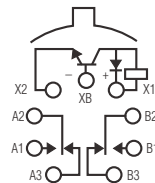


Double Pole, Electrically Held, 1 Amp and Less (Continued)

MAT

MAT
Standard TO-5
Diode Suppressed/
Transistor Driven
High Performance Relay
Qualified to MIL-R-28776/1



Terminal View

Product Facts

- Transistor driver & suppression diode
- Hermetically sealed
- High shock & vibration ratings
- Spreader pads
- Excellent RF switching

Electrical Characteristics

Contact Arrangement — 2 Form C (DPDT)
Contact Material — Stationary — Gold/platinum/palladium/silver alloy (gold plated)
 Moveable — Gold/platinum/palladium/silver alloy (gold plated)

Contact Resistance — Before Life — 100 milliohms max. (measured @ 10 mA @ 6 Vdc)
 After Life — 200 milliohms max. (measured @ 1 A @ 28 Vdc)

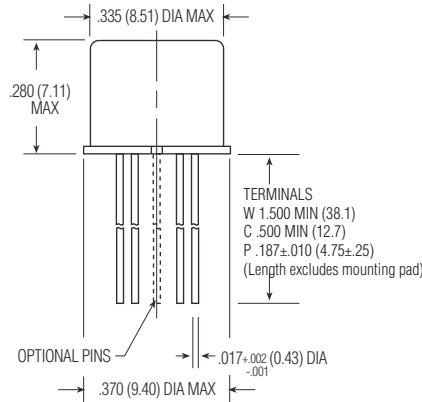
Mechanical Life Expectancy — 1 million operations

Coil Voltage — 5 to 26.5 Vdc
Coil Power — 675 mW max. @ 25°C
Duty Cycle — Continuous

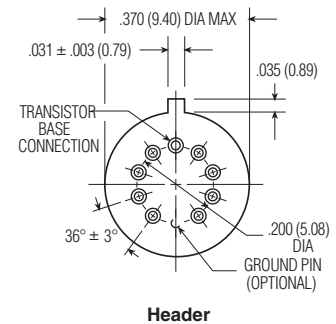
Pick-up Voltage — Approximately 50% of nominal coil voltage
Pick-up Sensitivity — 130 mW max. @ 25°C

Contact Ratings

| Contact Load | Type | Operations Min. |
|----------------------------------|-------------------------------|-----------------|
| 1.0 A @ 28 Vdc | Resistive | 100,000 |
| 250 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive (case not grounded) | 100,000 |
| 100 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive | 100,000 |
| 0.2 A @ 28 Vdc | Inductive (0.32 Henry) | 100,000 |
| 0.1 A @ 28 Vdc | Lamp | 100,000 |
| 30 µA @ 50 mVdc | Low Level | 1,000,000 |
| 0.1 A @ 28 Vdc | Intermediate Current | 50,000 |



Enclosure



Header

Double Pole, Electrically Held, 1 Amp and Less (Continued)

MAT (Continued)

Operating Characteristics

Timing —
 Operate Time — 2.0 ms max.
 Release Time — 7.5 ms max.
Contact Bounce — 1.5 ms max
Dielectric Withstanding Voltage —
 Between Open Contacts —
 500 Vrms 60 Hz
 Between Adjacent Contacts —
 500 Vrms 60 Hz
 Between Contacts & Coil —
 500 Vrms 60 Hz
Insulation Resistance —
 10,000 megohms @ 500 Vdc
 1,000 megohms @ 500 Vdc
 (coil to case @ +125°C)

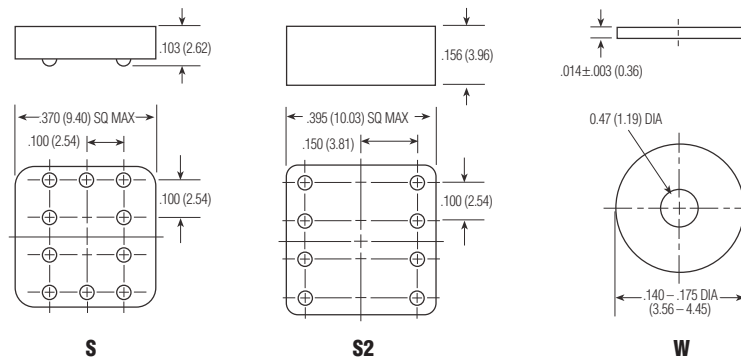
Environmental Characteristics

Temperature Range —
 -65°C to +125°C
Weight —
 0.09 oz. (2.55 grms)
 0.10 oz. (2.80 grms) with spreader pad attached
Vibration Resistance —
 30 G's, 10 to 3,000 Hz
Shock Resistance —
 75 G's, 6 ±1 ms max.
QPL Approval —
 MIL-R-28776/1 (JMAT)

Semiconductor Characteristics

Diode —
 100 Vdc peak inverse voltage (PIV)
 1.0 Vdc max. transient voltage
Transistor —
 0.3 Vdc min. base turn off voltage;
 6.0 Vdc min. emitter-base breakdown voltage (BV_{EB0}) @ 25°C;
 80.0 Vdc min. collector-base breakdown voltage (BV_{CB0}) @ 25°C & I_C=100 µA

1
CII Low Signal Relays



Spreader & Mounting Pads

Coil Data

| Nom. Coil Voltage (Vdc) | Coil Resistance in Ohms ±10% @ 25°C (Note 1) | Coil Circuit Current mA (Max.) (Note 1&2) | Coil Circuit Current mA (Min.) (Note 1&2) | Pickup Voltage Vdc (Max.) @ 25°C (Note 2) | Base Turn On Current mA (Max.) @ 25°C | Pickup Voltage Vdc (Max.) @ 125°C (Note 2) | Base Turn On Current mA (Max.) @ 125°C | Drop-Out Voltage Vdc (Min.) @ 25°C (Note 2) | Drop-Out Voltage Vdc (Min.) @ -65°C (Note 2) | Nom. Coil Power (mW) @ 25°C | Max. Coil Voltage | Coil Desig. |
|-------------------------|--|---|---|---|---------------------------------------|--|--|---|--|-----------------------------|-------------------|-------------|
| MAT | | | | | | | | | | | | |
| 5.0 | 50 | 112.1 | 82.2 | 2.7 | 0.75 | 3.5 | 3.00 | 0.22 | 0.14 | 500 | 5.8 | 5 |
| 6.0 | 98 | 69.9 | 52.9 | 3.5 | 0.55 | 4.5 | 2.04 | 0.28 | 0.18 | 367 | 8.0 | 6 |
| 9.0 | 220 | 47.4 | 35.3 | 5.3 | 0.36 | 6.8 | 1.36 | 0.54 | 0.35 | 368 | 12.0 | 9 |
| 12.0 | 390 | 35.8 | 26.6 | 7.0 | 0.27 | 9.0 | 1.03 | 0.63 | 0.41 | 369 | 16.0 | 12 |
| 18.0 | 880 | 24.0 | 17.9 | 10.5 | 0.16 | 13.5 | 0.68 | 0.91 | 0.59 | 368 | 24.0 | 18 |
| 26.5 | 1,560 | 19.8 | 14.7 | 14.2 | 0.13 | 18.0 | 0.50 | 1.37 | 0.89 | 450 | 32.0 | 26 |

Notes: 1. Coil resistance not directly measurable. Coil current should be within limits shown when tested at nominal voltage at 25°C for 5 seconds max.
 2. Set base current at 3 mA to 15 mA during measurements.

Ordering Instructions

Catalog-selected Relays: The catalog number is derived by choosing the proper CODE for each of the relay characteristics in the order in which the codes are listed.

Specifying a Part Number Example:

| Type | Terminal | Diodes | Ground Pins | Coils | Spreader/Mounting Pads |
|------|----------|--------|-------------|-------|------------------------|
| MA | C | T | G | -26 | S |

* The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.