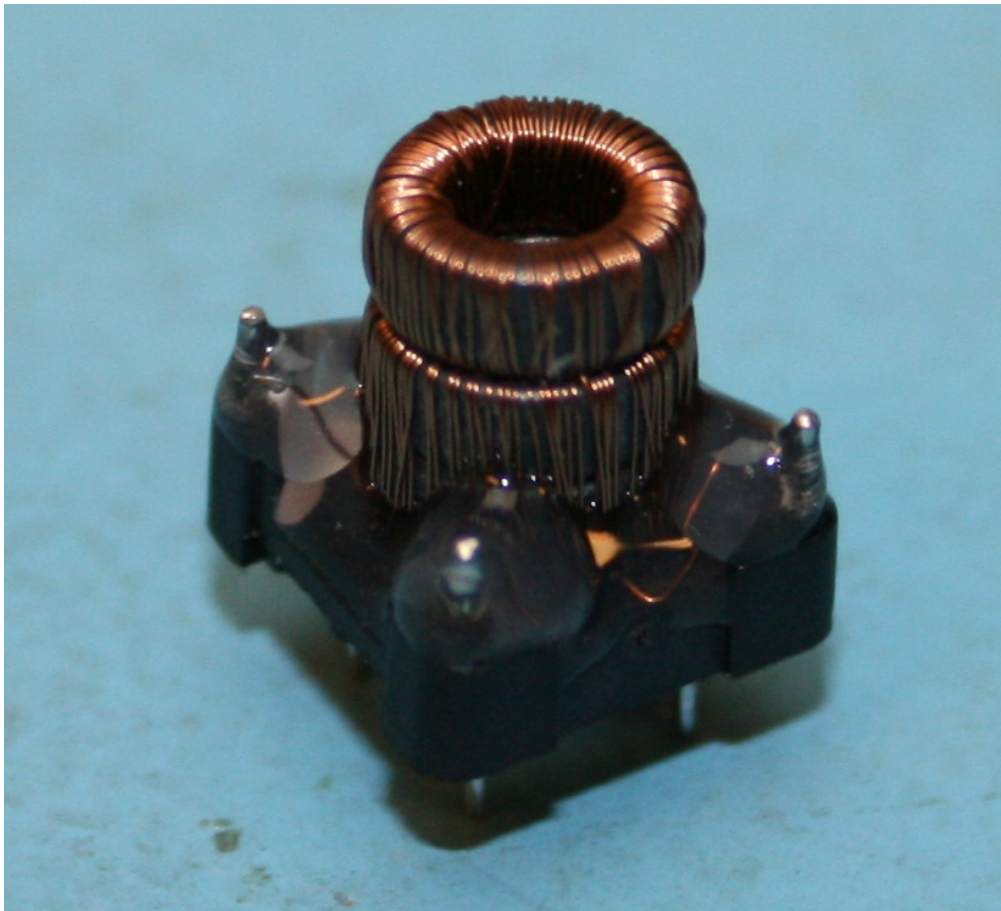
Q15 – 14050029-2-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Current Transformer
N30
Ø6.30mm
On base

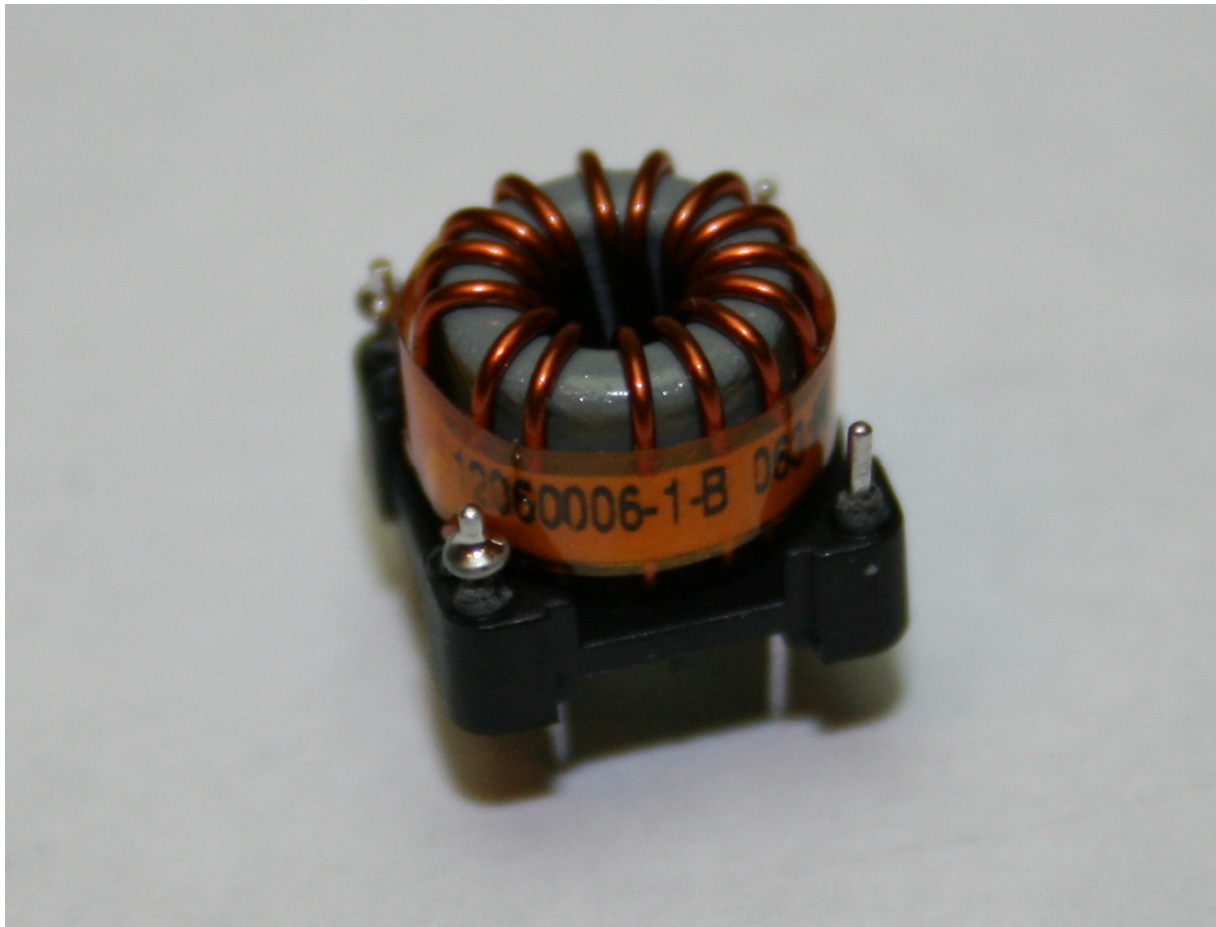
Q16 – 14050013-3-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Transformer 102T460
N30
Ø6.30mm
On base

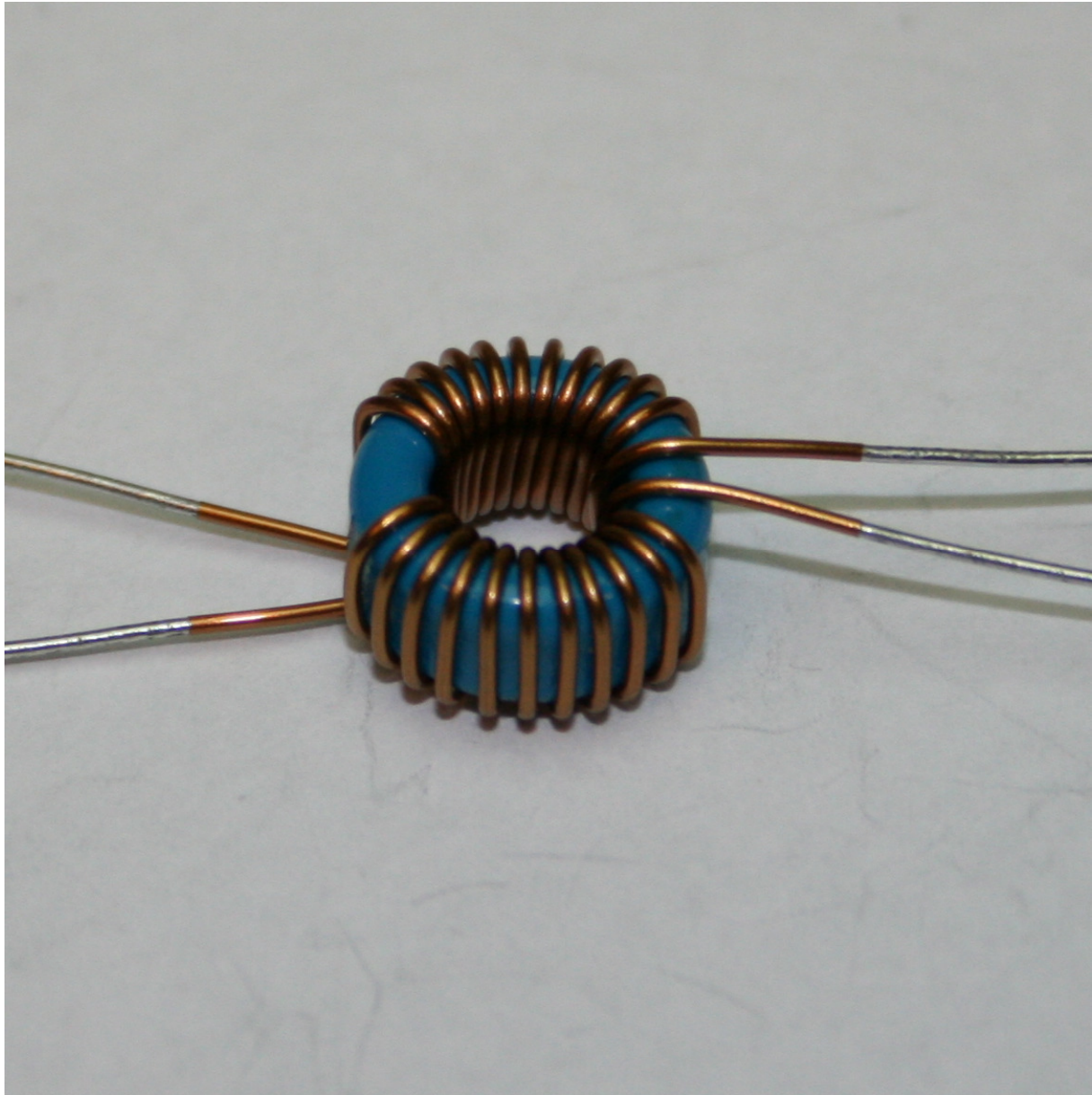
Q17 – 12060006-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
-
MPP
Ø6.86mm
On base

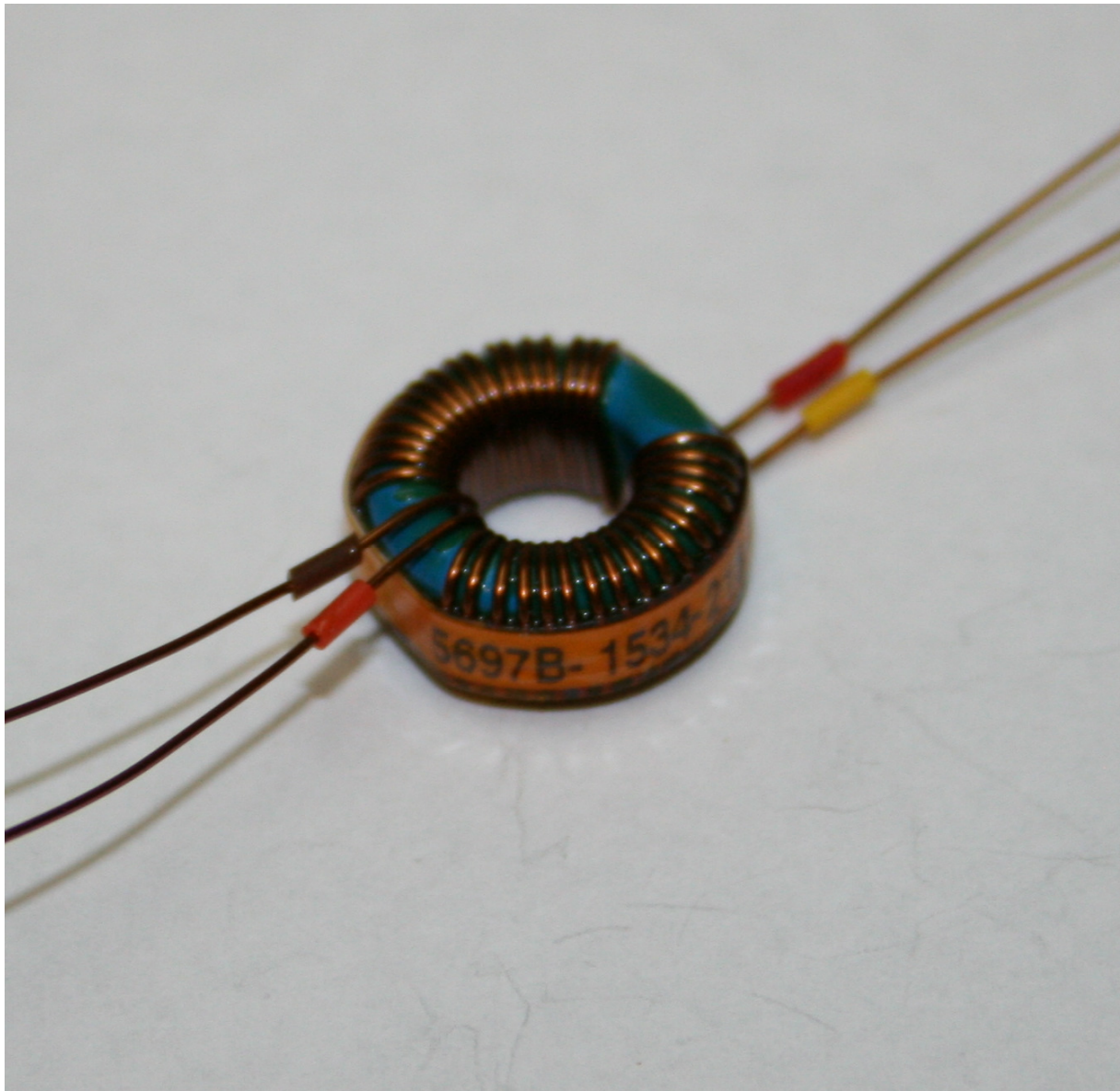
Q19 – 12121115-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
CM Choke
N30
Ø10.00mm
Flying Leads

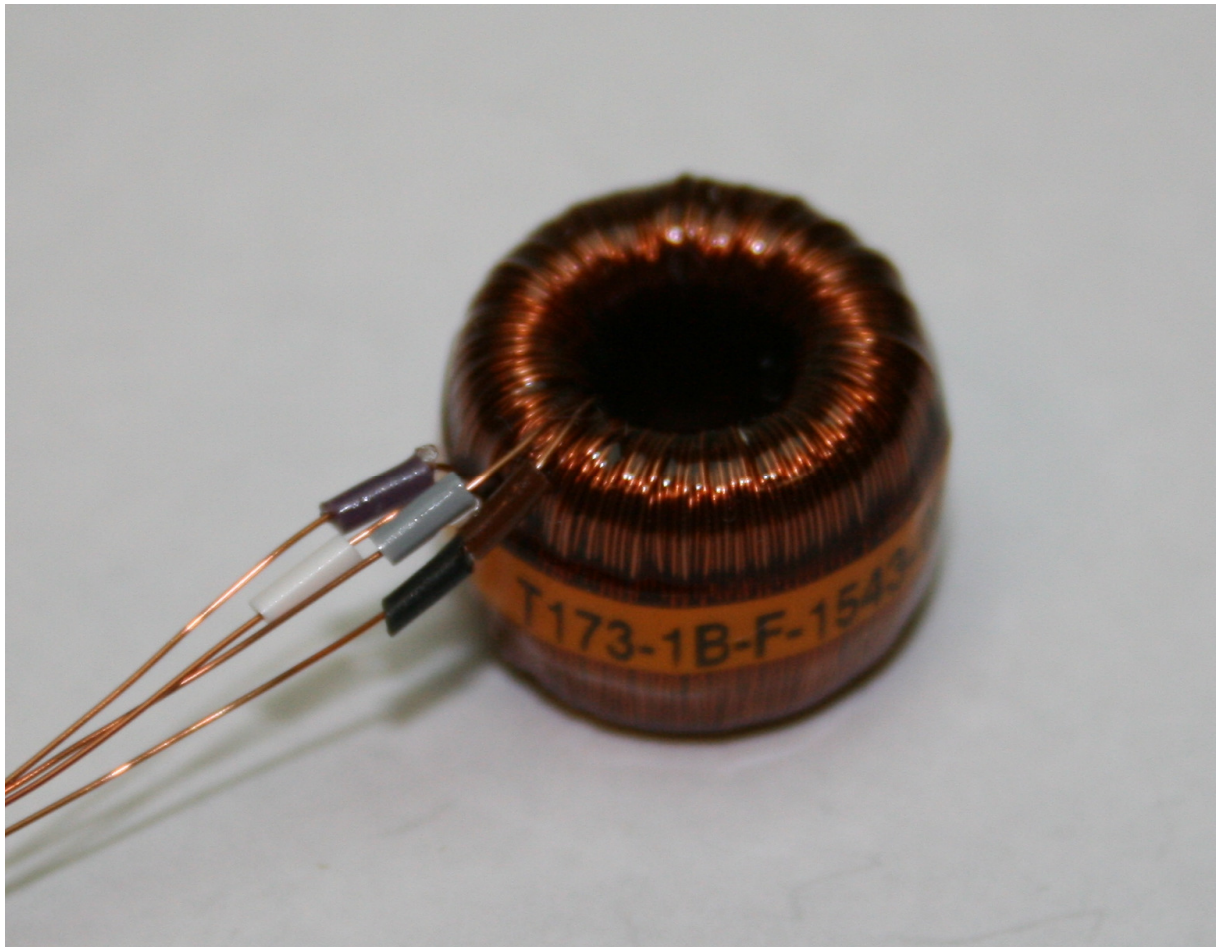
Q20 – 12141041-4-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
CM Choke
Epcos X38
Ø12.50mm
Flying Leads

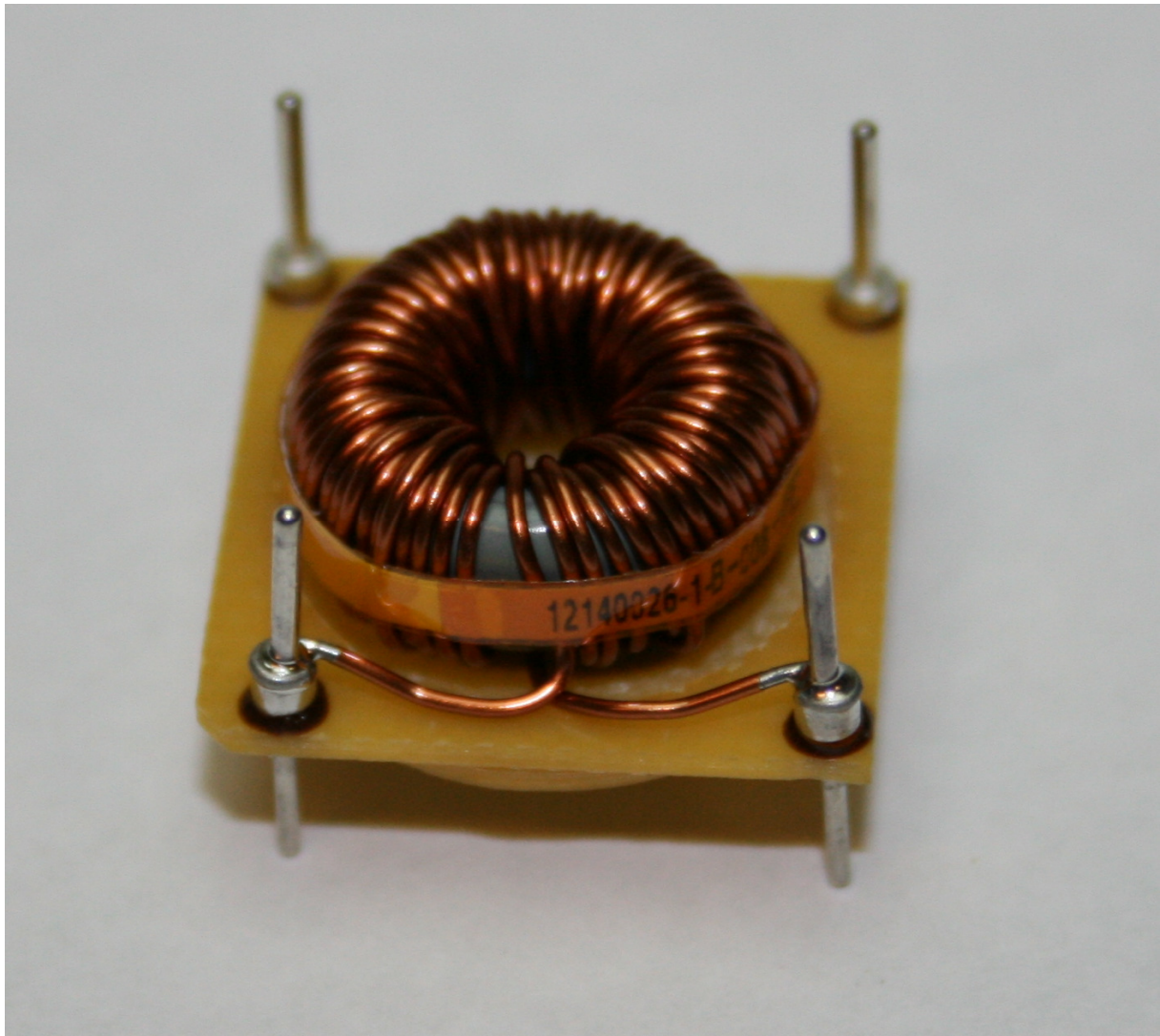
Q21 – 14141004-3-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Current Sense Transformer
MPP
Ø12.70mm
Flying Leads

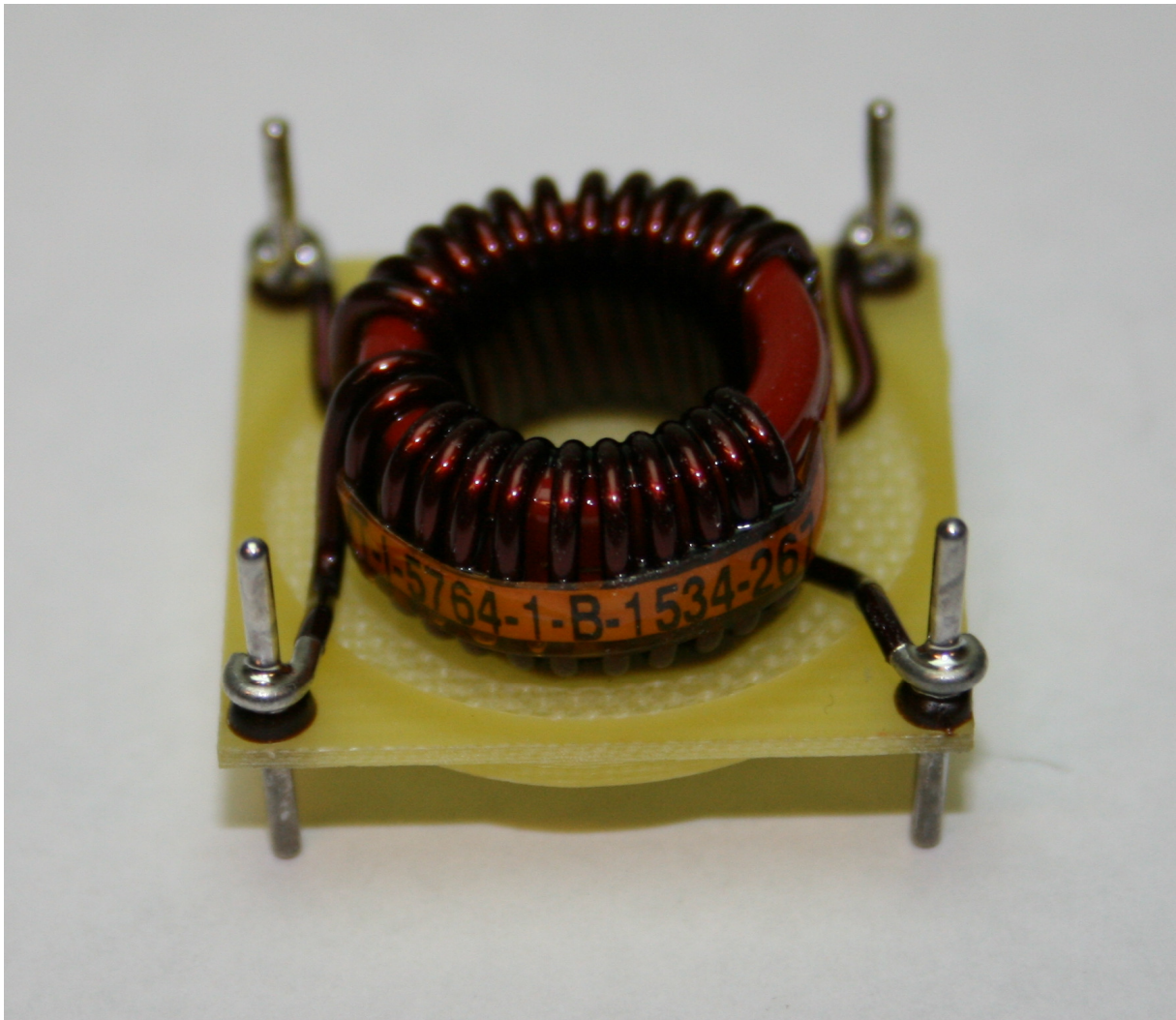
Q22 – 12140026-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
-
MPP
Ø12.70mm
On Base

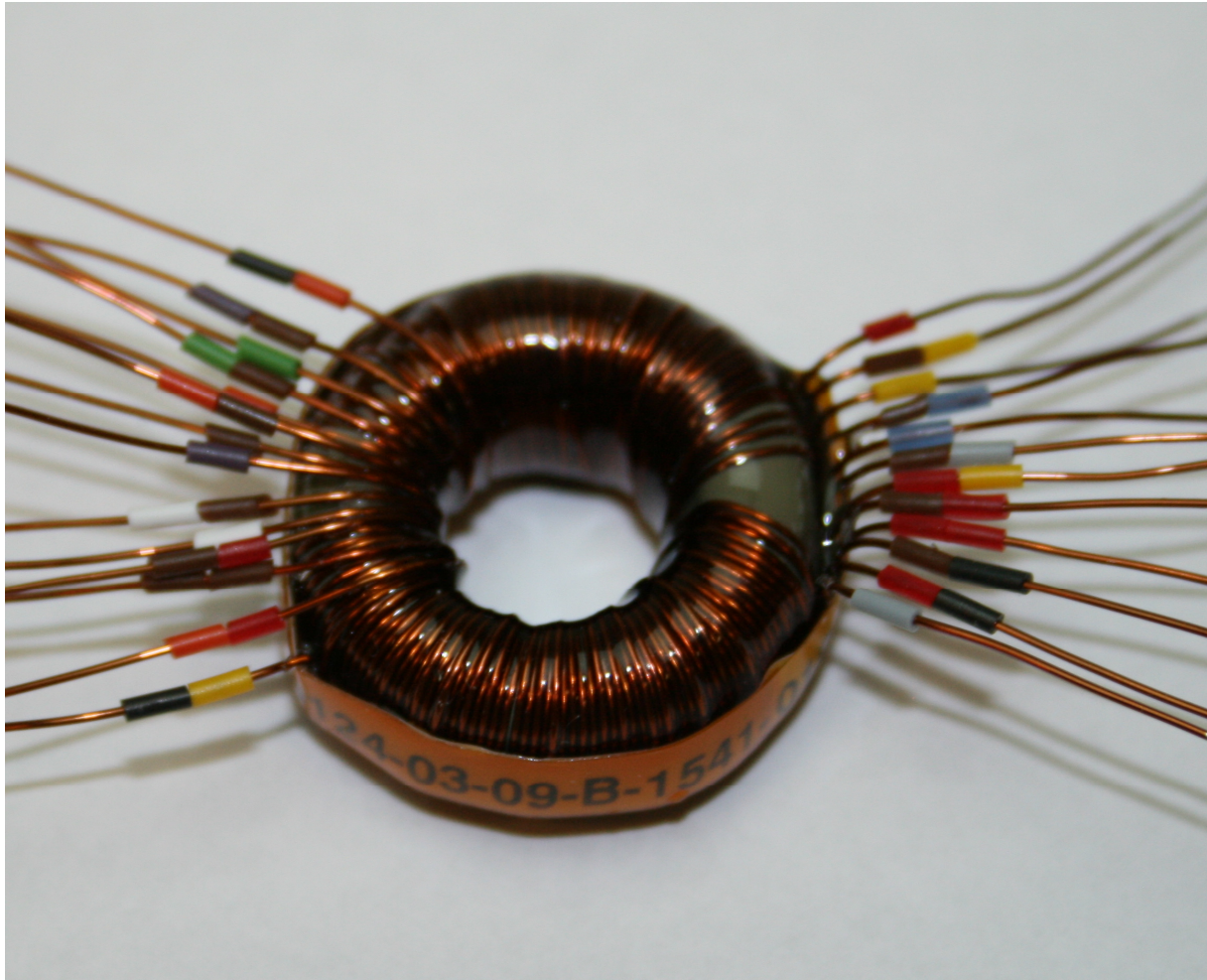
Q24 – 12210082-2-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Inductor (VT)
Vacuumschmetze
Ø23.40mm
On Base

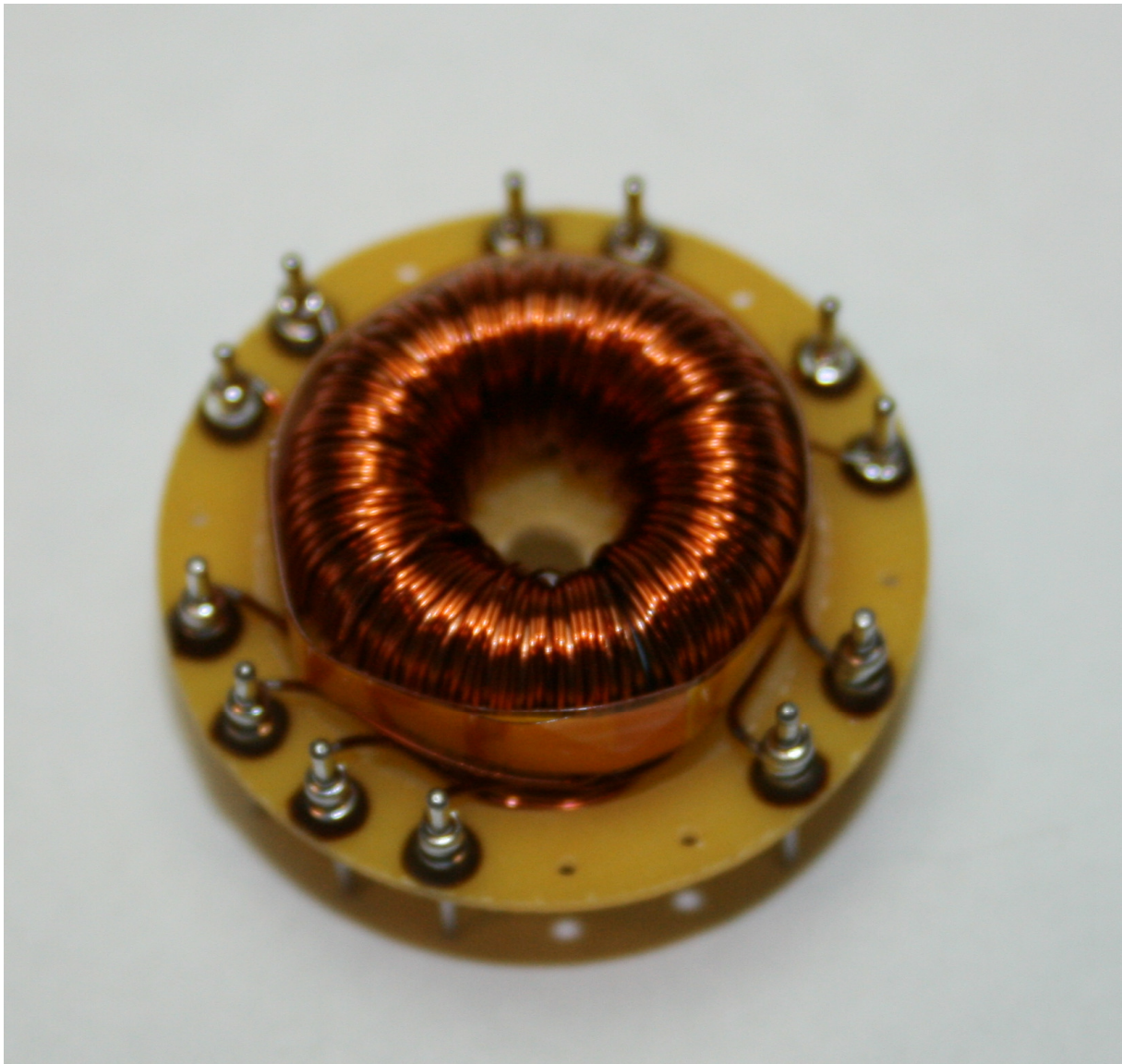
Q25 – 12251037-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
MTT with gate drive
Hi Flux
Ø27.00mm
Flying Leads

Q26 – 14210147-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
FBT Flyback
MPP
Ø28.40mm
On base

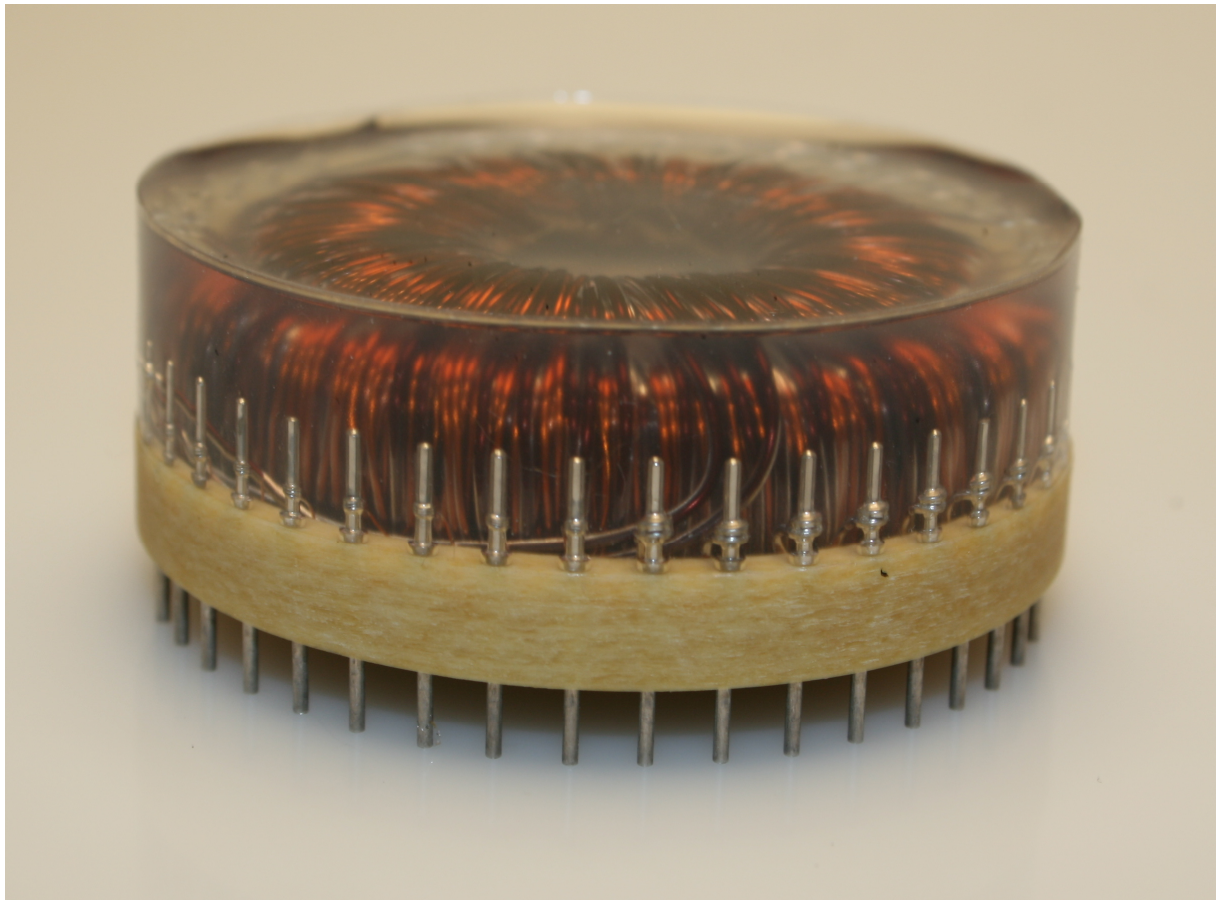
Q27 – 12341031-2-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
Common Mode Filter
ZW
Ø36.00mm
Spliced wires

Q28 – 14320201-2-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
PUSH PULL TRANSF. T0060
ZJ
Ø36.89mm
On Coupelle

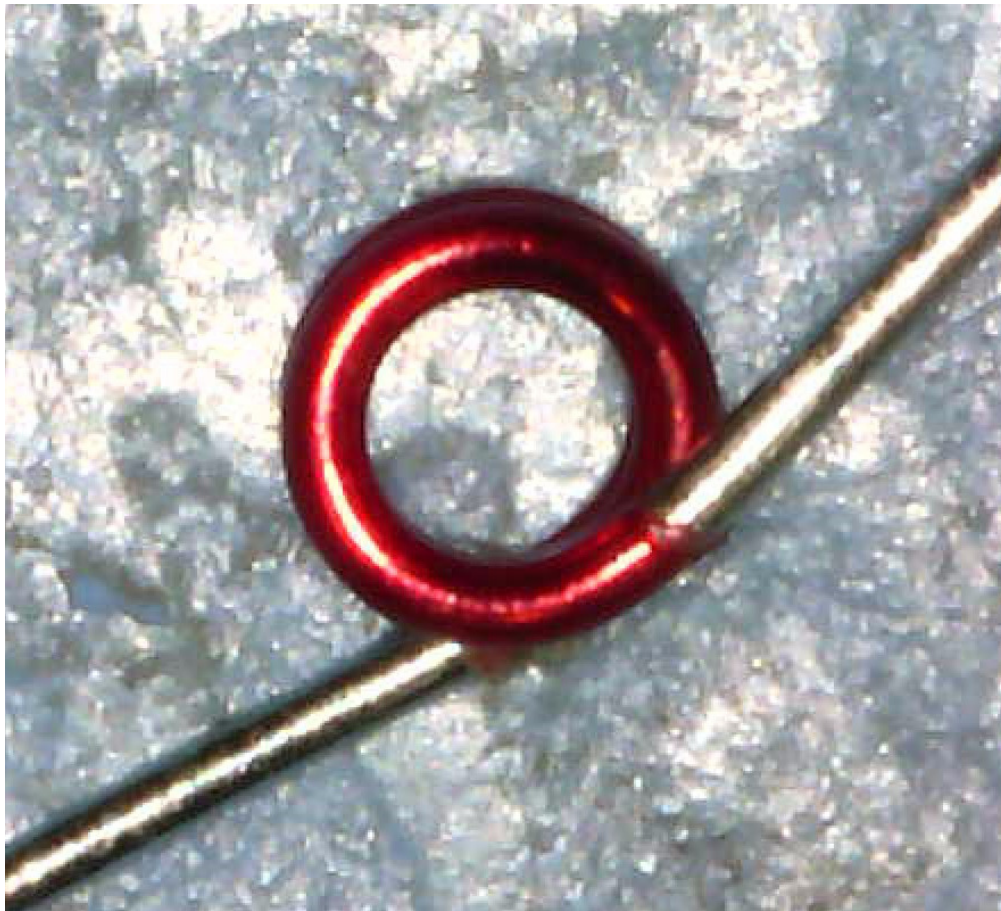
Q29 – 12311047-3-B



Topology:
Customer Ref
Core:
Size:
Other:

Toroidal
QFE DM Choke
Hi Flux
Ø38.00mm
Stycast, Bandaging on base

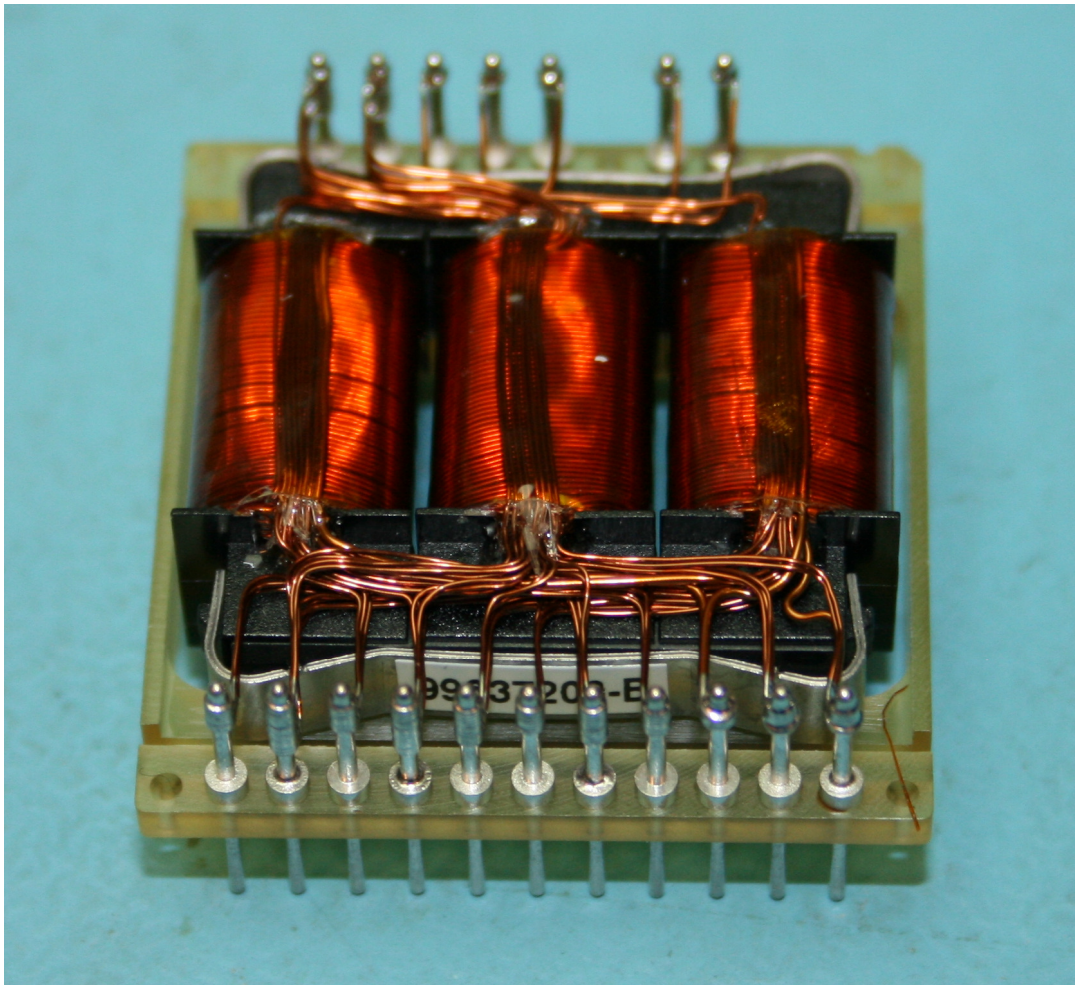
Q30 – 12001166-1



Topology:
Customer Ref
Core:
Size:
Other:

Aircoil
M87810
None
Ø0.30mm
2 Turns

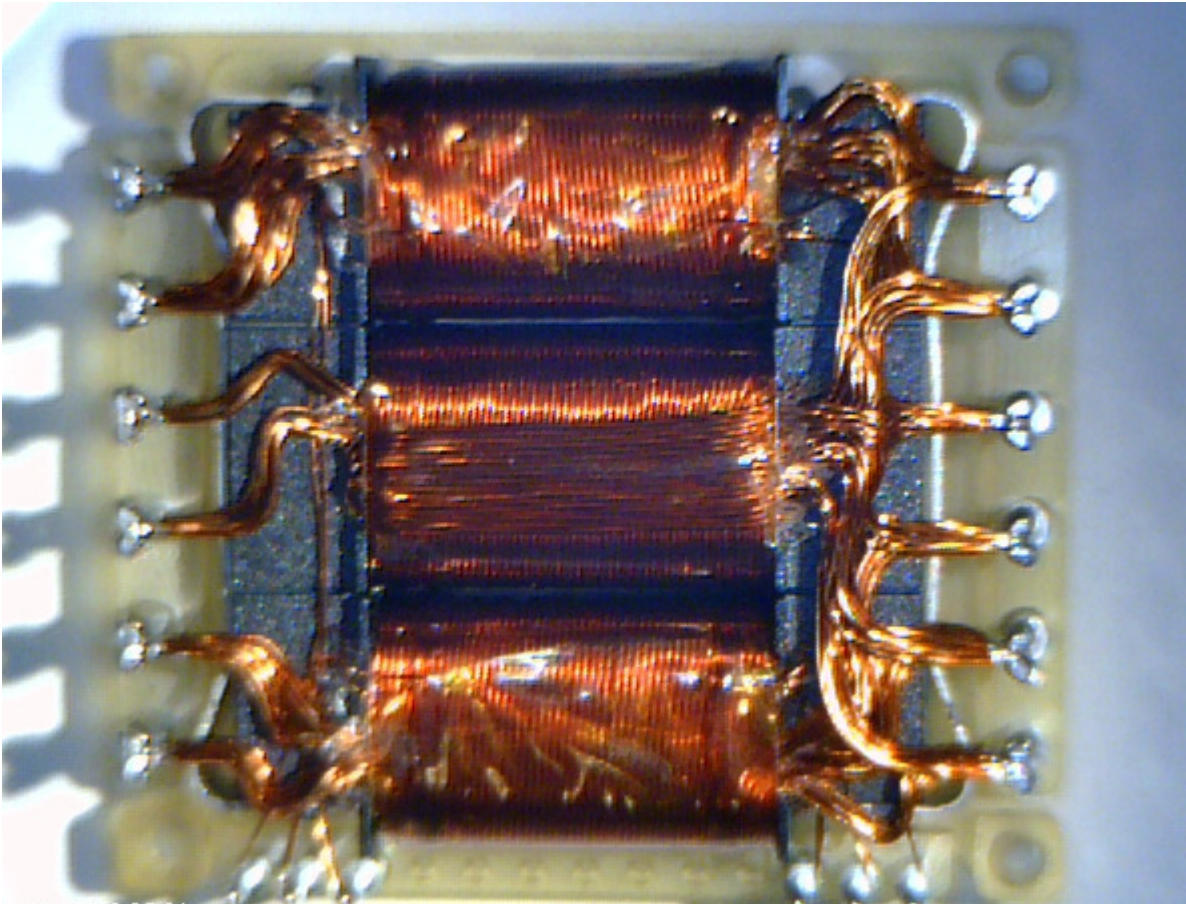
Q32 – 14240183-1-B



Topology:
Customer Ref
Core:
Size:
Other:

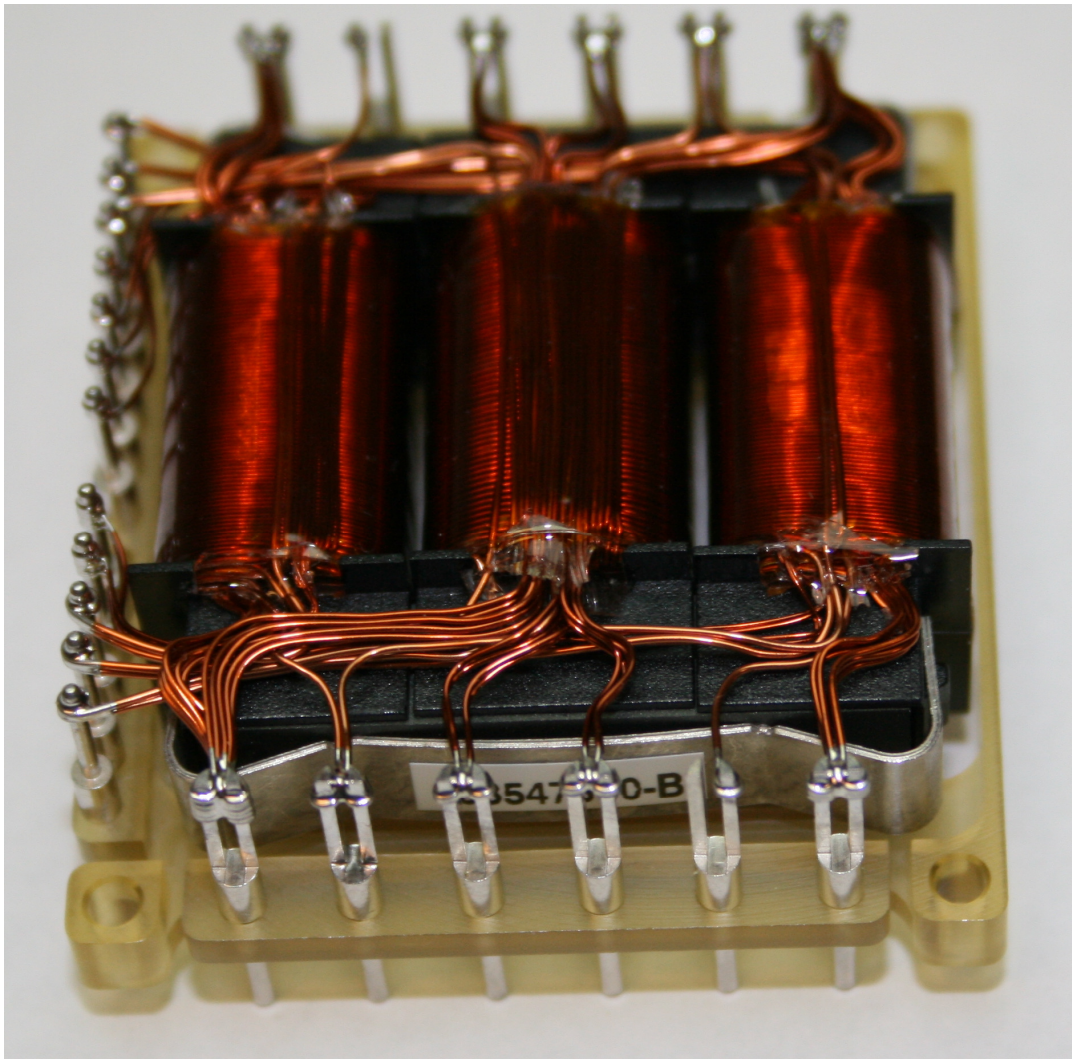
IM
TRSF_IM0 TTC FLEX2PC40
PC40
IM0
None

Q33 – 14280027-3-B



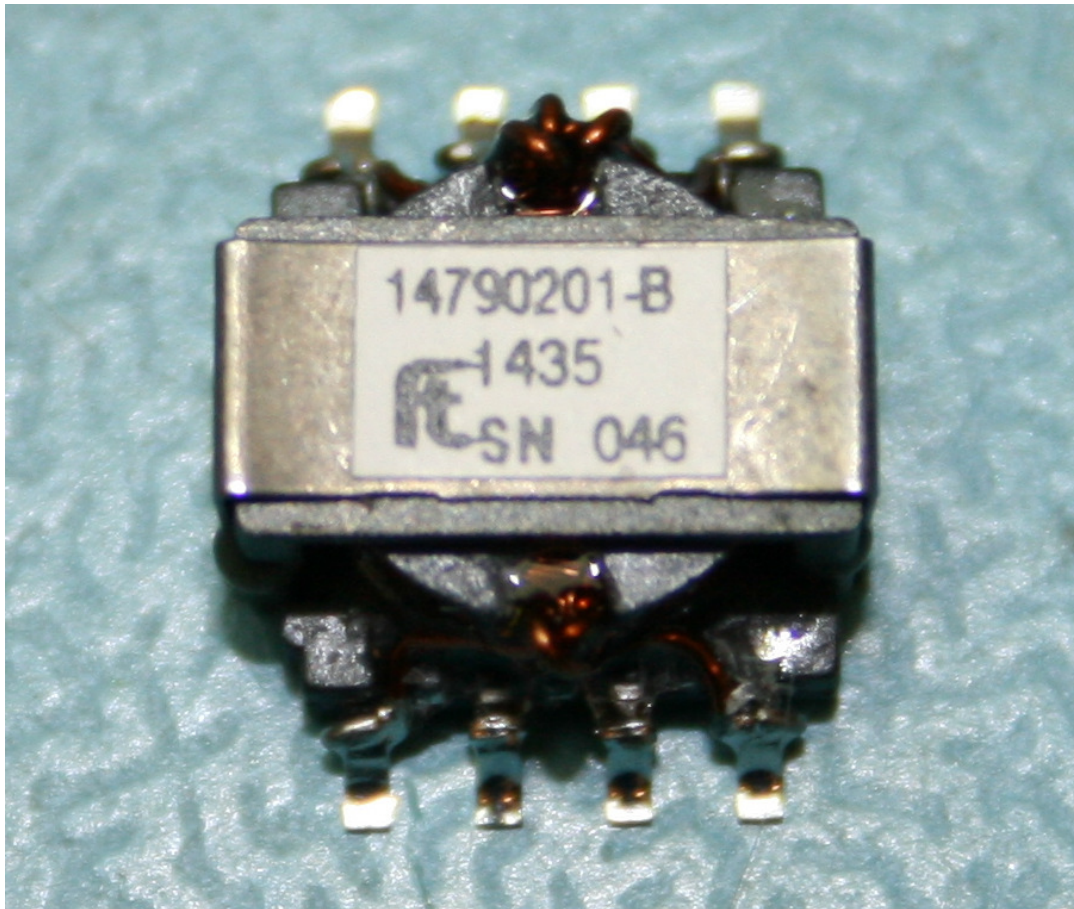
Topology:	IM
Customer Ref	913K-0224
Core:	PC40
Size:	IM2
Other:	None

Q34 – 14280016-4-B



Topology:	IM
Customer Ref	IM2 PLIU
Core:	PC40
Size:	IM2
Other:	None

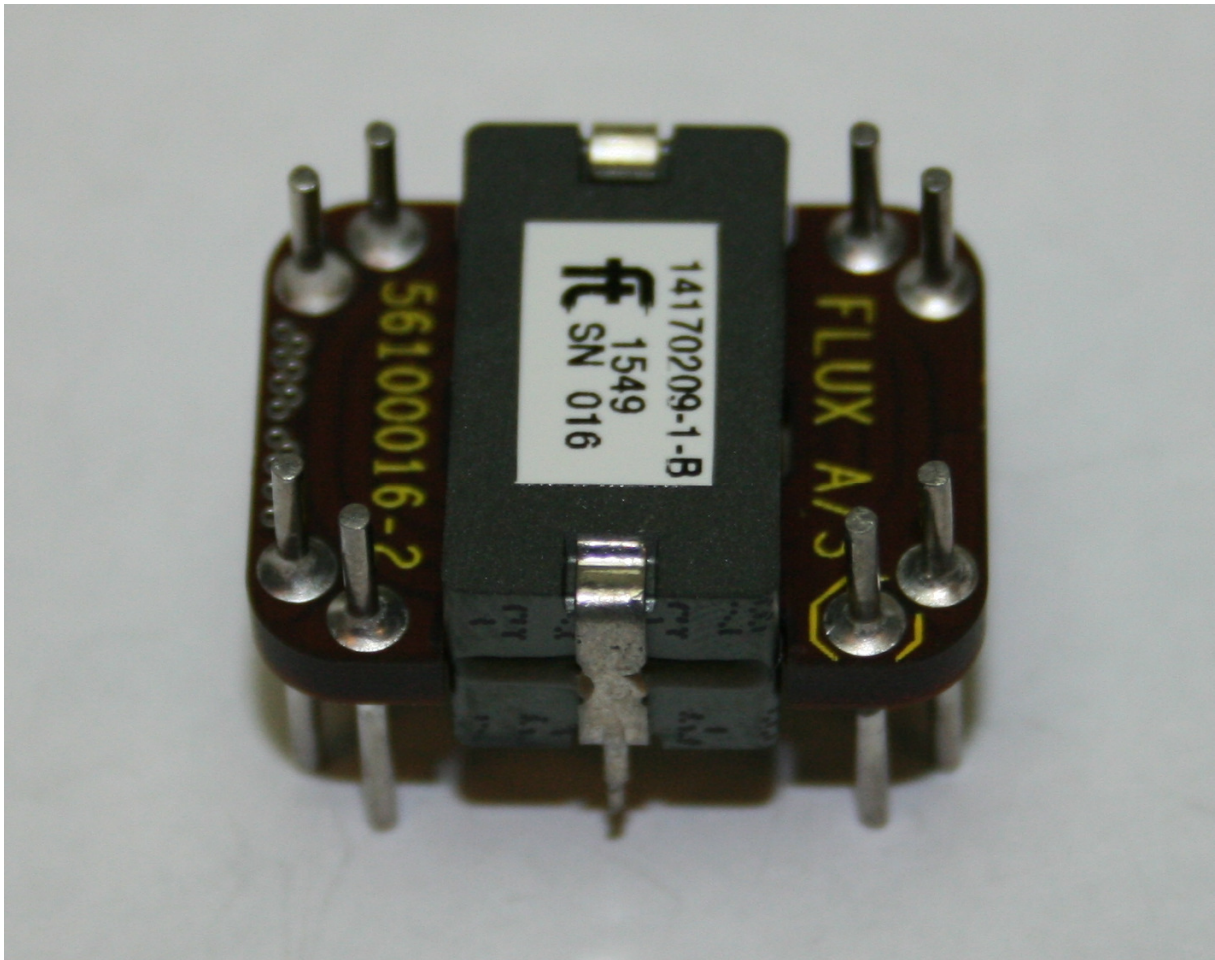
Q35 – 14790201-1-B



Topology:
Customer Ref
Core:
Size:
Other:

Planar
None
3C95
ER9.5
SMT

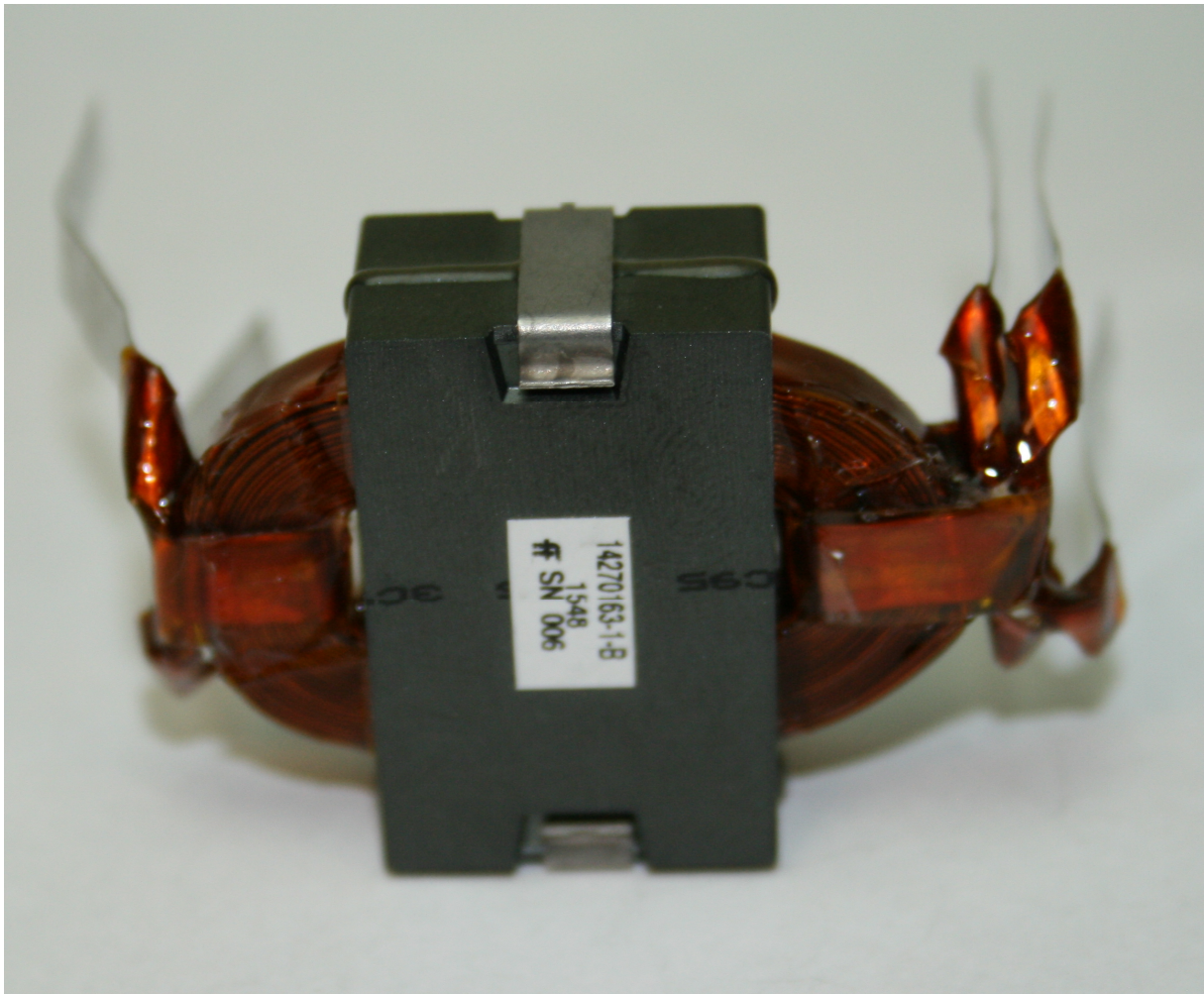
Q36 – 14170209-1-B



Topology:
Customer Ref
Core:
Size:
Other:

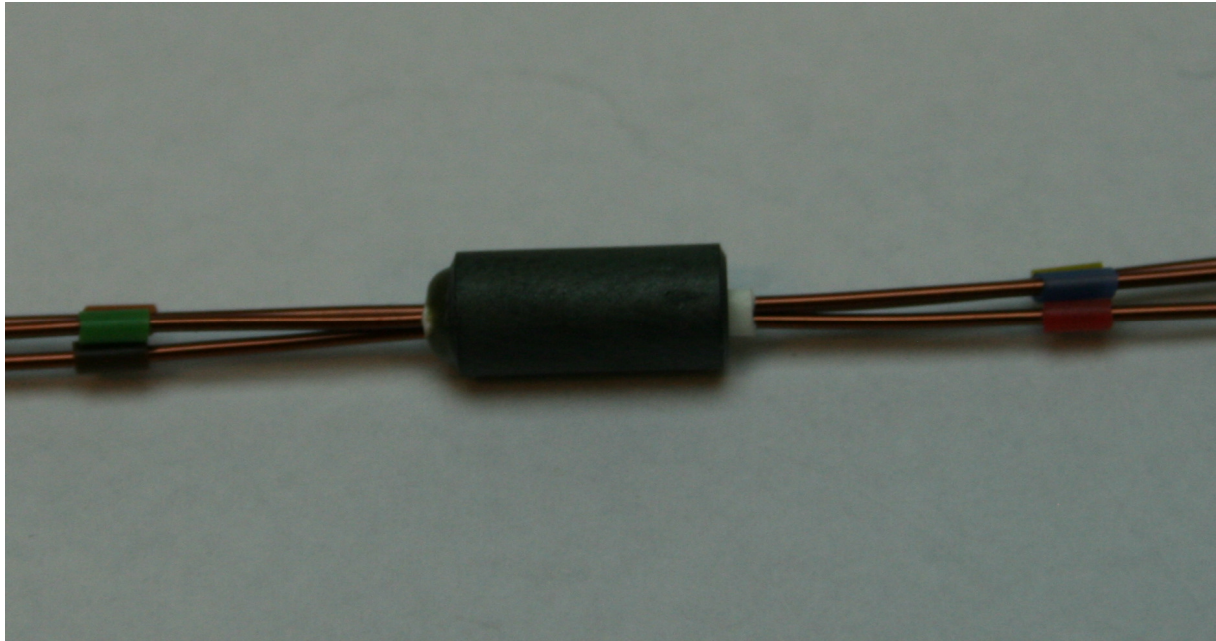
Planar
None
N87
ELP 18/4/10
14 Layer PCB

Q37 – 14270163-1-B



Topology:	Planar
Customer Ref	None
Core:	3C95
Size:	EE32/6/20
Other:	Copper Foil

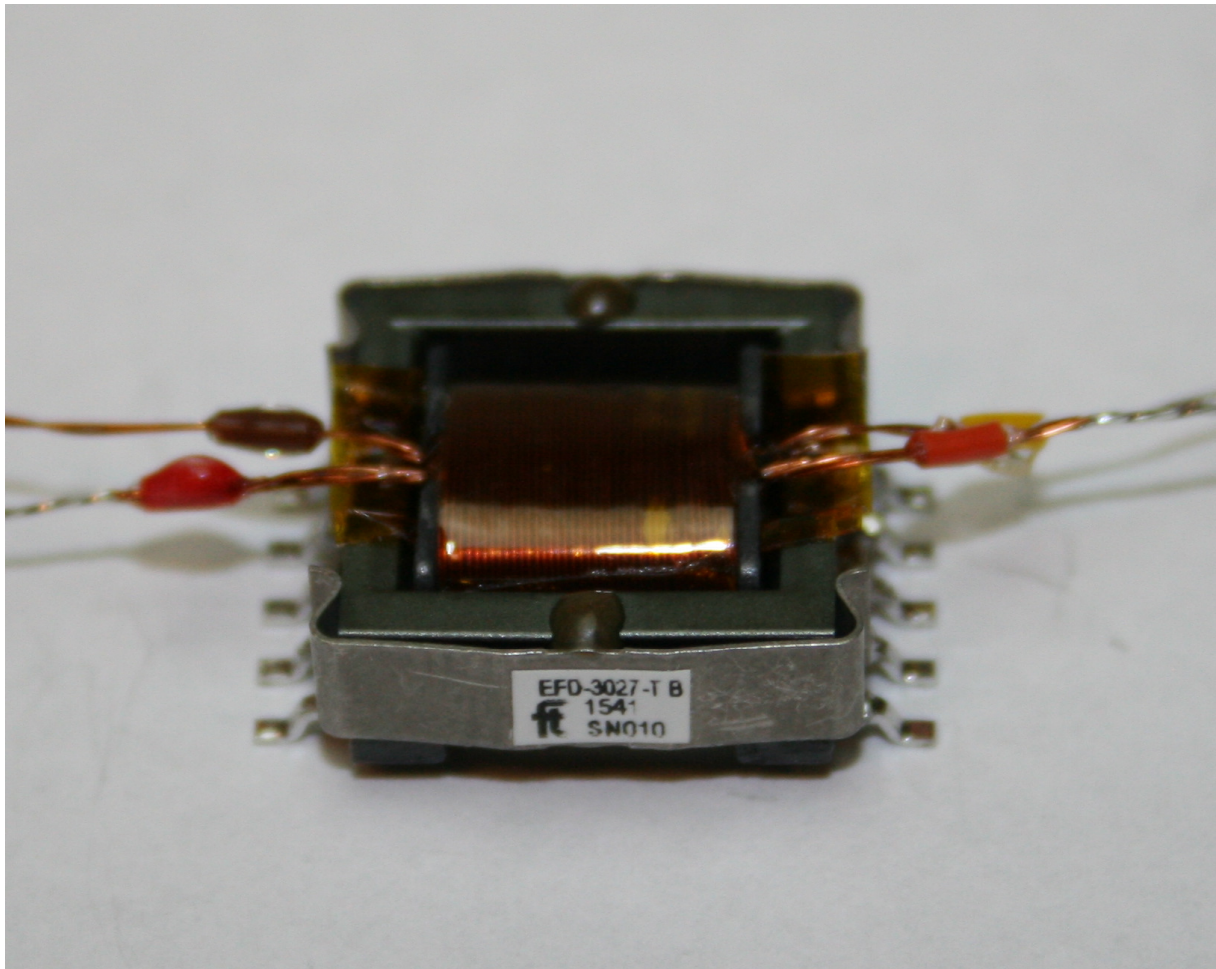
Q38 – 12051014-1-B



Topology:
Customer Ref
Core:
Size:
Other:

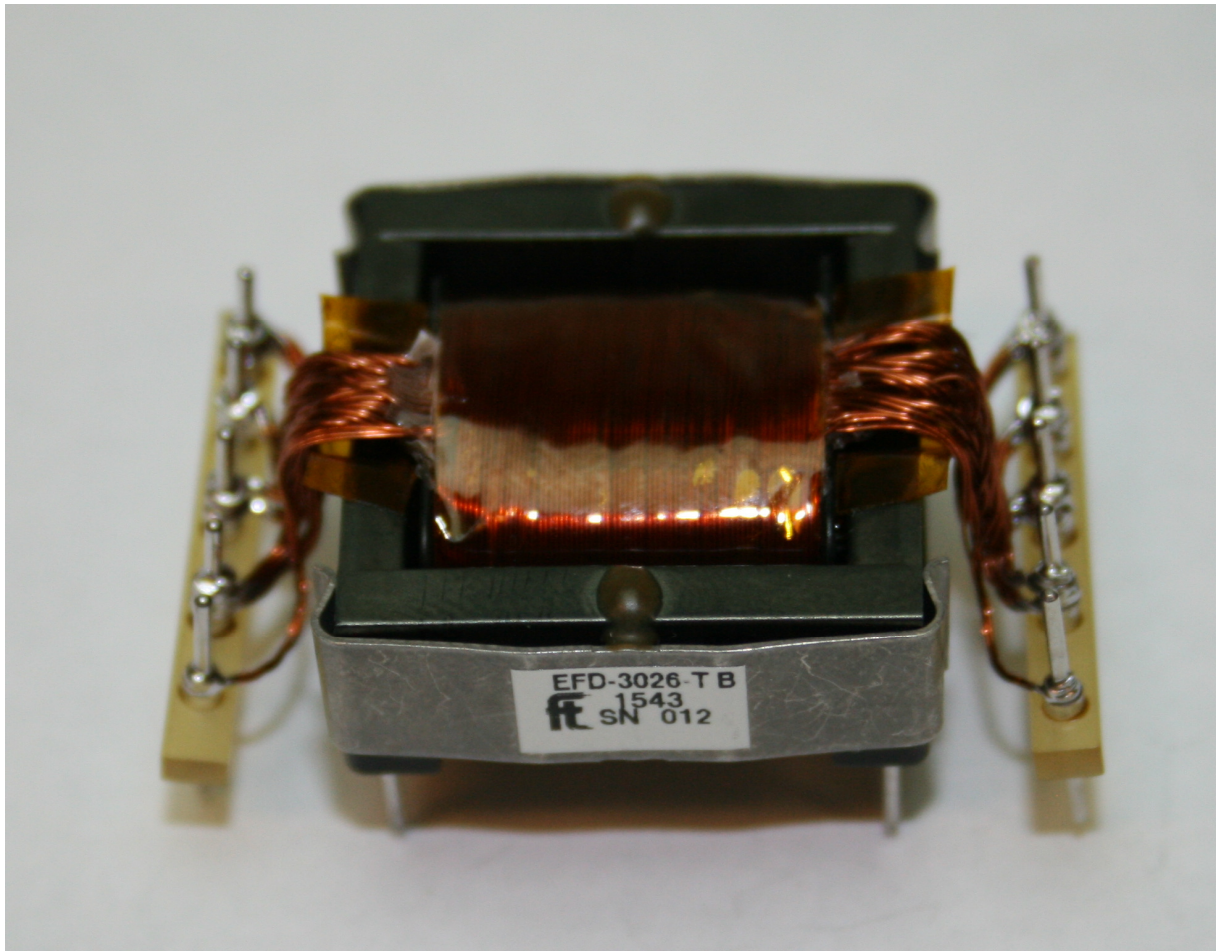
Ammobeat
Self 8.4 μ H
Ferronics 21-083-B
5x2.4x11
Not Coated

Q40 – 14140024-1-B



Topology:	EFD
Customer Ref	EFD-3027-T
Core:	N87 AL=80nH
Size:	EFD15
Other:	SMT & Flying Leads

Q41 – 14230081-1-B

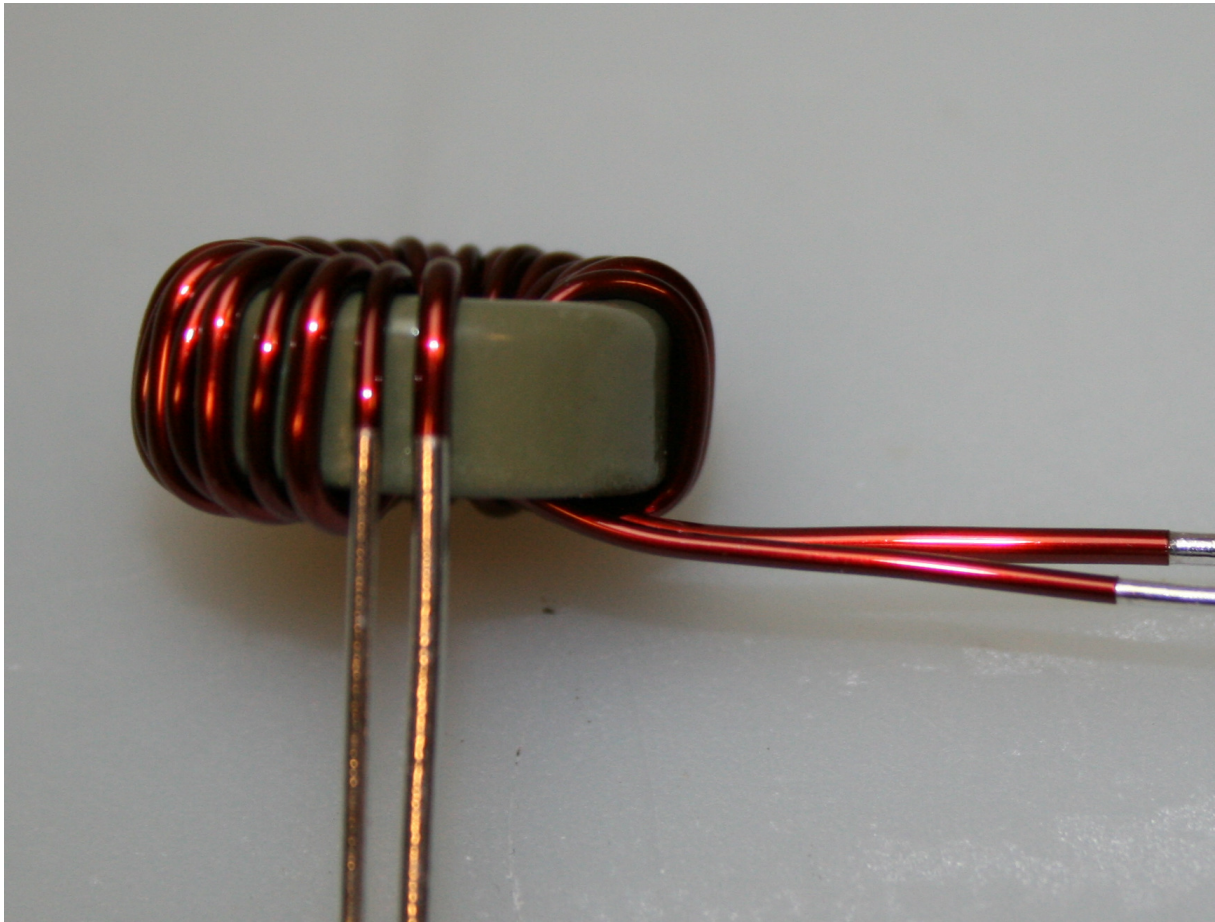


Topology:
Customer Ref
Core:
Size:
Other:

EFD
EFD-3026-T
N87 AL=315
EFD25
Strip Lines / Pins



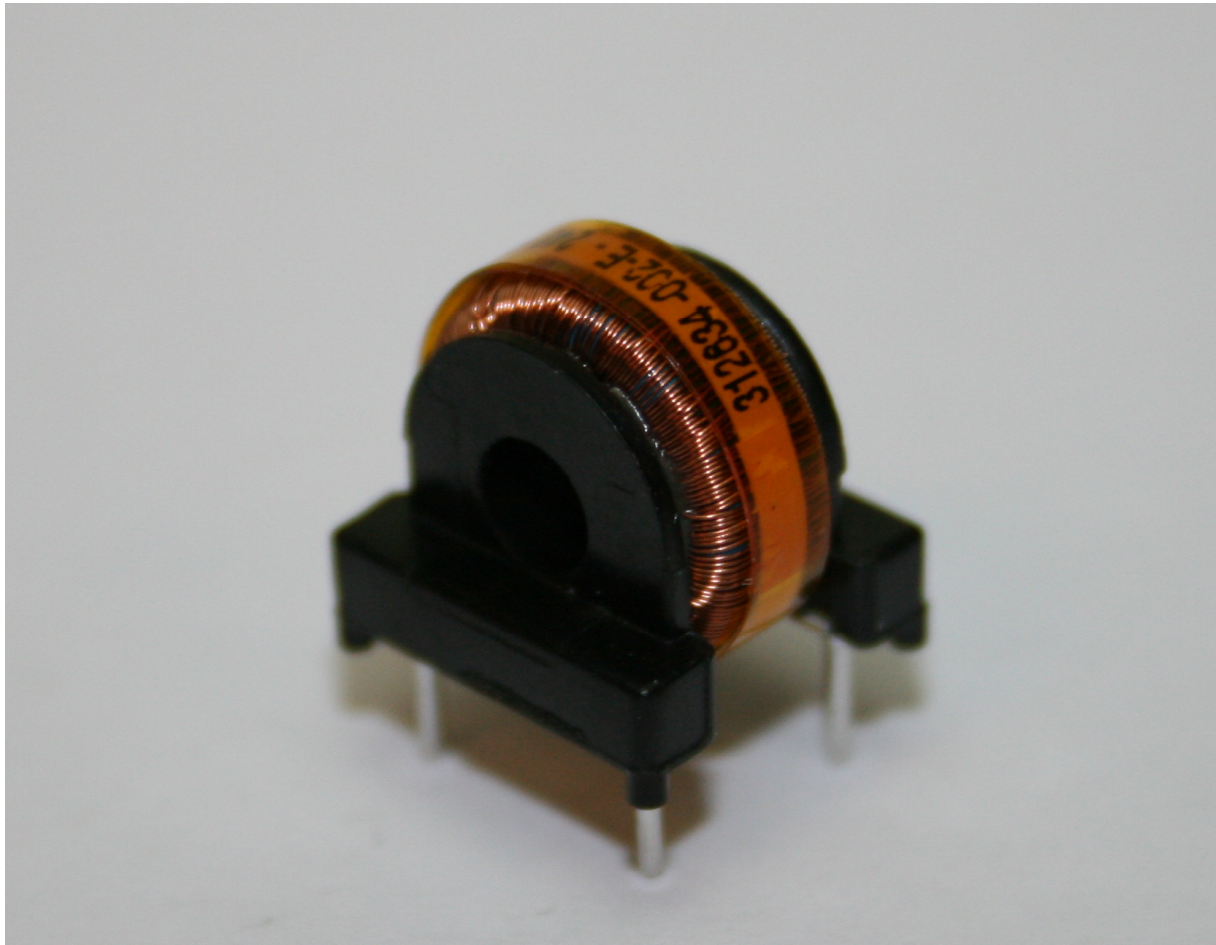
QS1 - 12211118-1-B



Topology:
Customer Ref
Core:
Size:
Other:

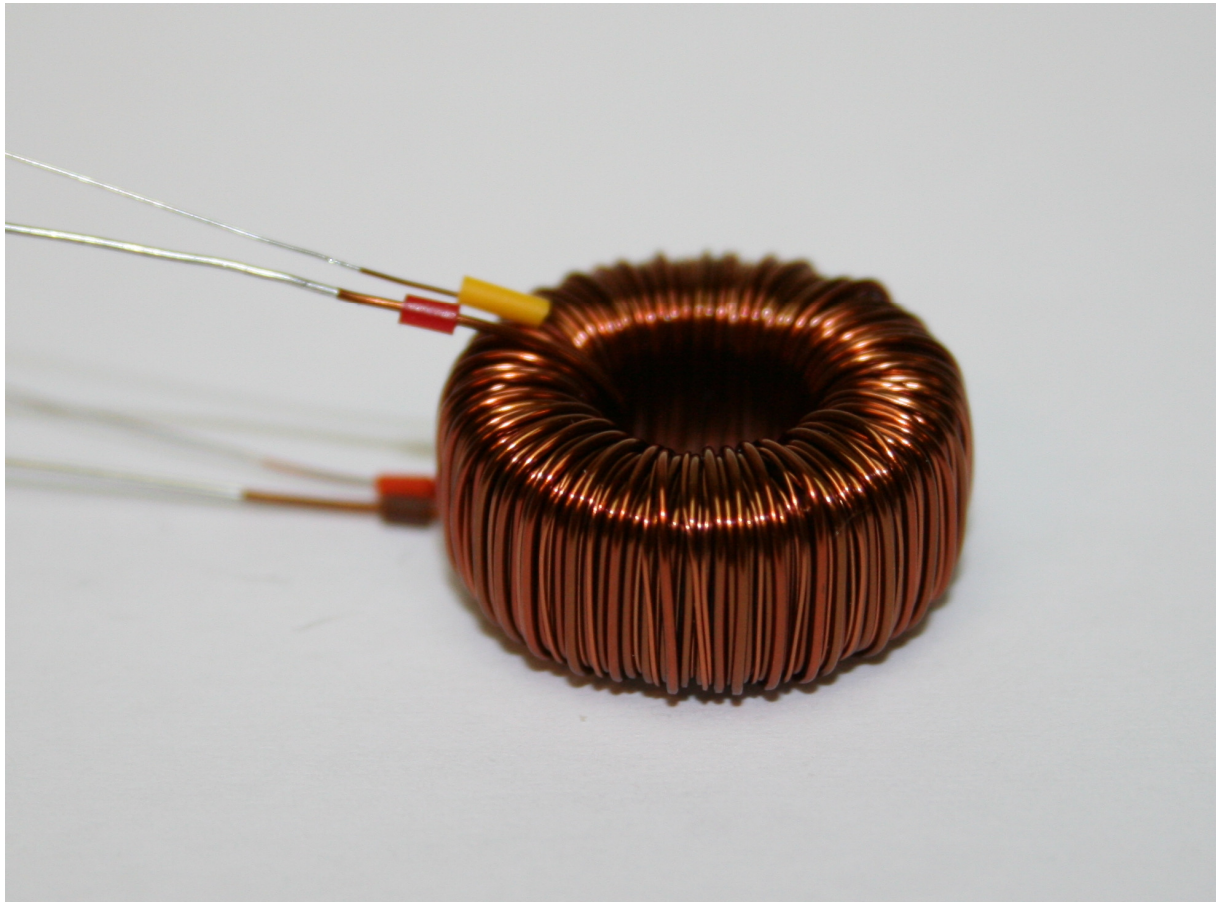
Toroid
962041
HiFlux
21mm
-

QS2 – 14121023-3-B



Topology:	Toroid
Customer Ref	1034980
Core:	N30
Size:	R10
Other:	-

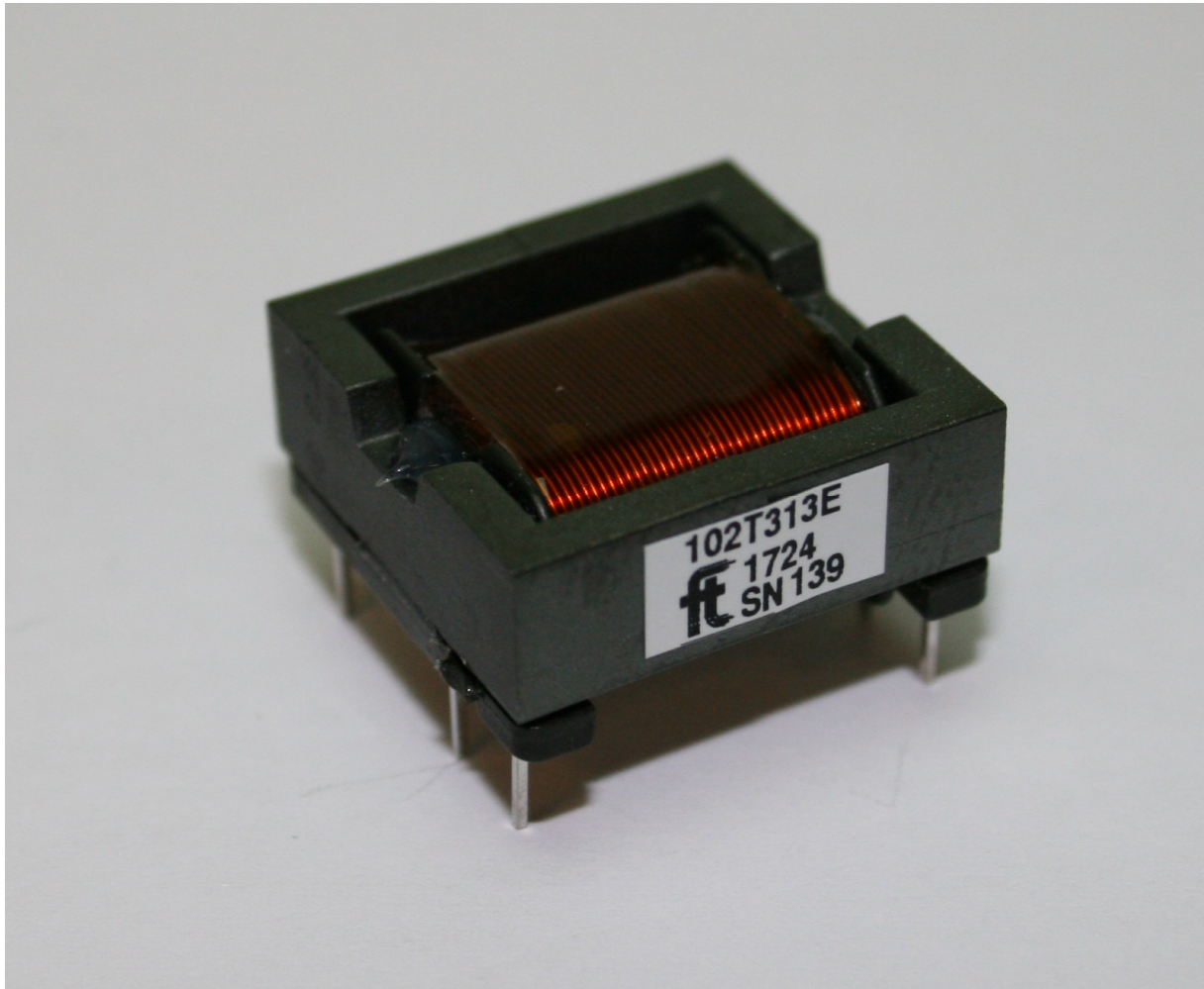
QS3 – 12251007-1



Topology:
Customer Ref
Core:
Size:
Other:

Toroid
102L429
HiFlux
20mm
-

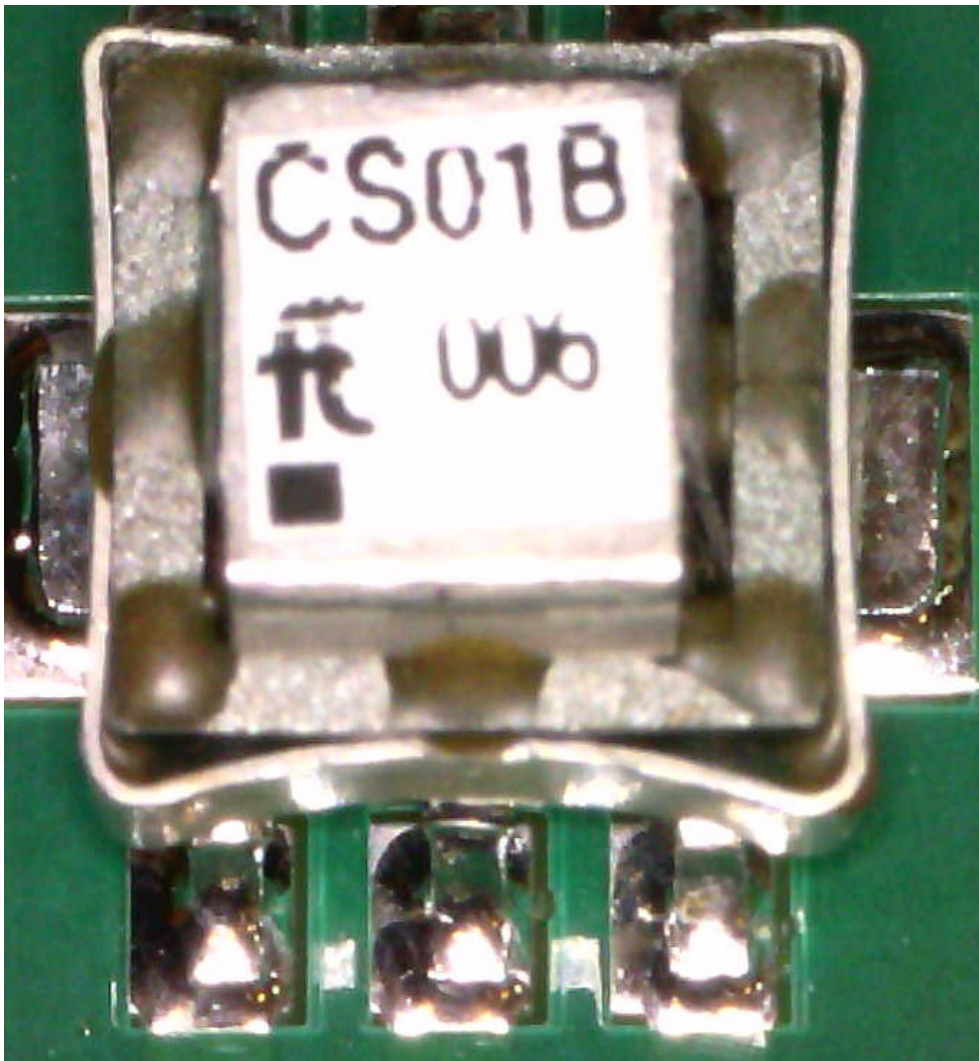
QS4 – 14210071-1



Topology:
Customer Ref
Core:
Size:
Other:

EFD
102T313
Ground
EFD20
-

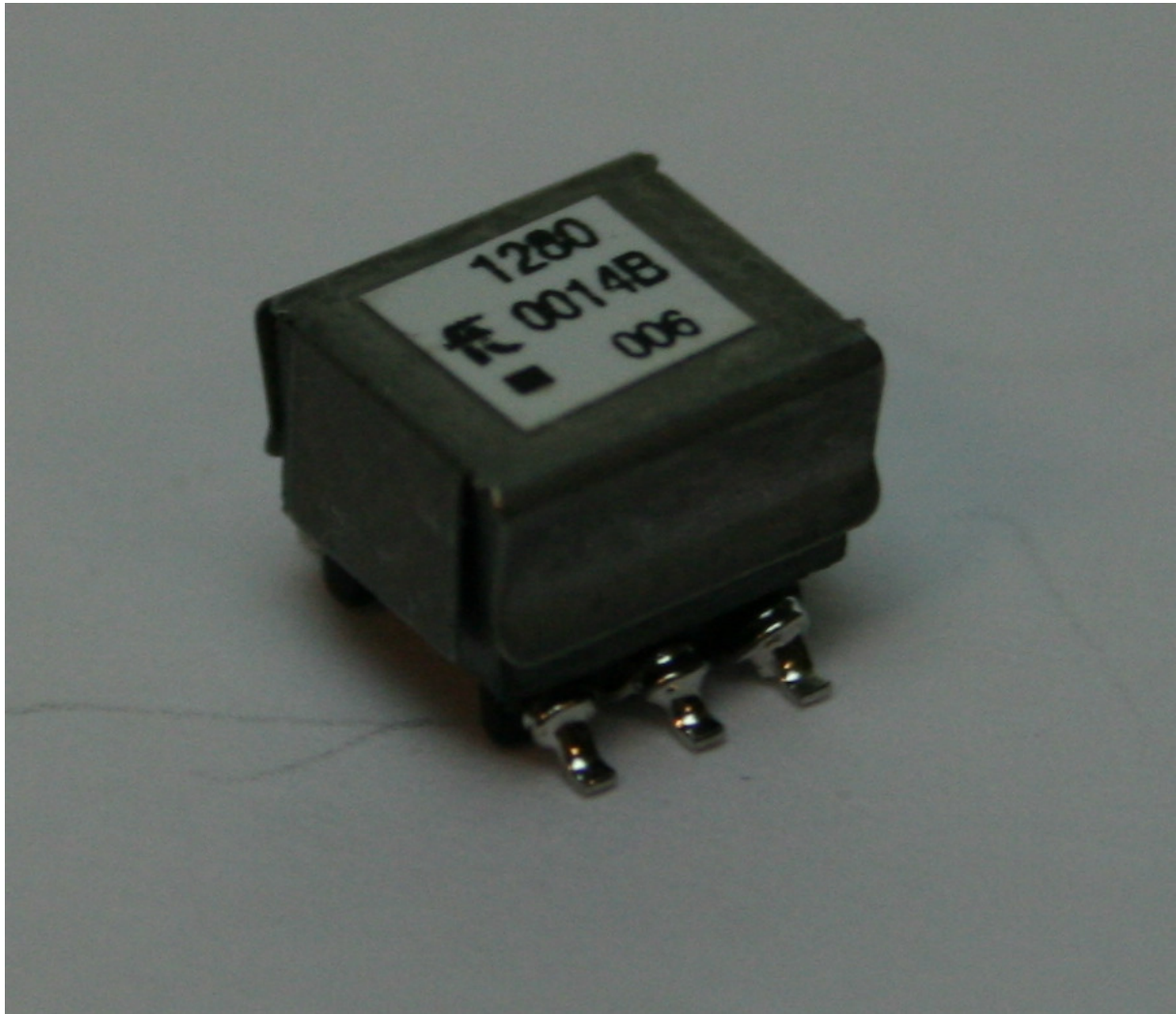
QS5 – 14790101-1-B



Topology:
Customer Ref
Core:
Size:
Other:

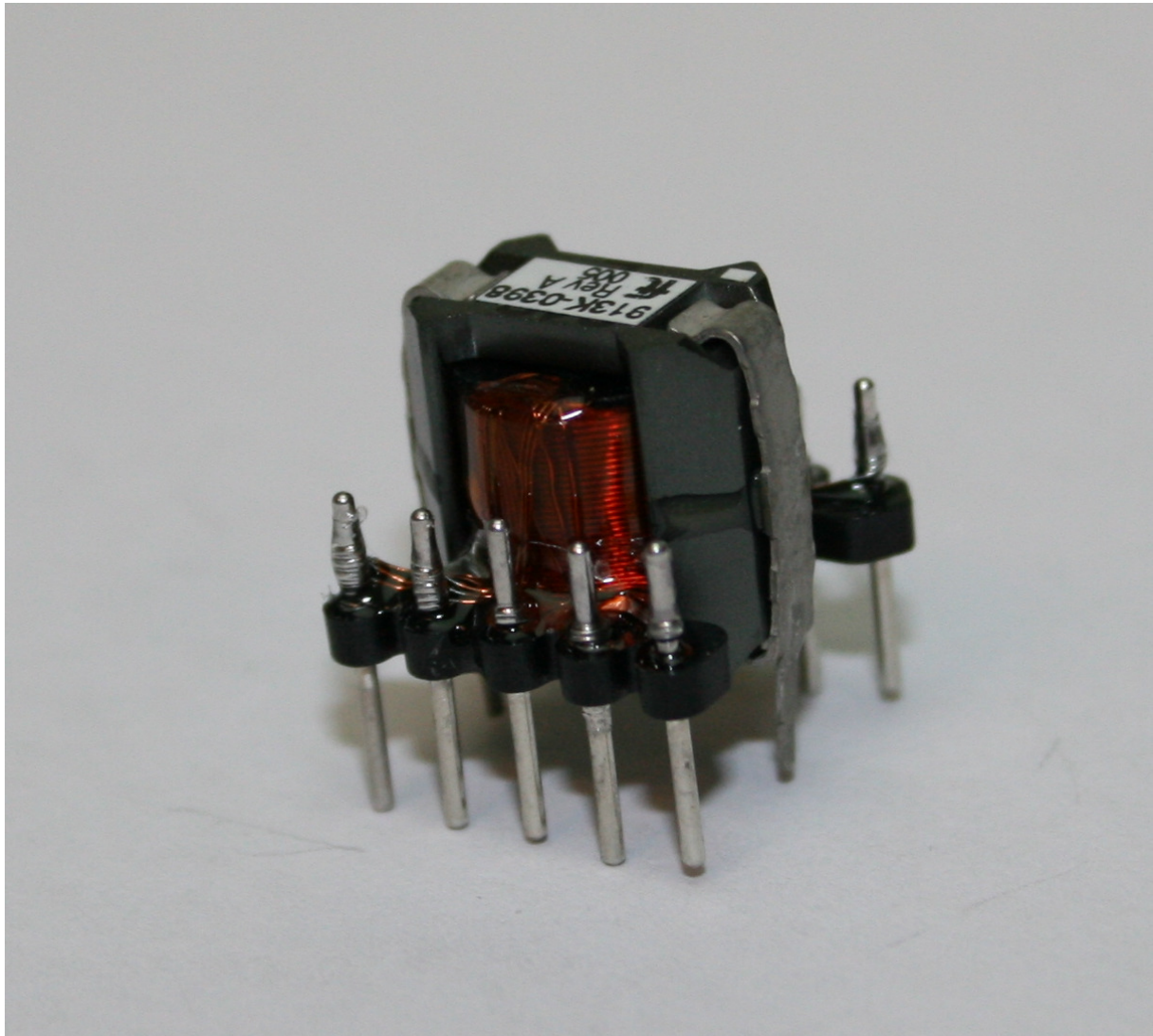
Flux SMT
-
P46
EE5
-

QS6 – 12800014-1-B



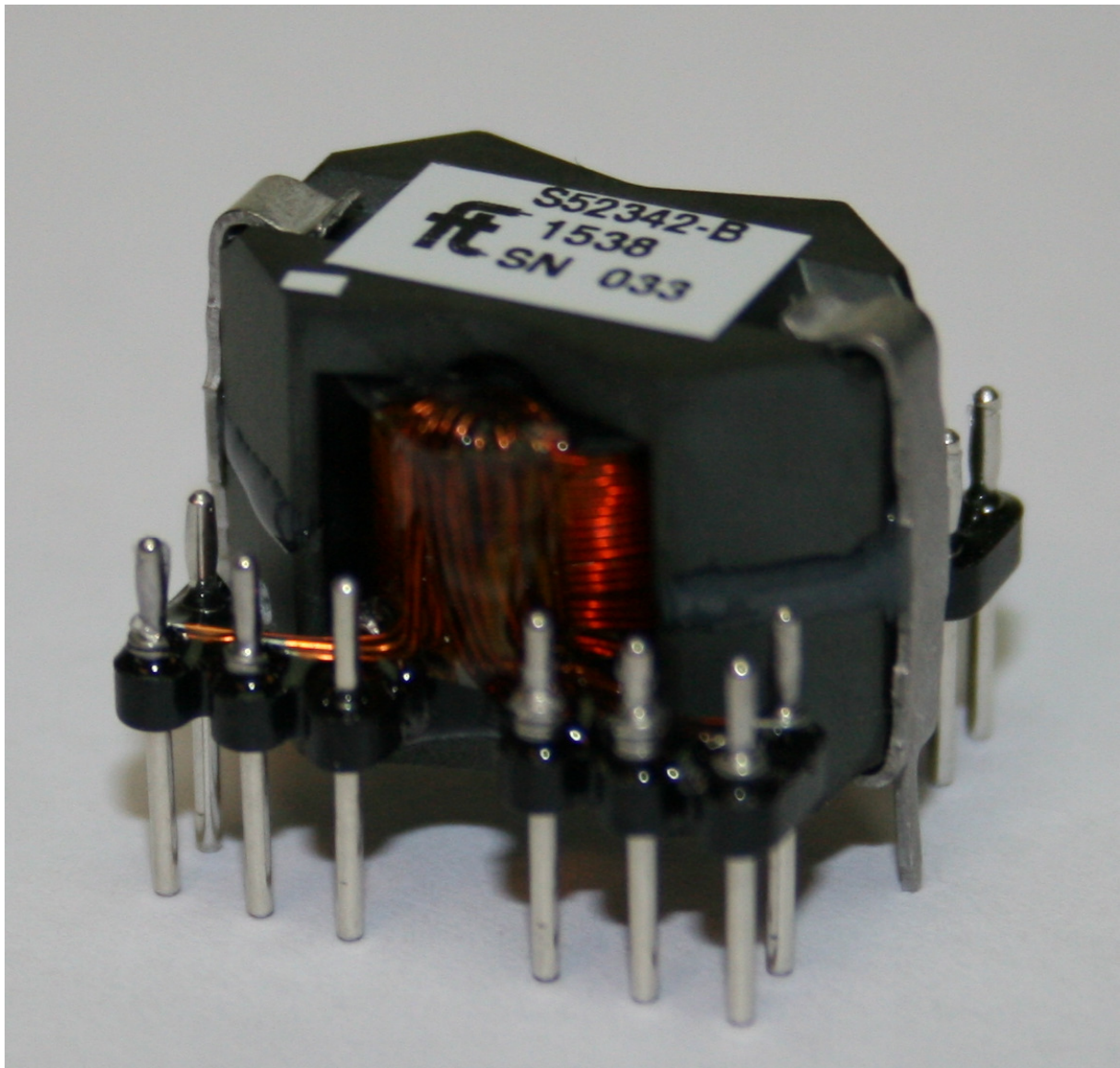
Topology:	Flux SMT
Customer Ref	-
Core:	3C94
Size:	EP5
Other:	-

QS7 – 14110246-1-B



Topology:	RM
Customer Ref	-
Core:	PC40
Size:	RM4
Other:	60317-51 wire

QS8 – 14170305-1-B



Topology:	RM
Customer Ref	-
Core:	3C36
Size:	EE5
Other:	