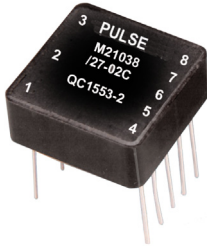


# MIL-STD-1553 Transformers

Dual Ratio THT QPL Pulse Transformers

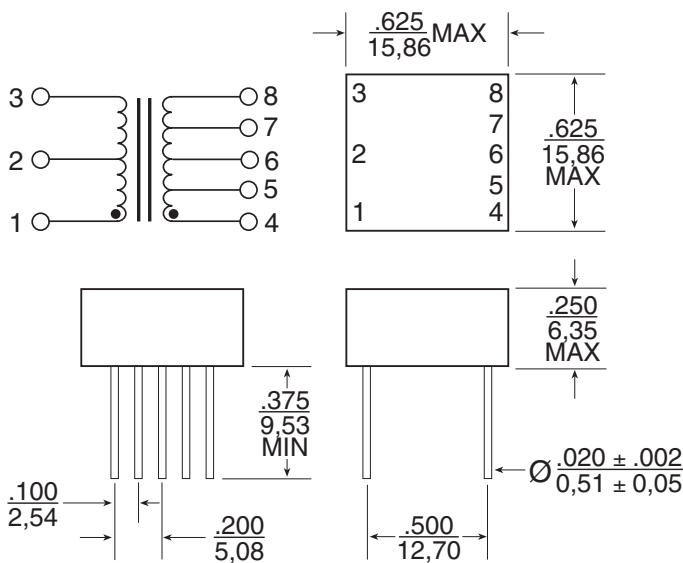


- ☑ Qualified for use in QPL MIL-STD-1553 applications
- ☑ Dual ratio in a single package (see Schematic)
- ☑ MSL: 1
- ☑ Designed, built, and tested to MIL-PRF-21038 Levels\* C, M, and T
- ☑ Two packages available: Package A without standoffs, and Package G with standoffs
- ☑ Built in ISO 9001 facility
- ☑ Applicable specifications
  - MIL-STD-1553B
  - MIL-STD-202
  - MIL-PRF-21038
  - ISO 9001

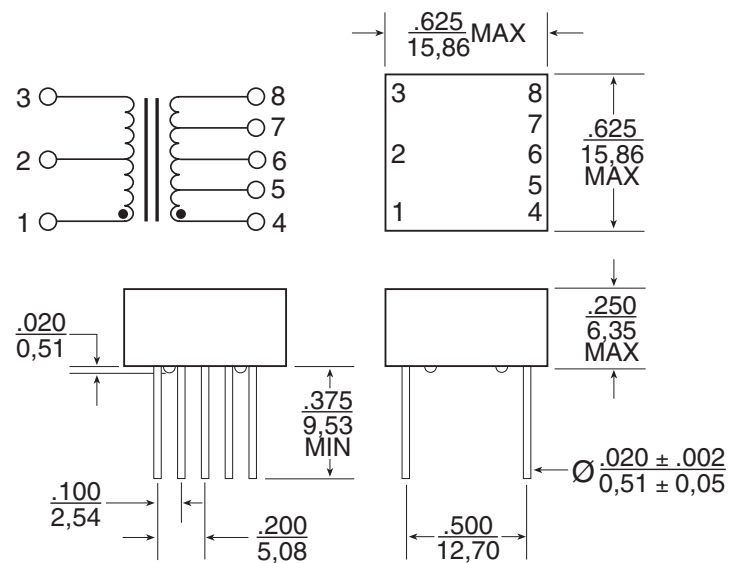
- \* ■ **Level C** - for high reliability commercial/industrial applications  
 ■ **Level M** - for general purpose military applications  
 ■ **Level T** - for high reliability critical military applications

| 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         |

## Package A



## Package G



### 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.

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