Dual Ratio SMT QPL Pulse Transformers

Ruggedized



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

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Two Packages Available:
Package B: Gull-wing Leads
Package F: Flat Pack

• Max Reflow Temperature: 225°C

• Moisture Sensitivity Level: 3

Applicable Standards:

MIL-STD-1553BMIL-PRF-21038

MIL-STD-202

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					

Electrical Specifications @ 25°C									
Part		Military		Height MAX		Ratio	RDC MAX	Impedance MIN ¹	
Number	Level	Designation No.	Package	IN. [mm]	Terminals	(±3%)	(Ω)	(Ω)	
SMQC1553-6	C	M21038/27-11C		0.050	1 2.4 0	1CT-1CT	10 00	(1.0)	
SMQ1553-6	М	M21038/27-11	В	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	
SMQT1553-6	T	M21038/27-11T		[0.03]	1 0.5 7	101.0.70701	40-0.0		
SMQC1553-7	C	M21038/27-12C		0.250	1-3:4-8	1.40CT:1CT	1-3 = 3.5	/1.2\	
SMQ1553-7	М	M21038/27-12	В	[6.35]	1-3:5-7	2CT:1CT	1-5 = 5.5 4-8 = 3.0	(1-3) 7,200	
SMQT1553-7	T	M21038/27-12T		[0.03]	1 0.5 7	201.101	10 - 0.0	7,200	
SMQC1553-8	C	M21038/27-13C		0.250	1 2.4 0	1 2505.105	10 00	(1-3)	
SMQ1553-8	М	M21038/27-13	В	[6.35]	1-3:4-8 1-3:5-7	1.25CT:1CT 1.66CT:1CT	1-3 = 3.2 4-8 = 3.0	4,000	
SMQT1553-8	T	M21038/27-13T		[0.03]	1 0.5 7	1.0001.101	10 - 0.0		
SMQC1553-10*	C	M21038/27-15C		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	
SMQ1553-10*	М	M21038/27-15	В						
SMQT1553-10*	Ţ	M21038/27-15T							
FPQC1553-6	C	M21038/27-16C		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	
FPQ1553-6	М	M21038/27-16	F						
FPQT1553-6	Ţ	M21038/27-16T							
FPQC1553-7	C	M21038/27-17C		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	
FPQ1553-7	М	M21038/27-17	F						
FPQT1553-7	Ţ	M21038/27-17T		[5155]				. /200	
FPQC1553-8	C	M21038/27-18C		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	
FPQ1553-8	М	M21038/27-18	F						
FPQT1553-8	Ţ	M21038/27-18T		[5.55]				.,	
FPQC1553-10*	C	M21038/27-20C	_	0.250 [6.35]	1-3:4-8 1-3:5-7	1CT:2.12CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000	
FPQ1553-10*	М	M21038/27-20	F			1CT:1.50CT			
FPQT1553-10*	T	M21038/27-20T						,,,,,	
SMQC1553-45*	(M21038/27-27C	_	0.250 [6.35]	1-3:4-8	1CT:2.50CT 1CT:1.79CT	1-3 = 1.0 4-8 = 3.5	(4-8)	
SMQ1553-45*	M	M21038/27-27	В		1-3:5-7			4,000	
SMQT1553-45*	Ţ	M21038/27-27T						,	
FPQC1553-45*	C	M21038/27-31C	_	0.250	1-3:4-8	1CT:2.50CT 1CT:1.79CT	1-3 = 1.0 4-8 = 3.5	(4-8) 4,000	
FPQ1553-45*	М	M21038/27-31	F	[6.35]	1-3:5-7				
FPQT1553-45*	Ţ	M21038/27-31T							

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

¹ Impedance is tested at 75 kHz and at 1 MHz at -55°C \pm 2°C; \pm 2°C \pm 2°C; and \pm 130°C \pm 2°C.



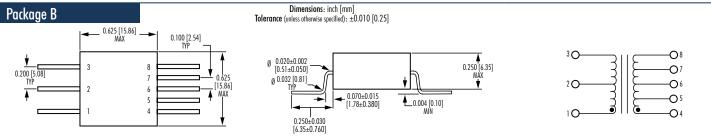
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Mechanicals

Electrical Schematics



Mechanicals

Electrical Schematics



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

Table 1 - Group A Inspection								
Level	" C " **	Leve	el "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 " **	Leve	el "M"	Level "T"				
Tests	Tests Sampling Plan		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.

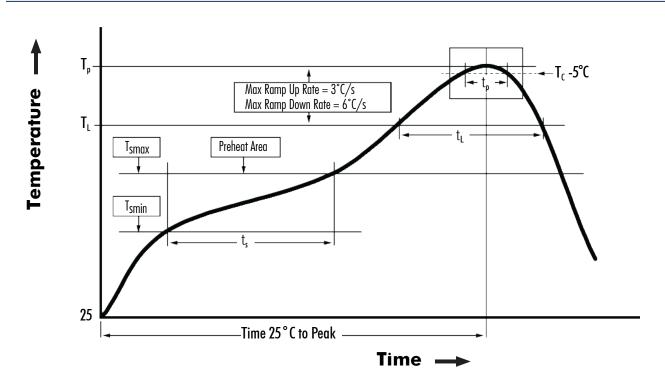


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Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



T _{smin} (°C)	T _{smax} (°C)	T _ւ (°C)	T _P (°C MAX)	† _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 number of reflow cycles not to exceed 2.



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