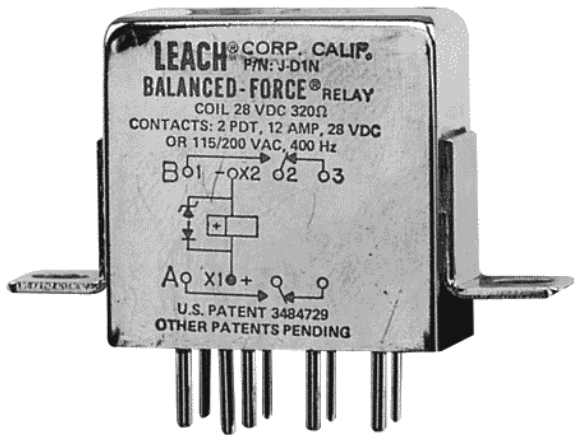


# ENGINEERING DATA SHEET

# SERIES J

RELAY - NONLATCH  
2 PDT, 12 AMPS



**APPLICATION NOTES:**

[023](#)

**APPLICABLE SOCKET:**

[SO-1049-8309/8987](#)

[SO-SSL](#)

All welded construction

Contact arrangement **2 PDT**

Qualified at 10 Amps to **MIL-PRF-83536**

**PRINCIPLE TECHNICAL CHARACTERISTICS**

Contacts rated at **28 Vdc; 115 Vac, 400 Hz, 1 phase and 115/200 Vac, 400 Hz, 3 phases**

Weight **0.088lb max**

Dimensions of case **1.01in x .51in x 1.00in**

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



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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

**COIL CHARACTERISTICS (Vdc)****SERIES J**

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

**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
Dielectric Strength at sea level - 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 vibrations (A, D and J mounting)	0.12DA / 10 to 70 Hz 30 g / 70 to 3000 Hz
Sinusoidal vibrations (G mounting)	0.12DA / 10 to 57 Hz 20g /57 to 3000 Hz
Random vibrations	
- 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
Shocks (A, D and J mounting)	200 g / 6 ms
Shocks (G mounting)	100 g / 6 ms
Maximum contact opening time under vibrations and shocks	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]
Weight maximum	0.088lb

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

**NOTES**

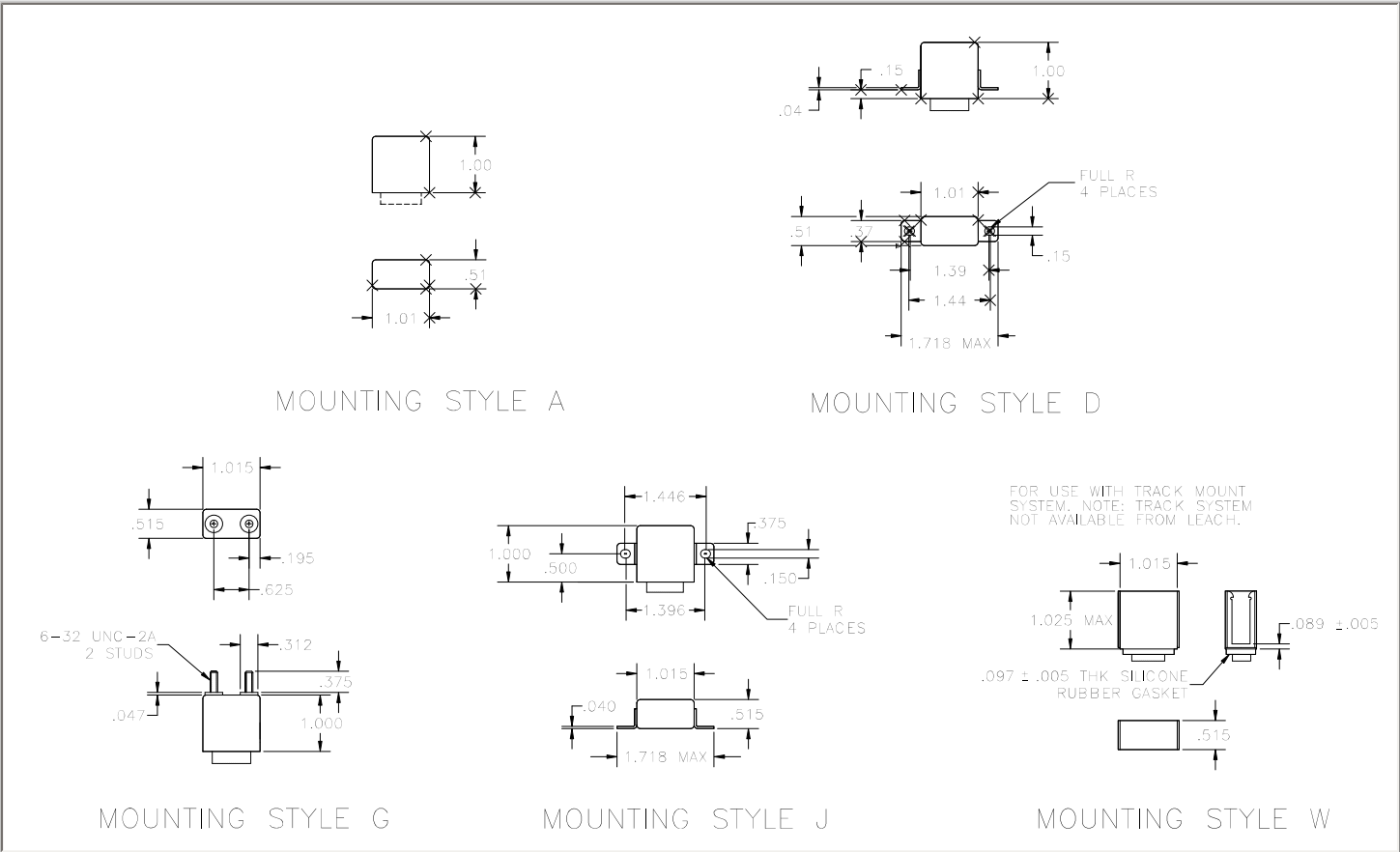
**SERIES J**

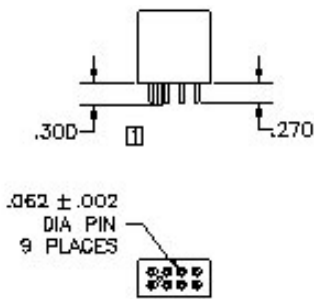
- [1] Standard Intermediate current test applicable.
- [2] 60 Hz load life, 10,000 cycles.
- [3] Inductive load life, 20,000 cycles.
- [4] "N" R & V coils have back EMF suppression to 42 volts maximum.
- [5] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
- [6] Applicable to suppressed coils only.
- 7. Applicable military specification: MIL-PRF-83536.
- 8. Special models available: Dry circuit, established reliability testing, etc.
- 9. Time current relay characteristics per MIL-PRF-83536.
- 10. Relay will not operate, but will not be damaged by application of reverse polarity to coil.

**NUMBERING SYSTEM**

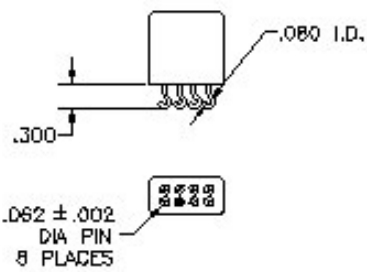
	J	-	A	1	A
Basic series designation _____					
1-Mounting Style (A,D,G,J) _____					
2-Terminal Types (1,2,4) _____					
3-Coil Voltage see coil characteristics (A,B,C,M,N,R or V) _____					

**MOUNTING STYLES**

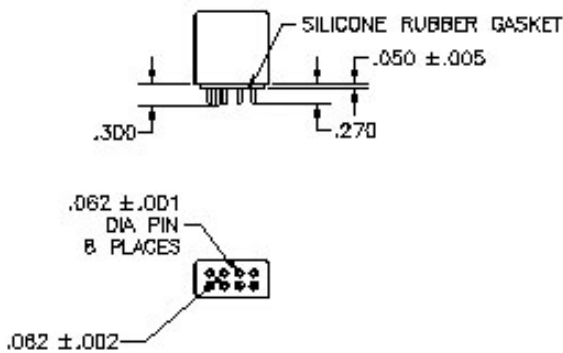




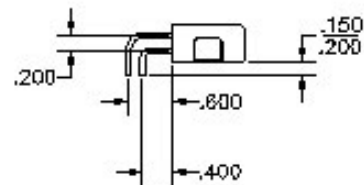
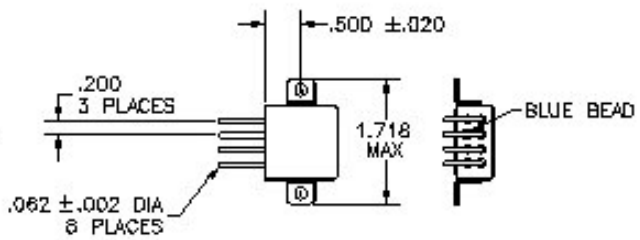
TERMINAL TYPE 1  
FINISH: TIN/LEAD PLATE



TERMINAL TYPE 2  
FINISH: TIN/LEAD PLATE



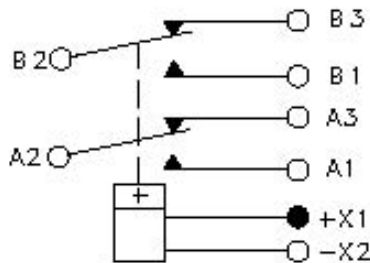
TERMINAL TYPE 4  
FINISH:  
CASE: TIN/LEAD PLATE  
TERMINALS: GOLD PLATE  
POLARIZING PIN: TIN/LEAD PLATE



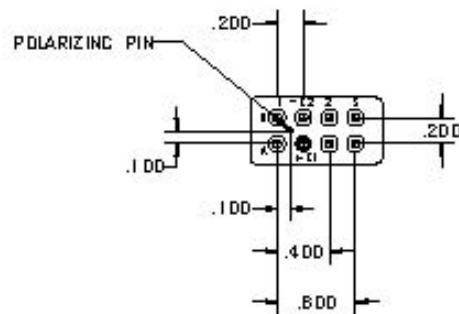
TERMINAL TYPE 7  
FINISH: TIN/LEAD PLATE

Standard Tolerance:  $\pm .010$  1. Insulator P/N RC-RP800060-5 or RC-RP920060-1 available from Cornucopia Plastics, Paso Robles, CA.

SCHEMATIC DIAGRAM



STANDARD TERMINAL LAYOUT



WIRING DIAGRAM

