

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

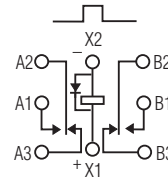
**MGS, MGSD, MGSDD**

**MGS**  
**Sensitive .100 Grid**  
**High Performance Relay**  
**Qualified to**  
**MIL-R-39016/41**



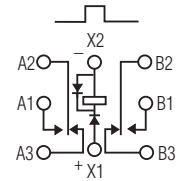
Terminal View

**MGSD**  
**Sensitive .100 Grid**  
**Diode Suppressed**  
**High Performance Relay**  
**Qualified to**  
**MIL-R-39016/42**



Terminal View

**MGSDD**  
**Sensitive .100 Grid Diode**  
**Suppressed/Protected**  
**High Performance Relay**  
**Qualified to**  
**MIL-R-39016/43**



Terminal View

**Product Facts**

- Hermetically sealed
- High shock & vibration ratings
- Mounting pads
- Excellent RF switching

**Product Facts**

- Suppression diode
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**Product Facts**

- Suppression & protection 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 48 Vdc  
**Coil Power** — 565 mW max. @ 25°C

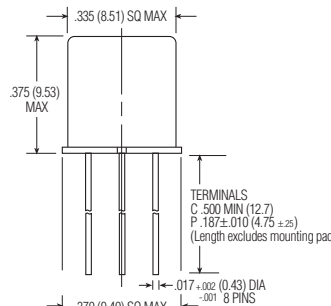
**Duty Cycle** — Continuous  
**Pick-up Voltage** — Approximately 50% of nominal coil voltage  
**Pick-up Sensitivity** — 60 mW max. @ 25°C

**Contact Ratings**

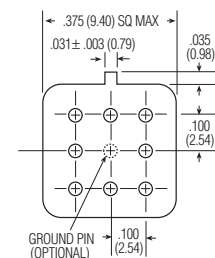
Contact Load	Type	Operations Min.
1.0 A @ 28 Vdc	Resistive	100,000
250 mA @ 115 Vac, 60 Hz & 400 Hz	Resistive (case not grounded)	100,000
100 mA @ 115 Vac, 60 Hz & 400 Hz	Resistive	100,000
0.2 A @ 28 Vdc	Inductive (0.32 Henry)	100,000
0.1 A @ 28 Vdc	Lamp	100,000
30 µA @ 50 mVdc	Low Level	1,000,000
0.1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



MGS



MGS/MGSD/MGSDD Enclosure



MGS/MGSD/MGSDD Header

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

**MGS, MGSD, MGSDD**  
(Continued)

**Operating Characteristics**

**Timing** —  
 Operate Time — 4.0 ms max.  
 Release Time —  
 MGS — 2.0 ms max.  
 MGSD/MGSDD — 7.5 ms max.  
 (suppression diode, protection/  
 suppression diodes)  
**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-39016/41 (JMGS)  
 MIL-R-39016/42 (JMGS)  
 MIL-R-39016/43 (JMGSDD)

**Semiconductor Characteristics**

**Diode** —  
 100 Vdc peak inverse voltage (PIV)  
 1.0 Vdc max. transient voltage



MGS/MGSD/MGSDD  
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.
<b>MGS/MGSD</b>										
5.0	100	n/a	n/a	2.6	3.5	0.23	0.12	250	7.5	5
6.0	200	n/a	n/a	3.4	4.5	0.28	0.18	180	10.0	6
9.0	400	n/a	n/a	4.85	6.8	0.55	0.35	203	15.0	9
12.0	800	n/a	n/a	7.0	9.0	0.64	0.41	180	20.0	12
18.0	1,600	n/a	n/a	9.8	13.5	0.92	0.59	203	30.0	18
26.5	3,200	n/a	n/a	14.0	18.0	1.4	0.89	219	40.0	26
36.0	6,500	n/a	n/a	20.0	27.0	1.8	1.25	199	57.0	36
48.0	11,000	n/a	n/a	25.8	36.0	2.4	1.60	209	75.0	48
<b>MGSDD</b>										
5.0	64	78.1	56.8	2.9	3.7	0.8	0.7	391	7.5	5
6.0	125	48.9	36.3	4.0	4.8	0.9	0.8	288	10.0	6
9.0	400	23.6	18.1	6.1	8.0	1.1	0.9	203	15.0	9
12.0	800	16.0	12.5	7.8	11.0	1.3	1.0	180	20.0	12
18.0	1,600	12.2	9.6	11.3	14.5	1.5	1.1	203	30.0	18
26.5	3,200	9.0	7.2	15.2	19.0	1.7	1.3	219	40.0	26
36.0	6,500	6.1	4.9	21.7	27.2	2.3	1.7	199	57.0	36
48.0	11,000	4.8	3.9	27.8	34.8	2.8	2.0	209	75.0	48

**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
	MGS	C	D	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.