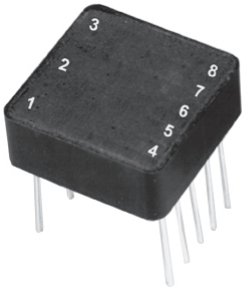
MIL-STD-1553 TRANSFORMERS

COTS THT Non-QPL Interface Transformers



QPL COTS

- Dual ratio, single interface (see Schematic)
- Moisture Sensitivity Level: 1
- For use in MIL-STD-1553 applications
- Standard Height: 0.250 in.
- Performance to MIL-PRF-21038 requirements
- Available Specifications: MIL-STD-1553B, MIL-STD-202, MIL-PRF-21038, ISO 9001

Summary Performance Specifications	
Impedance	(see table below)
Droop	£ 20%
Overshoot	±1V MAX
Common Mode Rejection (CMR)	£ 45dB
Frequency Range (no load)	75kHz to 1MHz
Operating Temperature Range	(see table above)
Weight	£ 5 grams
Insulation Resistance (MIN)	10K MΩ @ 250Vdc
DielectricWithstandingVoltage	100Vrms

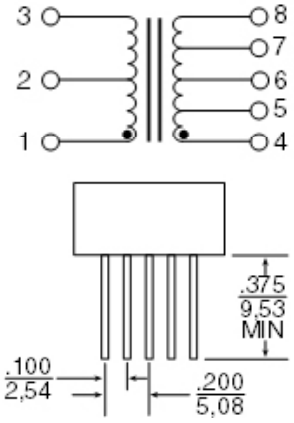
Choose 1 of 3 Operating Temp. Ranges :

Operating Temp.	PN Prefix
0° to 70°C	C
-40° to +85°C	N
-55° to +125°C	TQ

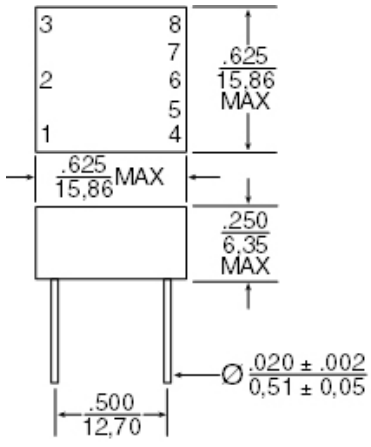
Characteristics				
Part Number	Termimals	Ratio (±3%)	RDC (Ω MAX)	Impedance (Ω MIN)
(X)1553-1 [1]	1-3 : 4-8 1-3 : 5-7	1CT:1CT 1CT:.707CT	1-3 = 3.0 4-8 = 3.0	(1-3) 4,000
(X)1553-2	1-3 : 4-8 1-3 : 5-7	1.4CT:1CT 2CT:1CT	1-3 = 3.5 4-8 = 3.0	(1-3) 7,200
(X)1553-3	1-3 : 4-8 1-3 : 5-7	1.25CT:1CT 1.66CT:1CT	1-3 = 3.2 4-8 = 3.0	(1-3) 4,000
(X)1553-5 [2]	1-3 : 4-8 1-3 : 5-7	1CT:2.12CT 1CT:1.5CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000
(X)1553-45 [2]	1-3 : 4-8 1-3 : 5-7	1CT:2.5CT 1CT:1.79CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000

NOTE: 1. Refer to prefix table (above) to select temperature range. 2. Designed for transceivers utilizing a single supply voltage (+5V).

Schematic



Mechanical



Notes:

1. All dimensions: in inches.
2. Tolerances: .xx = +.008
3. All specifications and dimensions are subject to change without notice.

MIL-PRF-21038/27 Inspection, Sampling, Testing

Table 1 — Group A Inspection

Level "C"**		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Electrical Characteristics per MIL-PRF-21038/27	Sample per Table 3	Thermal Shock	100%
N/A	N/A	Visual and Mechanical Inspection	Sample per Table 3	Winding Continuity	100%
N/A	N/A	N/A	N/A	Electrical Characteristics per MIL-PRF-21038/27	100%
N/A	N/A	N/A	N/A	Impedance	Sample per Table 3
N/A	N/A	N/A	N/A	Visual and Mechanical Inspection	Sample per Table 3

Table 2 — Group B Inspection

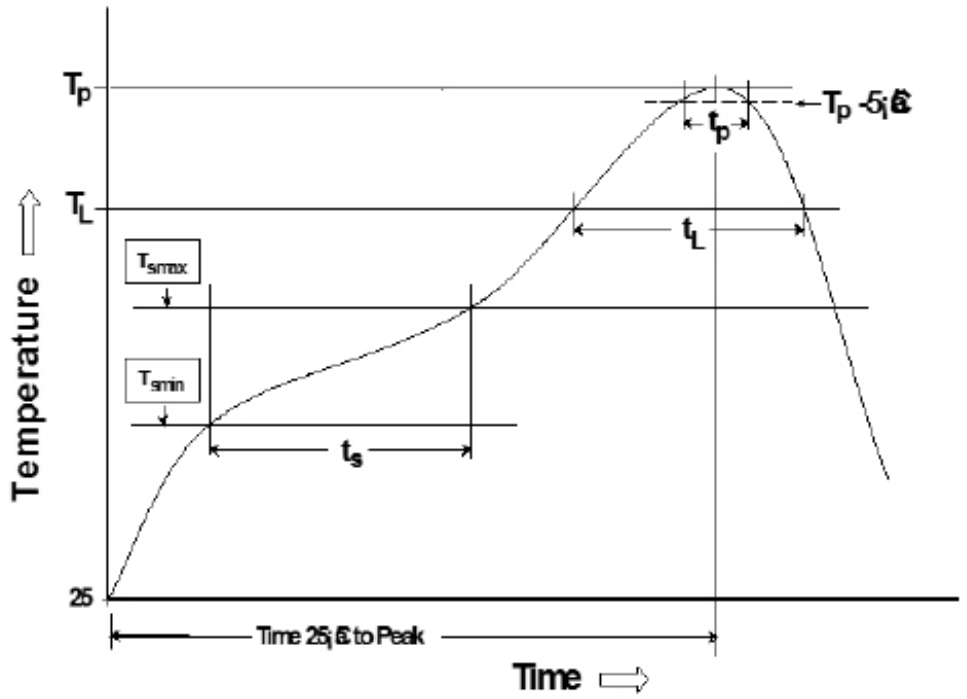
Level "C"**		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Dielectric Withstanding Voltage	Sample per Table 3	Dielectric Withstanding Voltage	Sample per Table 3
N/A	N/A	Insulation Resistance	Sample per Table 3	Insulation Resistance	Sample per Table 3

Table 3 — Sampling Plans for Group A and Group B Inspections

Lot Size	Group A, Group II Inspections	Group B
1 to 5	All	All
6 to 13	All	5
14 to 50	13	5
51 to 90	13	7
91 to 150	13	11
151 to 280	20	13
281 to 500	29	16
501 to 1200	34	19
1,201 to 3,200	42	23
3,201 to 10,000	50	29

**NOTE: Parts ordered to Level C are certified to comply with MIL-PRF-21038 Level C, however testing is performed per manufacturer's internal requirements and sampling rates.

Transceiver Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_S (s)	t_L (s)	t_P (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	Time 25°C to peak temperature (s MAX)
100	150	183	225	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:
1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

For More Information

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