

MIL-STD-1553 TRANSFORMERS

Dual Ratio THT QPL Pulse Transformers

QX1553-XX

PulseR
Ruggedized Solutions



- R Qualified QPL MIL-STD-1553 applications
- R Dual ratio in a single package (see Schematic)
- R Moisture Sensitivity Level: 1
- R Designed, built, and tested to MIL-PRF-21038 /27
- R Product Levels* C, M, and T
- R Two packages available:
Package A without standoffs, and Package G with standoffs
- R Built in ISO 9001 facility
- R Applicable specifications:

Summary Performance Specifications

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

■ MIL-STD-1553B

■ MIL-STD-202

■ MIL-PRF-21038

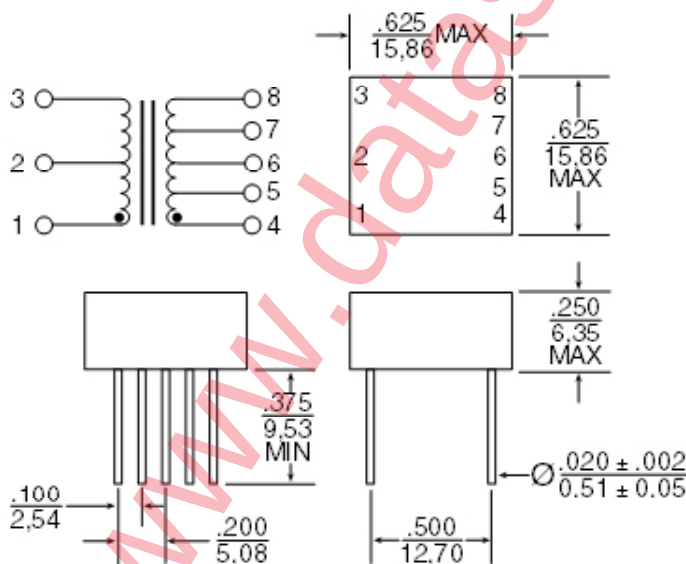
■ ISO 9001

■ **Level C** - for high reliability commercial/industrial applications

■ **Level M** - for general purpose military applications

■ **Level T** - for high reliability critical military applications

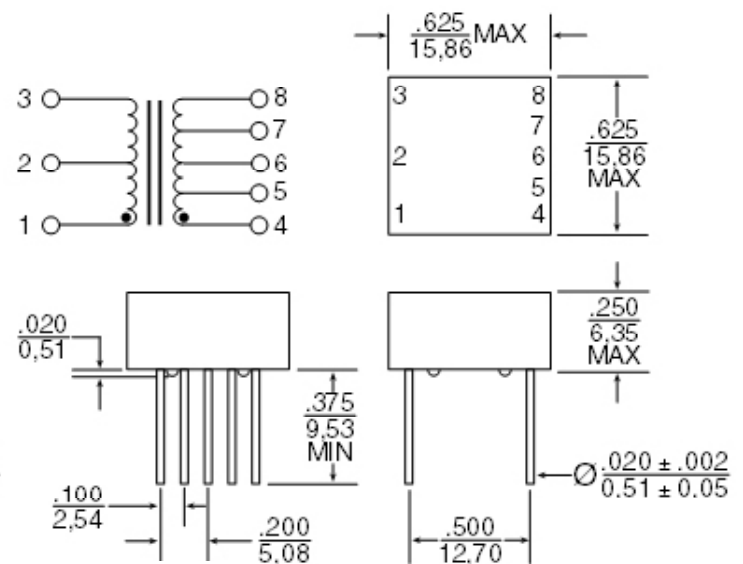
Package A (mechanicals and schematic)



Notes:

1. Weight..... 4.08gm
2. Pan/Tube Size= 1

Package G (mechanicals and schematic)



Notes:

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

MIL-STD-1553 TRANSFORMERS

Dual Ratio THT QPL Pulse Transformers



Characteristics									
Line	Level	Military Designation No.	Pulse Part No.	Package	Height (in. MAX)	Terminals	Ratio (±3%)	RDC (Ω MAX)	Impedance (Ω MIN)
1	C	M21038/27-01C	QC1553-1	A	.250	1-3:4-8	1CT:1CT	1-3 3.0	(1-3)
2	M	M21038/27-01	Q1553-1			1-3:5-7	1CT:.707CT	4-8 3.0	4,000
3	T	M21038/27-01T	QT1553-1						
4	C	M21038/27-02C	QC1553-2	A	.250	1-3:4-8	1.4CT:1CT	1-3 3.5	(1-3)
5	M	M21038/27-02	Q1553-2			1-3:5-7	2CT:1CT	4-8 3.0	7,200
6	T	M21038/27-02T	QT1553-2						
7	C	M21038/27-03C	QC1553-3	A	.250	1-3:4-8	1.25CT:1CT	1-3 3.2	(1-3)
8	M	M21038/27-03	Q1553-3			1-3:5-7	1.66CT:1CT	4-8 3.0	4,000
9	T	M21038/27-03T	QT1553-3						
10	C	M21038/27-10C	QC1553-5*	A	.250	1-3:4-8	1CT:2.12CT	1-3 1.0	(4-8)
11	M	M21038/27-10	Q1553-5*			1-3:5-7	1CT:1.5CT	4-8 3.5	4,000
12	T	M21038/27-10T	QT1553-5*						
13	C	M21038/27-21C	QC1553-81	G	.275	1-3:4-8	1CT:1CT	1-3 3.0	(1-3)
14	M	M21038/27-21	Q1553-81			1-3:5-7	1CT:.707CT	4-8 3.0	4,000
15	T	M21038/27-21T	QT1553-81						
16	C	M21038/27-22C	QC1553-82	G	.275	1-3:4-8	1.4CT:1CT	1-3 3.5	(1-3)
17	M	M21038/27-22	Q1553-82			1-3:5-7	2CT:1CT	4-8 3.0	7,200
18	T	M21038/27-22T	QT1553-82						
19	C	M21038/27-23C	QC1553-83	G	.275	1-3:4-8	1.25CT:1CT	1-3 3.2	(1-3)
20	M	M21038/27-23	Q1553-83			1-3:5-7	1.66CT:1CT	4-8 3.0	4,000
21	T	M21038/27-23T	QT1553-83						
22	C	M21038/27-24C	QC1553-84*	G	.275	1-3:4-8	1CT:2.12CT	1-3 1.0	(4-8)
23	M	M21038/27-24	Q1553-84*			1-3:5-7	1CT:1.5CT	4-8 3.5	4,000
24	T	M21038/27-24T	QT1553-84*						
25	C	M21038/27-25C	QC1553-85*	G	.275	1-3:4-8	1CT:2.50CT	1-3 1.0	(4-8)
26	M	M21038/27-25	Q1553-85*			1-3:5-7	1CT:1.79CT	4-8 3.5	4,000
27	T	M21038/27-25T	QT1553-85*						
28	C	M21038/27-26C	QC1553-45*	A	.250	1-3:4-8	1CT:2.50CT	1-3 1.0	(4-8)
29	M	M21038/27-26	Q1553-45*			1-3:5-7	1CT:1.79CT	4-8 3.5	4,000
30	T	M21038/27-26T	QT1553-45*						

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

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

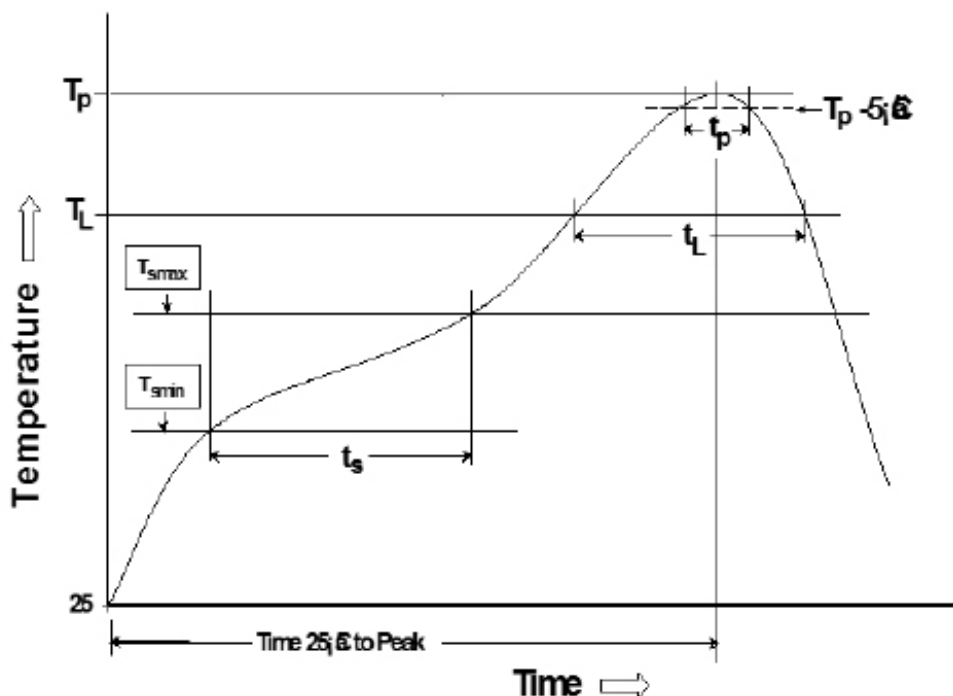
Table 1 — Group A Inspection					
Level "C"***		Level "M"		Level "T"	
Tests	Sampling Plan	Tests	Sampling Plan	Tests	Sampling Plan
N/A	N/A	Electrical Characteristics per MIL-PRF-21038/27	Sample per Table 3	Thermal Shock	100%
N/A	N/A	Visual and Mechanical Inspection	Sample per Table 3	Winding Continuity	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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