

**Applicable sockets:**  
SO-1049-8309/8987

**Application Notes:**  
023

• All weld construction

• Contact arrangement

2 PDT

• Qualified at 10 Amps to

MIL-PRF-83536 /9 & /10

### PRINCIPLE TECHNICAL CHARACTERISTICS

• Contacts rated at

28 Vdc; 115 Vac, 400 Hz, 1 phase  
and 115/200 Vac, 400 Hz, 3 phases

• Weight

0.10 lbs. max

• Dimensions

1.01 in x .51 in x 1.00 in

• Special models available upon request

• Hermetically sealed, corrosion resistant metal can

• Contact factory for information on MIL-qualified part numbers

### CONTACT ELECTRICAL CHARACTERISTICS

Contact rating per pole and load type [1]	Load current in Amps			
	@28 Vdc	@115 Vac 400 Hz	@115/200 Vac 400 Hz, 3Ø	@115/200 Vac 60 Hz, 3Ø [2]
Resistive	12	12	12	2.5
Inductive [3]	8	8	8	2.5
Motor	4	4	4	2
Lamp	2	2	2	-
Overload	40	60	60	N/A
Rupture	50	80	80	N/A

## COIL CHARACTERISTICS (Vdc)

CODE	A	B	C	M	N [4]	R [4]	V [4]	W [4]
Nominal operating voltage	28	12	6	48	28	12	6	48
Maximum operating voltage	29	14.5	7.3	50	29	14.5	7.3	7.3
Maximum pickup voltage								
- Cold coil at +125° C	18	9	4.5	36	18	9	4.5	9
- During high temp test at +125° C	19.8	9.9	5	38	19.8	9.9	5	9.9
- During continuous current test at +125° C	22.5	11.25	5.7	42	22.5	11.25	5.7	11.25
Maximum drop-out voltage	7	4.5	2.5	14	7	4.5	2.5	4.5
Coil resistance $\Omega \pm 10\%$ at +25° C except types "C" and "V" +20%, -10%	320	80	20	1000	320	80	20	1000

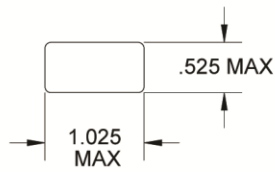
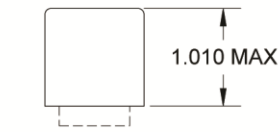
## GENERAL CHARACTERISTICS

Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	100,000
Minimum operating cycles (life) at 25% rated load	400,000
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit	1250 Vrms
- Coil to ground	1000 Vrms
Dielectric strength at altitude 80,000 ft	500 Vrms [5]
Insulation resistance - Initial (500 Vdc)	100 M $\Omega$ min
Insulation resistance - After environmental tests (500 Vdc)	50 M $\Omega$ min
Sinusoidal vibration (A, D and J mounting)	0.12 d.a. / 10 to 70 Hz 30G / 70 to 3000 Hz
Sinusoidal vibration (G mounting)	0.12 d.a. / 10 to 57 Hz 20G / 57 to 3000 Hz
<b>Random vibration</b>	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition - A, D and J mounting	1G (0.4G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Test condition - G mounting (E in track)	1E (0.2G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shock (A, D and J mounting)	200G / 6 $\pm$ 1 ms
Shock (G mounting)	100G / 6 $\pm$ 1 ms
Maximum contact opening time under vibration and shock	10 $\mu$ s
Operate time at nominal voltage @ 25°C	10 ms max
Release time at nominal voltage @ 25°C	10 ms max
Contact make bounce at nominal voltage @ 25°C	1 ms max
Contact release break bounce at nominal voltage @ 25°C	0.1 ms max [6]

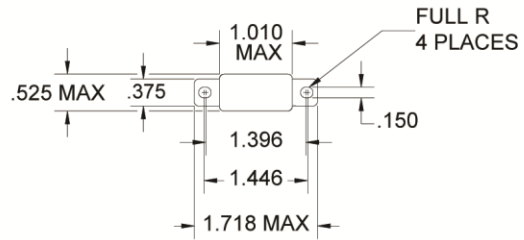
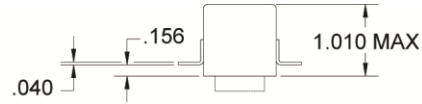
Unless otherwise noted, the specified temperature range applies to all relay characteristics.

Dimensions in inches  
Tolerances, unless otherwise specified, ± 0.010 in.

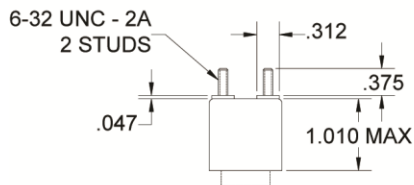
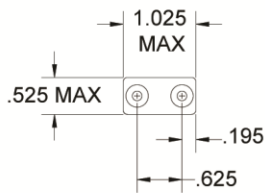
## MOUNTING STYLES



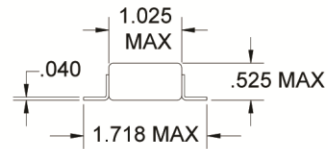
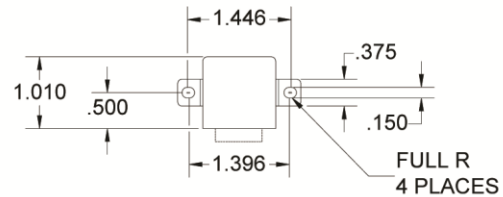
MOUNTING STYLE A



MOUNTING STYLE D

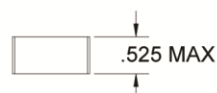
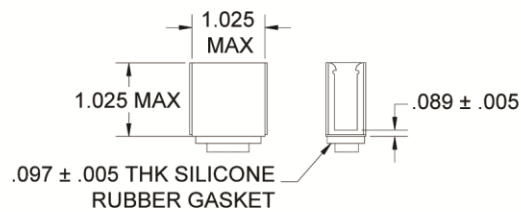


MOUNTING STYLE G



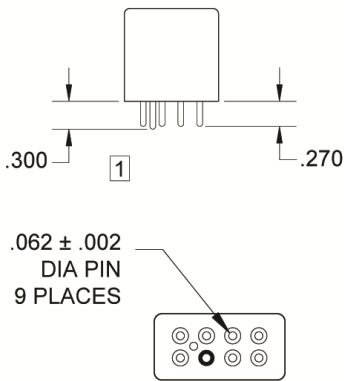
MOUNTING STYLE J

FOR USE WITH TRACK MOUNT  
SYSTEM NOTE: TRACK SYSTEM  
NOT AVAILABLE FROM LEACH

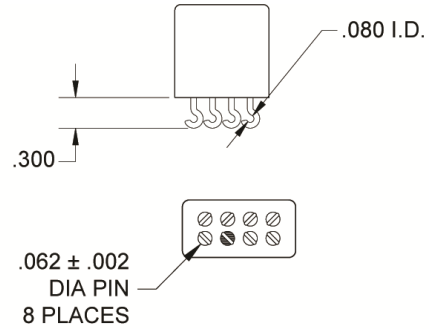


MOUNTING STYLE W

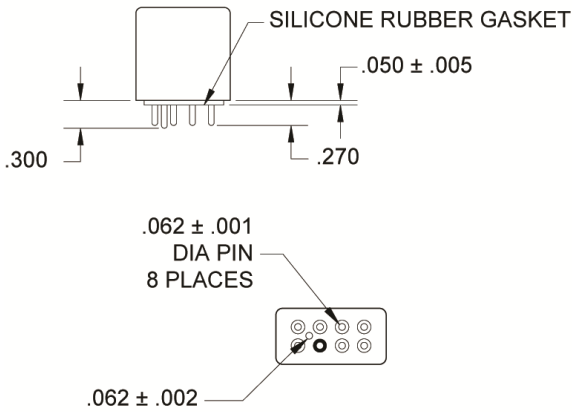
## TERMINAL TYPES



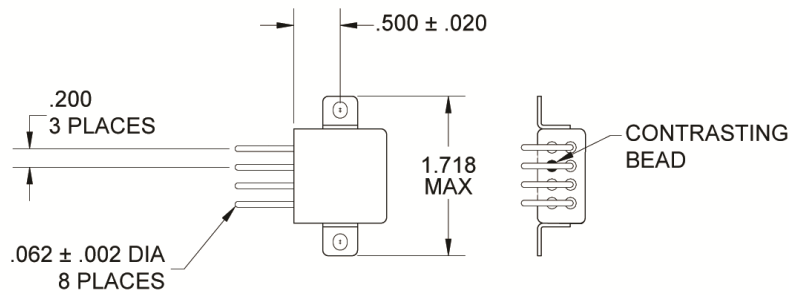
**TERMINAL TYPE 1**  
FINISH: TIN/LEAD PLATE



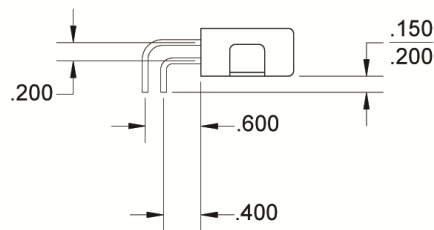
**TERMINAL TYPE 2**  
FINISH: TIN/LEAD PLATE



**TERMINAL TYPE 4**  
FINISH:  
CASE - TIN/LEAD PLATE  
TERMINAL - GOLD PLATE  
POLARIZING PIN - TIN/LEAD PLATED

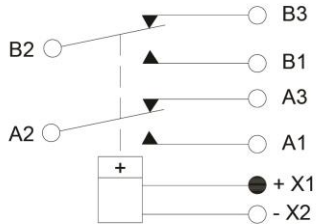


**TERMINAL TYPE 7**  
FINISH: TIN/LEAD PLATE

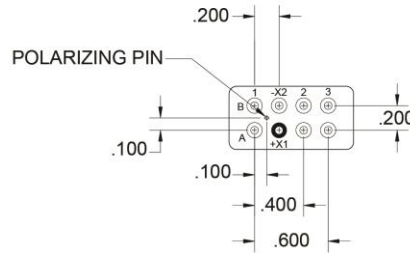


## DIAGRAMS

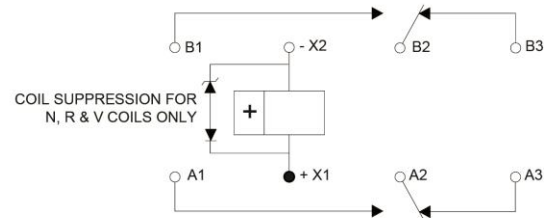
SCHEMATIC DIAGRAM



STANDARD TERMINAL LAYOUT

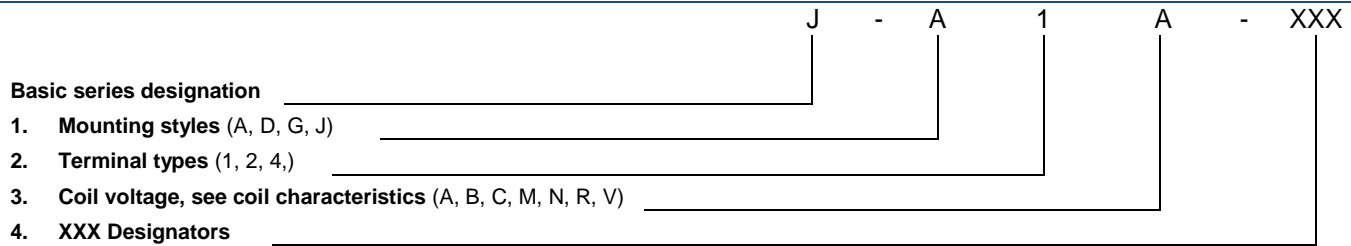


WIRING DIAGRAM



STANDARD TOLERANCE: =  $\pm .010$   
 [1] COIL POLARITY NOT APPLICABLE TO AC VERSIONS.

## NUMBERING SYSTEM



Example : J-A1A-XXX

J-A1A (Commercial)

J-A1W-300 L,M (MIL)

J-A1A-123 (Customer Part)

## NOTES

- Standard Intermediate current test applicable.
- 60 Hz load life, 10,000 cycles.
- Inductive load life, 20,000 cycles.
- N, R, V & W coils have back EMF suppression to 42 volts maximum.
- 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
- Applicable to suppressed coils only.
- Applicable military specification: MIL-PRF-83536.
- Special models available: Dry circuit, established reliability testing, etc.
- Time current relay characteristics per MIL-PRF-83536.
- Relay will not operate, but will not be damaged by application of reverse polarity to coil.

For any inquiries, please contact your local sales representative: leachcorp.com