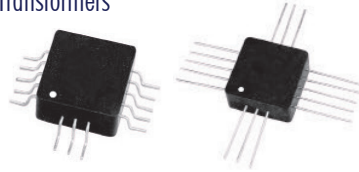


MIL-STD-1553 TRANSFORMERS

Stacked Dual SMT Non-QPL Interface Transformers
Ruggedized



These Non-QPL interface transformers are built and tested in ISO 9001 approved facilities.

- ⊗ Dual ratio, dual interface
- ⊗ Surface Mount package
- ⊗ Conform to all electrical and physical parameters of MIL-PRF-21038/27
- ⊗ Moisture Sensitivity Level: 3
- ⊗ Vertically stacked for minimum XY area
- ⊗ Applicable Specifications:
 - ⊗ MIL-STD-1553B
 - ⊗ MIL-STD-202
 - ⊗ MIL-PRF-21038
 - ⊗ ISO 9001

| Summary Performance Specifications | | | |
|---|------------------|------------------|---|
| Drop | 20% MAX | | |
| Overshoot | ±1V MAX | | |
| Common Mode Rejection (CMR) | 45dB MIN | | |
| Frequency Range (no load) | 75kHz - 1 MHz | | |
| Operating Temperature Range <i>(based on Prefix)</i> | Flat Pack | Gull-Wing | 0°C to +70°C -40°C to +85°C -55°C to +125°C |
| | SFQC | SGQC | |
| | SFQN | SGQN | |
| | SFQ | SGQ | |
| Weight | 5 grams MAX | | |
| Insulation Resistance (MIN) | 10K MΩ @ 250Vdc | | |
| Dielectric Withstanding Voltage | 100Vrms | | |

Characteristics

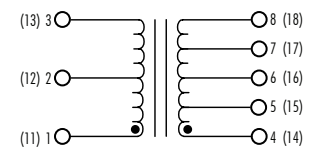
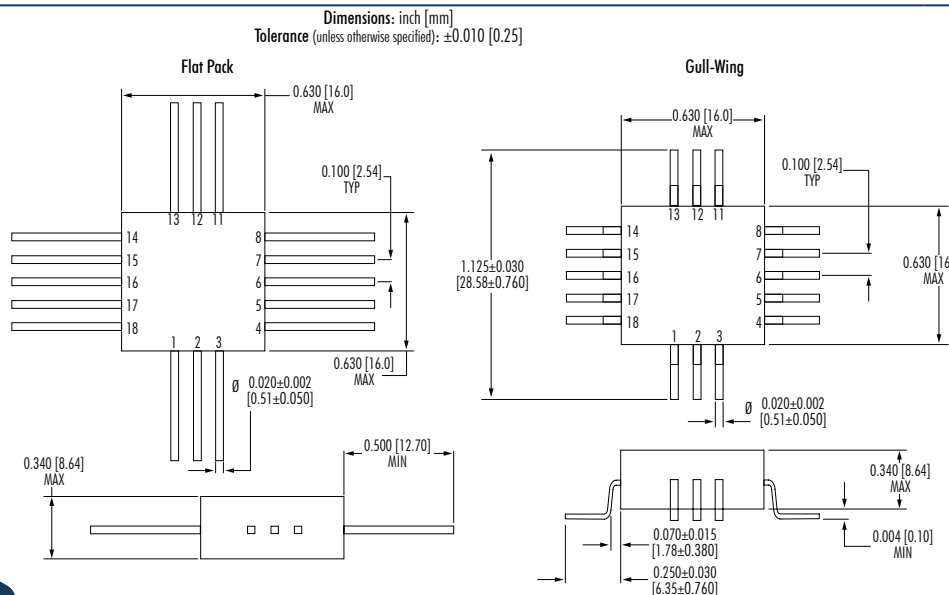
| Part Number | Terminals | Ratio | RDC MAX | Impedance MIN |
|---------------|--|--------------------------|--------------------------------------|-----------------------|
| | | (±3%) | (Ω) | (Ω) |
| (XXX)1553-1 | 1-3:4-8 / 11-13:14-18 1-3:5-7 / 11-13:15-17 | 1CT:1CT 1CT:0.707CT | 1-3, 11-13 = 3.0 4-8, 14-18 = 3.0 | (1-3, 11-13) 4,000 |
| (XXX)1553-2 | 1-3:4-8 / 11-13:14-18 1-3:5-7 / 11-13:15-17 | 1.40CT:1CT 2CT:1CT | 1-3, 11-13 = 3.5 4-8, 14-18 = 3.0 | (1-3, 11-13) 7,200 |
| (XXX)1553-3 | 1-3:4-8 / 11-13:14-18 1-3:5-7 / 11-13:15-17 | 1.25CT:1CT 1.66CT:1CT | 1-3, 11-13 = 3.2 4-8, 14-18 = 3.0 | (1-3, 11-13) 4,000 |
| (XXX)1553-5* | 1-3:4-8 / 11-13:14-18 1-3:5-7 / 11-13:15-17 | 1CT:2.12CT 1CT:1.50CT | 1-3, 11-13 = 1.0 4-8, 14-18 = 3.5 | (4-8, 14-18) 4,000 |
| (XXX)1553-45* | 1-3:4-8 / 11-13:14-18 1-3:5-7 / 11-13:15-17 | 1CT:2.50CT 1CT:1.79CT | 1-3, 11-13 = 1.0 4-8, 14-18 = 3.5 | (4-8, 14-18) 4,000 |

NOTES:

1. Refer to the Summary Performance Specifications Table above to select the prefix for your desired Operating Temperature Range. Replace (XXX) from the part number in the table with the desired prefix: SFQC, SFQN, SFQ, SGQC, SGQN, SGQ.
- * Designed for transceivers utilizing a single supply voltage (+5V).

Mechanicals

Electrical Schematics



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MIL-STD-1553 TRANSFORMERS

Stacked Dual SMT Non-QPL Interface Transformers
Ruggedized



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 |

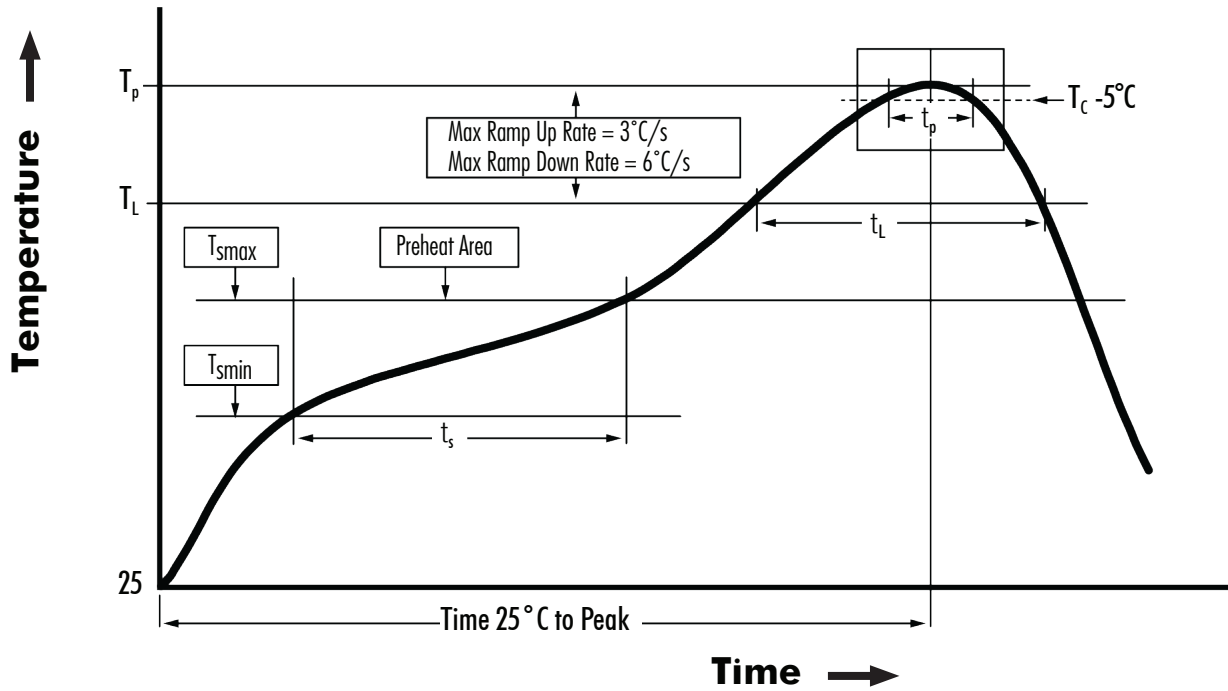
| Table 2 - Group B Inspection | | | | | |
|------------------------------|---------------|---------------------------------|--------------------|---------------------------------|--------------------|
| Level "C" ** | | Level "M" | | Level "T" | |
| Tests | Sampling Plan | Tests | Sampling Plan | Tests | 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.



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

