



Applicable sockets  
SO-1064-10425



**Application Notes:**

101  
102  
103B  
007  
023

- Leach Series III Design
- All welded construction

• Contact arrangement **1 PDT**

• Designed to the performance standards of **MIL-PRF-83536**

**PRINCIPLE TECHNICAL CHARACTERISTICS**

- **Contacts rated at** Low level, 28 Vdc and 115/200 Vac, 400Hz, 3Ø, case grounded
- **Weight** 0.034 lbs. max
- **Dimensions** 0.41 in x 0.41 in x 0.64 in
- **Special models available upon request**
- **Hermetically sealed, corrosion resistant metal can**

**CONTACT ELECTRICAL CHARACTERISTICS**

Contact rating per pole and load type [1]	Load current in Amps		
	28 Vdc	115 Vac, 400 Hz, 1Ø	115/200 Vac, 400 Hz, 3Ø
Resistive	10	10	10
Inductive [2]	6	8	8
Motor	4	4	4
Lamp	2	2	-
Overload	30	60	60
Rupture	32	80	80
Low level [3]	-	-	-
Time current characteristics [4]	-	-	-

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## COIL CHARACTERISTICS (Vdc)

CODE	A	B	C	M	N [5]	R [5]	V [5]
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 in $\Omega$ $\pm 10\%$ at +25° C except types "C" and "V" +20%, - 10% $\pm 20\%$	500	125	20	1600	500	125	20

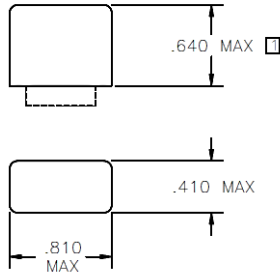
## GENERAL CHARACTERISTICS

Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	50,000
Minimum operating cycles (life) at 25% rated load	200,000
Dielectric strength at sea level	
- All circuits to ground and circuit to circuit	1000 Vrms
- Coil to ground	1000 Vrms
Dielectric strength at altitude 80,000 ft.	500 Vrms [6]
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
Random vibration - Applicable specification	MIL-STD-202
Random vibration - Method	214
Random vibration - Test condition - A, D and J mounting	1G (0.4G <sup>2</sup> /Hz, 50 to 2000 Hz)
Random vibration - Test condition - E and G mounting (E in Track)	1E (0.2G <sup>2</sup> /Hz, 50 to 2000 Hz)
Random vibration - Duration	15 minutes each plane
Shock (A, D and J mounting)	200G / 6 ms
Shock (G mounting)	100G / 6 ms
Maximum contact opening time under vibration and shock	10 $\mu$ s
Operate time at nominal voltage@25°C	6 ms max
Release time at nominal voltage@25°C	6 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 [7]
Weight maximum	0.034lb

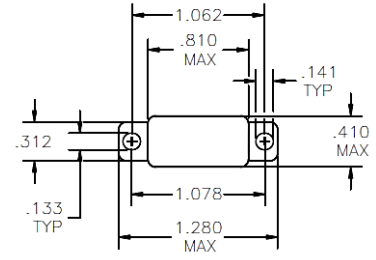
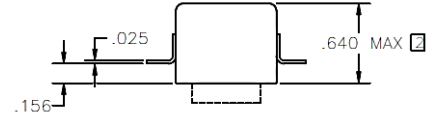
Unless otherwise noted, the specified temperature range applies to all relay characteristics.

Dimensions in inches  
 Tolerances, unless otherwise specified, ± 0.03 in

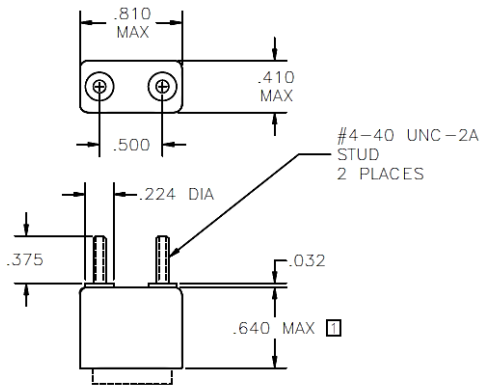
**MOUNTING STYLES**



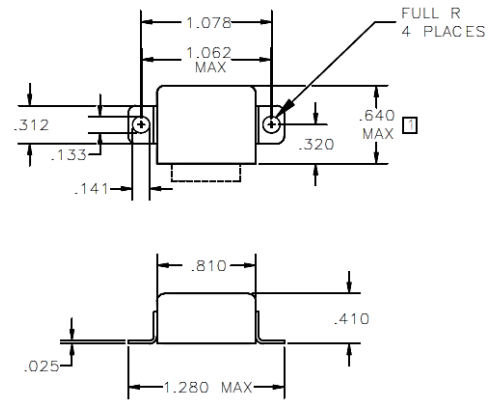
RELAY HEIGHT MAY BE INCREASED .100 INCH FOR "N" SUPPRESSED COILS  
 MOUNTING STYLE A



RELAY HEIGHT MAY BE INCREASED .100 INCH FOR "N" SUPPRESSED COILS  
 MOUNTING STYLE D



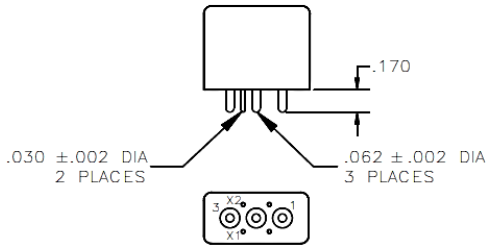
RELAY HEIGHT MAY BE INCREASED .100 INCH FOR "N" SUPPRESSED COILS  
 MOUNTING STYLE G



RELAY HEIGHT MAY BE INCREASED .100 INCH FOR "N" SUPPRESSED COILS  
 MOUNTING STYLE J

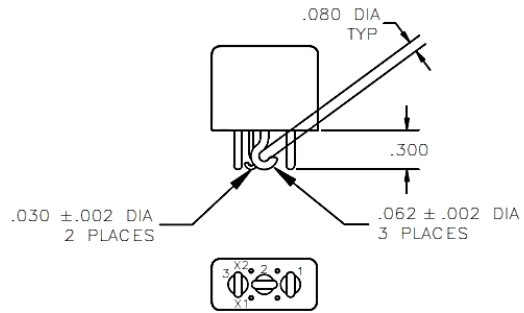
Dimensions in inches  
 Tolerances, unless otherwise specified, ± 0.03 in

**TERMINAL TYPES**



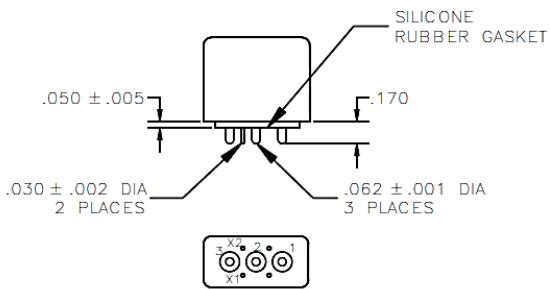
TERMINAL TYPE 1

FINISH:  
 BODY—LEACH BLUE  
 TERMINALS—TIN/LEAD



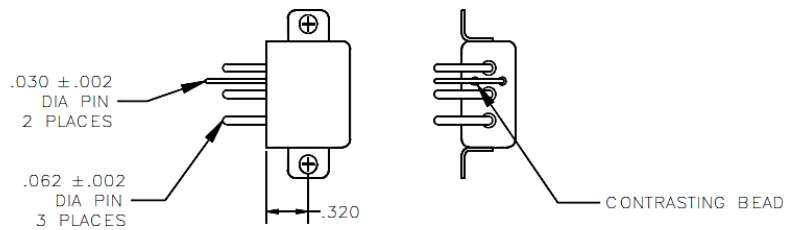
TERMINAL TYPE 2

FINISH:  
 BODY—LEACH BLUE  
 TERMINALS—TIN/LEAD



TERMINAL TYPE 4

FINISH:  
 BODY—LEACH BLUE  
 TERMINALS—GOLD PLATED  
 POLARIZING PIN—TIN/LEAD



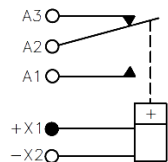
TERMINAL TYPE 7

FINISH:  
 BODY — LEACH BLUE  
 TERMINALS — TIN/LEAD

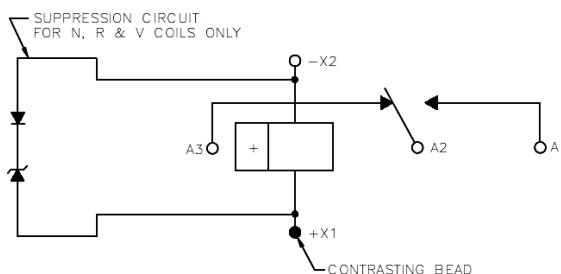
Dimensions in inches  
Tolerances, unless otherwise specified, ± 0.03 in

**DIAGRAMS**

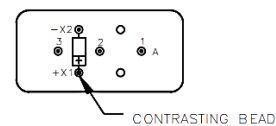
**SCHEMATIC DIAGRAM**



**WIRING DIAGRAM**

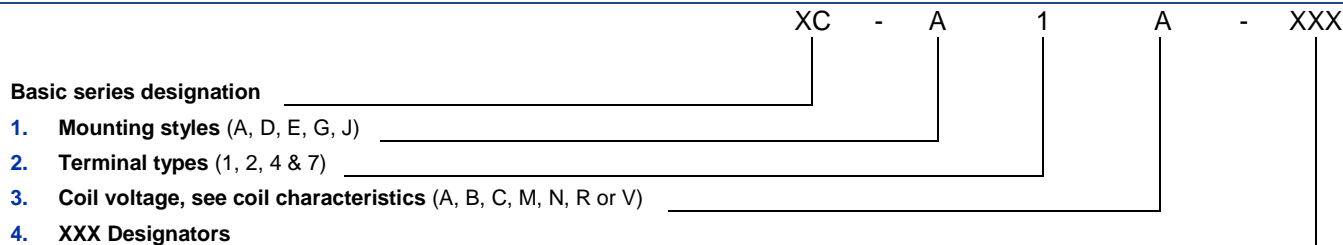


**STANDARD TERMINAL LAYOUT**



TOL: .XX ±.03; .XXX ±.010

**NUMBERING SYSTEM**



Example : XC-A1A-XXX

- XC-A1A (Commercial)
- XC-A1A-300 L,M (MIL)
- XC-A1A-123 (Customer Part)

**NOTES**

1. Standard Intermediate current test applicable, relay can also switch low level load while switching any of the other rated loads on adjacent contacts.
2. Inductive load life, 20,000 cycles.
3. Low level endurance test: contact load of 10 to 50 millivolt, 10 to 50 microamp, 100 Ohm max. contact resistance performed.
4. Refer to MIL-PRF-83536 for details.
5. "N" "R" & "V" coils have back EMF suppression to 42 volts maximum.
6. 500 Vrms with silicone rubber gasket compressed, 250 Vrms all other conditions.
7. Applicable to Type "N", "R" & "V" coils only.
8. Relay will not operate, but will not be damaged by application of reverse polarity on coil.

For any inquiries, please contact your local Esterline Power Systems representative  
<http://www.esterline.com/powersystems/Contact/TheAmericas.aspx>