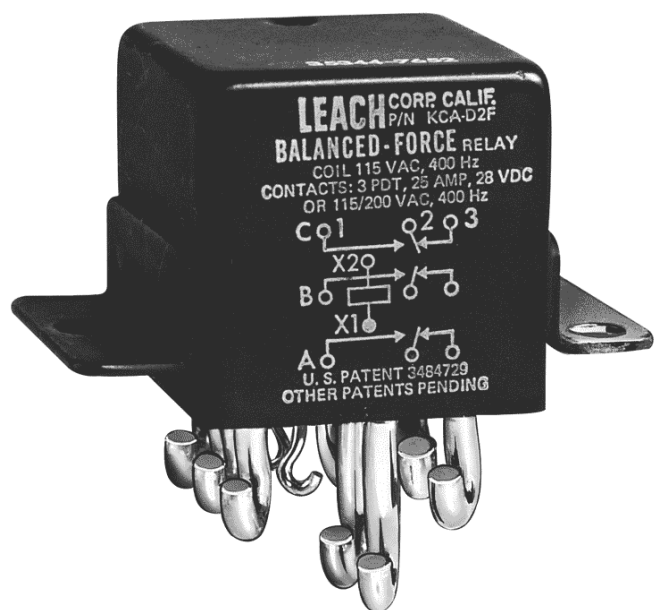


# ENGINEERING DATA SHEET

# SERIES KCA

RELAY - NONLATCH - AC COIL  
3 PDT, 25 AMP



**APPLICATION NOTES:**

[102](#)  
[007](#)

**APPLICABLE SOCKET:**

[SO-1062-8917](#)  
[SO-1057-8912 \(D-MOUNT\)](#)

All welded construction

Contact arrangement **3 PDT**

Designed to the performance standards of **MIL-PRF-6106**

**PRINCIPLE TECHNICAL CHARACTERISTICS**

Contacts rated at **Low level, 28 Vdc; 115 Vac, 400 Hz, 1Ø and 115/200 Vac, 400 Hz, 3Ø**

Weight **0.188lb max**

Dimensions **1.01in x 1.01in x 1.00in**

Hermetically sealed, corrosion resistant metal can.  
Detail specifications and ordering data appear on the following pages.

**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 [7]	@230/400 Vac 400 Hz, 3Ø [8]
Resistive [3]	25	25	25	2.5	5
Inductive [2]	12	15	15	2.5	5
Motor	10	10	10	2	2
Lamp	5	5	5	1	2
Overload	50	80	80	N/A	N/A
Rupture	60	100	100	N/A	N/A



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Phase Two, Hong Kong Science Park  
Pak Shek Kok, Tai Po, N.T.  
Hong Kong  
Tel: (852) 2 191 3830  
Fax: (852) 2 389 5803

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

**COIL CHARACTERISTICS****SERIES KCA**

CODE	Vac 400 Hz		Vac 50 thru 400 Hz		Vac 400 Hz
	E	F	J	K	T
Nominal operating voltage	28	115	28	115	230
Maximum operating voltage	30	122	30	122	248
Maximum pickup voltage					
- Cold coil at +125° C	22	90	23	95	180
- During high temp test at +125° C	24.4	95.4	24.6	100	185
- During continuous current test at +125° C	25.6	103.5	25.9	105	195
Maximum drop-out voltage	10	30	10	30	60
Coil current maximum milliAmperes at +25° C	225	40	120	28	22

**GENERAL CHARACTERISTICS**

Temperature range	-70°C to +125°C
Minimum operating cycles (life) at rated load	50,000 [2]
Minimum operating cycles (life) at 25% rated load	200,000
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 [4]
Insulation resistance	
- Initial (500 Vdc)	100 M Ω min
- After environmental tests (500 Vdc)	50 M Ω min
Sinusoidal vibration (A, D, E and W mounting)	0.12DA / 10 to 70 Hz 30G / 70 to 3000 Hz
Sinusoidal vibration (J mounting)	0.12DA / 10 to 57 Hz 20G / 57 to 3000 Hz
Random vibration	
- Applicable specification	MIL-STD-202
- Method	214
- Test condition - A, D and E mounting	1G (0.4G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Test condition - G and J mounting	1E (0.2G <sup>2</sup> /Hz, 50 to 2000 Hz)
- Duration	15 minutes each plane
Shock (A, D, E and W mounting)	200G / 6 ms
Shock (G and J mounting)	100G / 6 ms
Maximum contact opening time under vibration and shock	10 μs
Operate time at nominal voltage@25°C	20 ms max
Release time at nominal voltage@25°C	50 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
Weight maximum	0.188lb

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

# NOTES

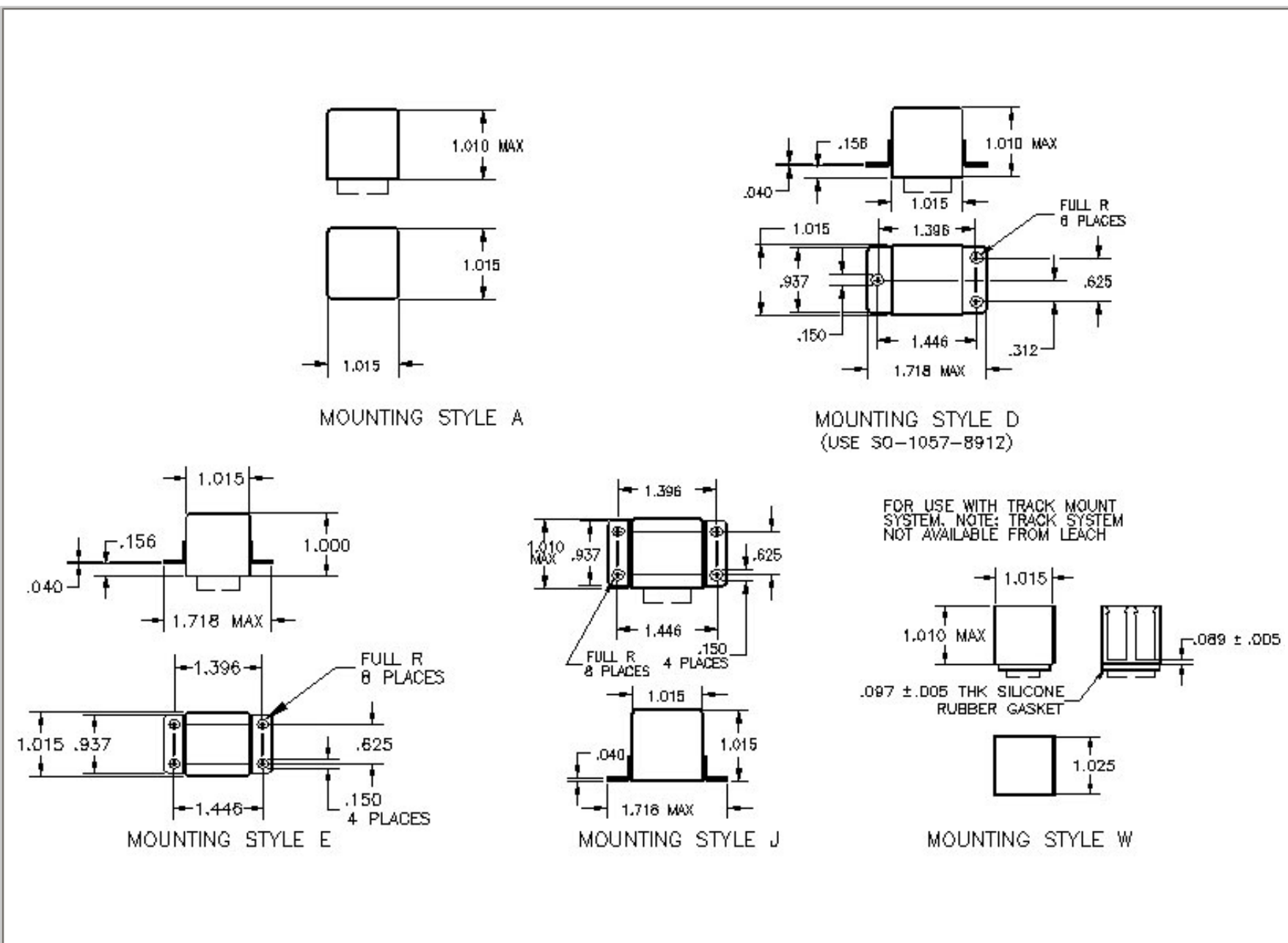
# SERIES KCA

- [1] Standard Intermediate current test applicable.
- [2] DC inductive load 10,000 cycles, AC inductive load 20,000 cycles.
- [3] For full rated load, max. temp. and altitude use no. 12 wire or larger.  
Relays to be mounted to limit mounting bracket temp. to 135° C.
- [4] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
- 5. Reference military specification: MIL-PRF-6106 and MS27743.
- 6. Special models available upon request.
- [7] 60 Hz load life 10,000 cycles.
- [8] Temperature range:  
Non-operating -62° C to +95° C  
Operating -54° C to +71° C
- 9. Time current relay characteristics per MIL-PRF-6106.

## NUMBERING SYSTEM

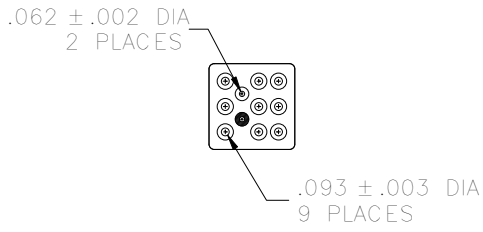
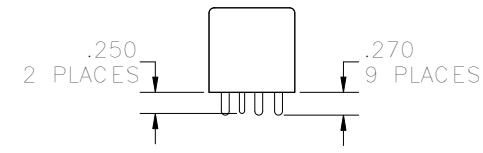
Basic series designation	KCA-	A	4	F
1-Mounting Style (A,D,E,J,W)				
2-Terminal Types (1,2,4) [1]				
3-Coil Voltage see coil characteristics (E,F,J,K or T)				

## MOUNTING STYLES



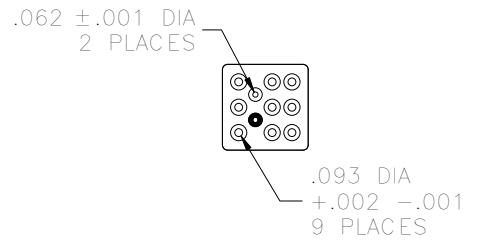
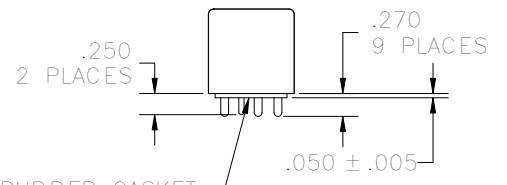
**TERMINAL TYPES**

**SERIES KCA**



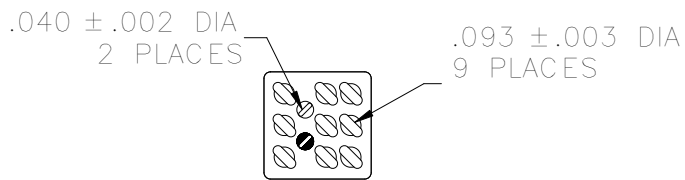
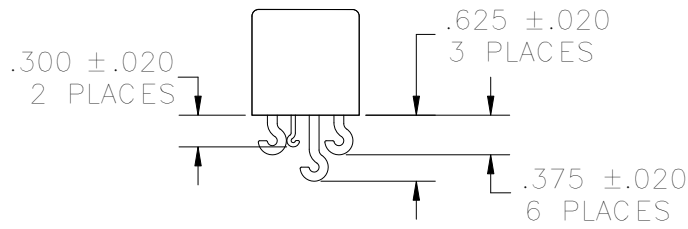
**TERMINAL TYPE 1**

FINISH:  
CASE-PAINTED LEACH BLUE  
TERMINALS-TIN/LEAD



**TERMINAL TYPE 4**

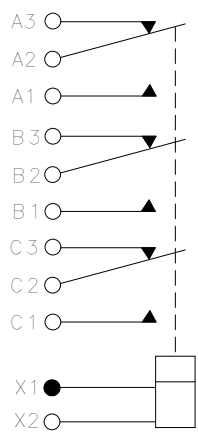
FINISH:  
CASE-PAINTED LEACH BLUE  
PINS-GOLD PLATED



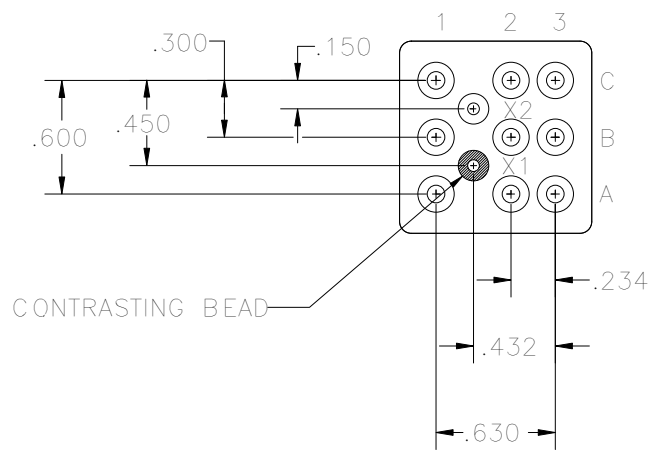
**TERMINAL TYPE 2**

FINISH:  
CASE-PAINTED LEACH BLUE  
TERMINALS-TIN/LEAD

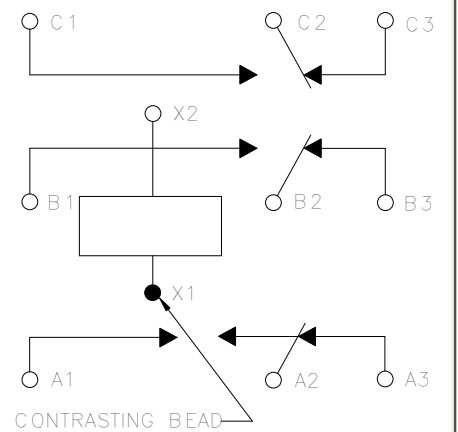
**SCHEMATIC DIAGRAM**



**STANDARD TERMINAL LAYOUT**



**WIRING DIAGRAM**



**COIL POLARITY NOT APPLICABLE**

STD. TOL: .XX ±.03; .XXX ±.010