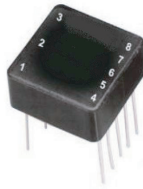


MIL-STD-1553 TRANSFORMERS

Dual Ratio THT QPL Pulse Transformers

Ruggedized



Summary Performance Specifications

Droop	20% MAX
Overshoot	±1V MAX
Common Mode Rejection (CMR)	45dB MIN
Frequency Range (no load)	75kHz - 1MHz
Operating and Storage Temperature Range	-55°C to +130°C
Weight	5 grams MAX
Insulation Resistance (MIN)	10K MΩ @ 250Vdc
Dielectric Withstanding Voltage	100Vrms

- ⊗ Certified QPL MIL-STD-1553 applications
- ⊗ Designed, built and tested to MIL-PRF-21038
- ⊗ Dual Ratio, Single Package
- ⊗ Product Levels:
 - ⊗ Level C: for high reliability commercial/industrial applications
 - ⊗ Level M: for general purpose military applications
 - ⊗ Level T: for high reliability critical military applications
- ⊗ Two Packages Available:
 - ⊗ Package A: without standoffs
 - ⊗ Package G: with standoffs
- ⊗ Moisture Sensitivity Level: 1
- ⊗ Applicable Standards:
 - ⊗ MIL-STD-1553B
 - ⊗ MIL-PRF-21038
 - ⊗ MIL-STD-202

Electrical Specifications @ 25°C

Part Number	Level	Military Designation No.	Package	Height MAX	Terminals	Turns Ratio (±3%)	RDC MAX (Ω)	Impedance MIN ¹ (Ω)
				IN. [mm]				
QC1553-1	C	M21038/27-01C	A	0.250 [6.35]	1-3:4-8 1-3:5-7	1CT:1CT 1CT:0.707CT	1-3 = 3.0 4-8 = 3.0	(1-3) 4,000
Q1553-1	M	M21038/27-01						
QT1553-1	T	M21038/27-01T						
QC1553-2	C	M21038/27-02C	A	0.250 [6.35]	1-3:4-8 1-3:5-7	1.40CT:1CT 2CT:1CT	1-3 = 3.5 4-8 = 3.0	(1-3) 7,200
Q1553-2	M	M21038/27-02						
QT1553-2	T	M21038/27-02T						
QC1553-3	C	M21038/27-03C	A	0.250 [6.35]	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
Q1553-3	M	M21038/27-03						
QT1553-3	T	M21038/27-03T						
QC1553-5*	C	M21038/27-10C	A	0.250 [6.35]	1-3:4-8 1-3:5-7	1CT:2.12CT 1CT:1.50CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000
Q1553-5*	M	M21038/27-10						
QT1553-5*	T	M21038/27-10T						
QC1553-81	C	M21038/27-21C	G	0.275 [6.985]	1-3:4-8 1-3:5-7	1CT:1CT 1CT:0.707CT	1-3 = 3.0 4-8 = 3.0	(1-3) 4,000
Q1553-81	M	M21038/27-21						
QT1553-81	T	M21038/27-21T						
QC1553-82	C	M21038/27-22C	G	0.275 [6.985]	1-3:4-8 1-3:5-7	1.40CT:1CT 2CT:1CT	1-3 = 3.5 4-8 = 3.0	(1-3) 7,200
Q1553-82	M	M21038/27-22						
QT1553-82	T	M21038/27-22T						
QC1553-83	C	M21038/27-23C	G	0.275 [6.985]	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
Q1553-83	M	M21038/27-23						
QT1553-83	T	M21038/27-23T						
QC1553-84*	C	M21038/27-24C	G	0.275 [6.985]	1-3:4-8 1-3:5-7	1CT:2.12CT 1CT:1.50CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000
Q1553-84*	M	M21038/27-24						
QT1553-84*	T	M21038/27-24T						
QC1553-85*	C	M21038/27-25C	G	0.275 [6.985]	1-3:4-8 1-3:5-7	1CT:2.50CT 1CT:1.79CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000
Q1553-85*	M	M21038/27-25						
QT1553-85*	T	M21038/27-25T						
QC1553-45*	C	M21038/27-26C	A	0.250 [6.35]	1-3:4-8 1-3:5-7	1CT:2.50CT 1CT:1.79CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000
Q1553-45*	M	M21038/27-26						
QT1553-45*	T	M21038/27-26T						

* Designed for transceivers utilizing a single supply voltage (+5V).

¹ Impedance is tested at 75 kHz and at 1 MHz at -55°C ± 2°C; +25°C ± 2°C; and +130°C ± 2°C.



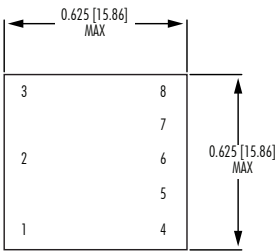
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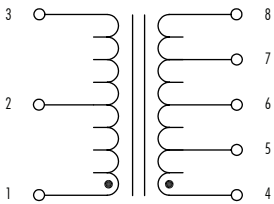
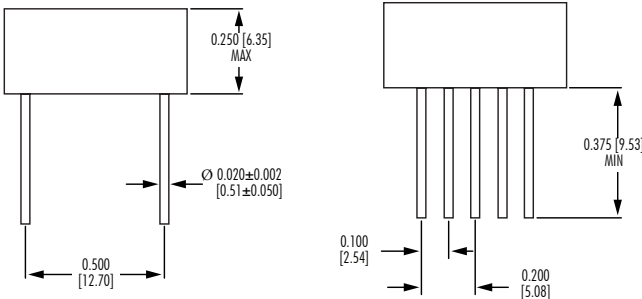
Mechanicals

Electrical Schematics

Package A



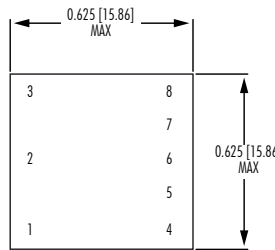
Dimensions: inch [mm]
Tolerance (unless otherwise specified): ±0.010 [0.25]



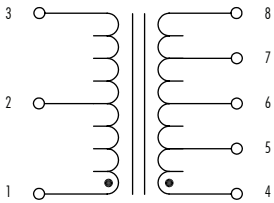
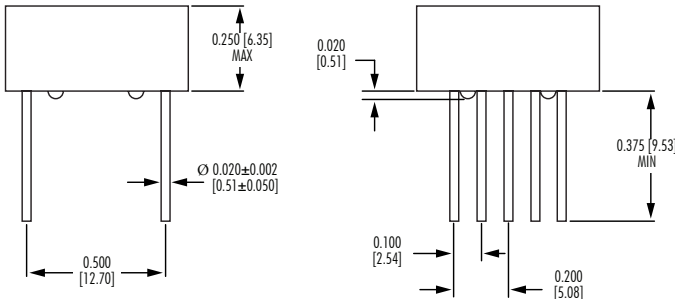
Mechanicals

Electrical Schematics

Package G



Dimensions: inch [mm]
Tolerance (unless otherwise specified): ±0.010 [0.25]



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 & 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 & Mechanical Inspection	Sample per Table 3

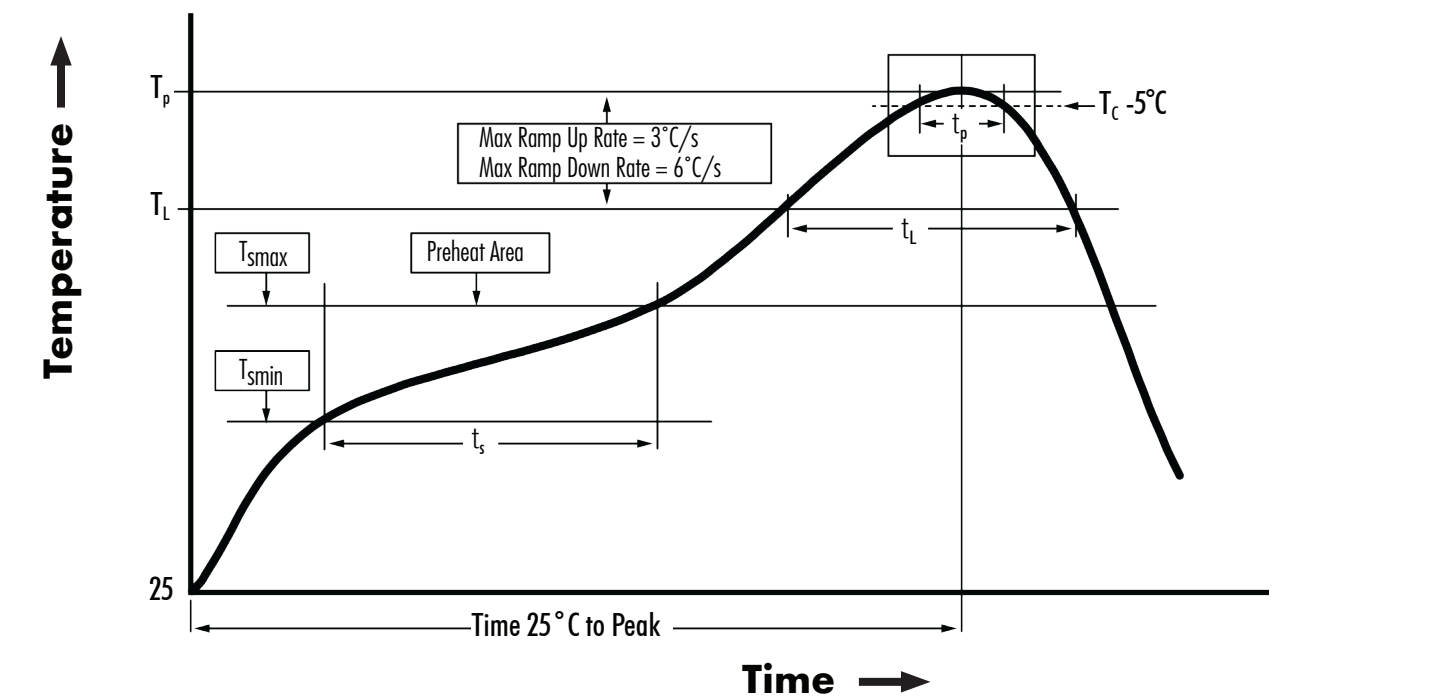
Table 2 - Group B Inspection					
Level "C" **		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Dielectric Withstanding Voltage	Sample per Table 3	Dielectric Withstanding Voltage	Sample per Table 3
N/A	N/A	Insulation Resistance	Sample per Table 3	Insulation Resistance	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 1,200	34	19
1,201 to 3,200	42	23
3,201 to 10,000	50	29

** 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.



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)
Tin/Lead Profile									
100	150	183	235	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 number of reflow cycles not to exceed 2.

