

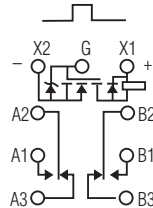
## Double Pole, Electrically Held, 1 Amp and Less (Continued)

### MGAT

### MGAT

**Standard .100 Grid Diode  
Suppressed/MOSFET Driven  
High Performance Relay**

**Qualified to  
MIL-R-28776/6**



Terminal View

### Product Facts

- MOSFET driver, zener & suppression diodes
- Hermetically sealed
- High shock & vibration ratings
- Mounting pads
- Excellent RF switching

### Electrical Characteristics

**Contact Arrangement** —  
2 Form C (DPDT)

**Contact Material** —  
Stationary —  
Gold/platinum/palladium/silver  
(gold plated)  
Moveable —  
Gold/platinum/palladium/silver  
(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** — 660 mW max. @ 25°C

**Duty Cycle** — Continuous

**Pick-up Voltage** — Approximately  
50% of nominal coil voltage

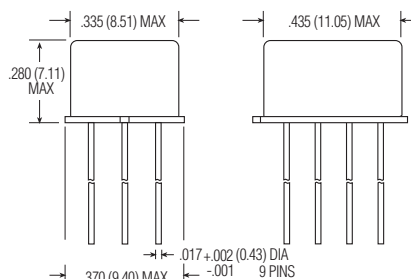
**Pick-up Sensitivity** —  
130 mW max. @ 25°C

### Contact Ratings

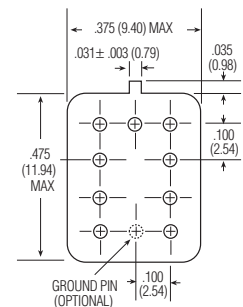
| Contact Load                     | Type                          | Operations Min. |
|----------------------------------|-------------------------------|-----------------|
| 1.0 A @ 28 Vdc                   | Resistive                     | 100,000         |
| 250 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive (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          |



MGAT



MGAT Enclosure



MGAT Header

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

### MGAT (Continued)

#### Operating Characteristics

##### Timing —

Operate Time — 2.0 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 min. @ 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 gms)

0.129 oz. (3.45 gms) w/ mounting 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-28776/6 (JMGAT)

#### Semiconductor Characteristics

##### Diode —

100 Vdc peak inverse voltage (PIV)

1.0 Vdc max. transient voltage

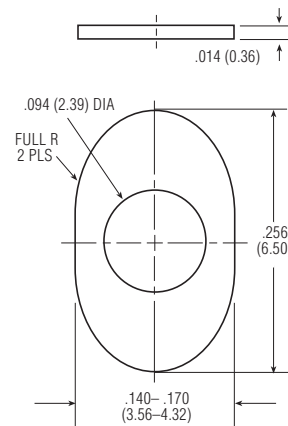
##### Zener Diode —

20 Vdc ±3 Vdc over temperature range

##### MOSFET —

0.5 Vdc min. gate turn-off voltage

4.3 Vdc max. gate turn-on voltage



MGAT Mounting Pad

### Coil Data

| Nom. Coil Voltage (Vdc) | Coil Resistance in Ohms ±10% @ 25°C (Note) | Coil Circuit Current mA (Max.) (Note) | Coil Circuit Current mA (Min.) (Note) | Pickup Voltage Vdc (Max.) @ 25°C | Pickup Voltage Vdc (Max.) @ 125°C | Drop-Out Voltage Vdc (Min.) @ 25°C | Drop-Out Voltage Vdc (Min.) @ -65°C | Nom. Coil Power (mW) @ 25°C | Max. Coil Voltage | Coil Desig. |
|-------------------------|--------------------------------------------|---------------------------------------|---------------------------------------|----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|-----------------------------|-------------------|-------------|
| MGAT                    |                                            |                                       |                                       |                                  |                                   |                                    |                                     |                             |                   |             |
| 5.0                     | 39                                         | 132.3                                 | 96.5                                  | 2.9                              | 3.5                               | 0.23                               | 0.13                                | 641                         | 5.8               | 5           |
| 6.0                     | 78                                         | 83.9                                  | 60.3                                  | 3.5                              | 4.5                               | 0.32                               | 0.18                                | 462                         | 8.0               | 6           |
| 9.0                     | 220                                        | 47.1                                  | 33.1                                  | 5.3                              | 6.8                               | 0.48                               | 0.27                                | 368                         | 12.0              | 9           |
| 12.0                    | 390                                        | 36.1                                  | 24.9                                  | 7.1                              | 9.0                               | 0.65                               | 0.36                                | 369                         | 16.0              | 12          |
| 18.0                    | 880                                        | 24.1                                  | 16.1                                  | 10.6                             | 13.5                              | 0.97                               | 0.54                                | 368                         | 24.0              | 18          |
| 26.5                    | 1,560                                      | 19.9                                  | 12.9                                  | 14.2                             | 18.0                              | 1.30                               | 0.72                                | 450                         | 32.0              | 26          |

**Note:** Coil resistance not directly measurable. Coil current should be within limits shown when tested at nominal voltage at 25°C for 5 seconds max.

### 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 | Terminals | Diodes | Ground Pins | Coils | Mounting Pads |
|------|-----------|--------|-------------|-------|---------------|
| MGA  | C         | T      | G           | -26   | W             |

\* 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.