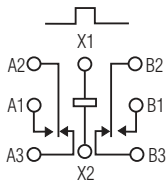


# SMGA · SMGAD · SMGADD

## SMGA

STANDARD .100 GRID  
SURFACE MOUNT HIGH-PERFORMANCE  
RELAY

DESIGNED TO  
MIL-R-39016/17



TERMINAL VIEW

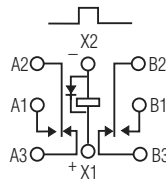
### FEATURES

- Hermetically sealed
- High shock & vibration ratings
- Surface mount leads
- Excellent RF switching

## SMGAD

STANDARD .100 GRID  
DIODE SUPPRESSED SURFACE MOUNT HIGH-  
PERFORMANCE RELAY

DESIGNED TO  
MIL-R-39016/18



TERMINAL VIEW

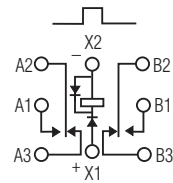
### FEATURES

- Suppression diode
- Hermetically sealed
- High shock & vibration ratings
- Surface mount leads
- Excellent RF switching

## SMGADD

STANDARD .100 GRID DIODE  
SUPPRESSED/PROTECTED SURFACE MOUNT  
HIGH-PERFORMANCE RELAY

DESIGNED TO  
MIL-R-39016/19



TERMINAL VIEW

### FEATURES

- Suppression & protection diodes
- Hermetically sealed
- High shock & vibration ratings
- Surface mount leads
- 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

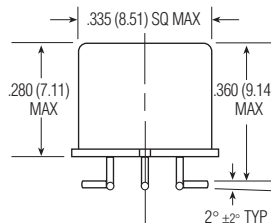
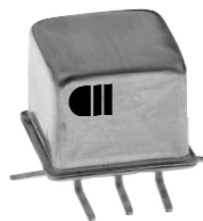
**DUTY CYCLE**  
Continuous

**PICK-UP VOLTAGE**  
Approximately 50% of  
nominal coil voltage

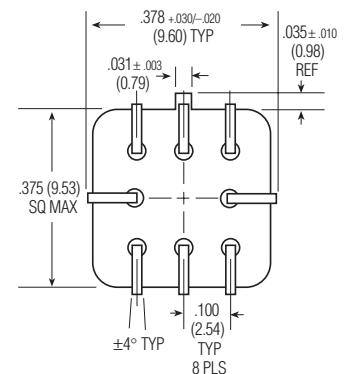
**PICK-UP SENSITIVITY**  
130 mW max. @ 25°C

### 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



ENCLOSURE



HEADER

.100 GRID SURFACE MOUNT HIGH-PERFORMANCE



**OPERATING CHARACTERISTICS**

**TIMING**

Operate Time:  
2.0 ms max.

Release Time:  
SMGA: 1.5 ms max.  
SMGAD/SMGADD: 4.0 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)

**VIBRATION RESISTANCE**

30 G's, 10 to 3,000 Hz

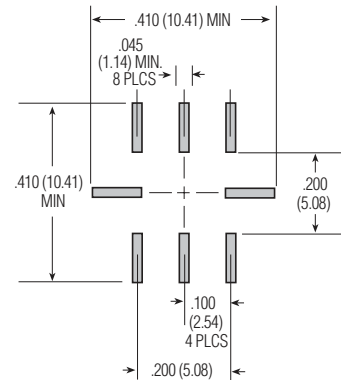
**SHOCK RESISTANCE**

75 G's, 6 ± 1 ms max.

**SEMICONDUCTOR CHARACTERISTICS**

**DIODE**

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



**RECOMMENDED SOLDER PAD LAYOUT**

**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>SMGA/SMGAD</b>										
5.0	50	n/a	n/a	2.7	3.5	0.22	0.14	500	5.8	5
6.0	98	n/a	n/a	3.5	4.5	0.28	0.18	367	8.0	6
9.0	220	n/a	n/a	5.3	6.8	0.54	0.35	368	12.0	9
12.0	390	n/a	n/a	7.0	9.0	0.63	0.41	369	16.0	12
18.0	880	n/a	n/a	10.5	13.5	0.91	0.59	368	24.0	18
26.5	1,560	n/a	n/a	14.2	18.0	1.37	0.89	450	32.0	26
<b>SMGADD</b>										
5.0	39	128.2	93.2	3.2	4.0	0.6	0.6	641	5.8	5
6.0	78	78.3	58.3	4.0	5.0	0.7	0.7	462	8.0	6
9.0	220	42.9	33.0	6.3	7.8	0.9	0.8	368	12.0	9
12.0	390	32.8	25.6	8.0	10.0	1.1	0.9	369	16.0	12
18.0	880	22.1	17.5	11.5	14.5	1.4	1.1	368	24.0	18
26.5	1,560	18.5	14.8	15.2	19.0	1.8	1.4	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.

**SPECIFYING A PART NUMBER EXAMPLE:**

**TYPE**  
SMGA  
**COILS**  
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