



GENERAL INFORMATION SELECTOR CHART

Series	Series Types	Enclosure	Contacts		Nominal Coil Voltage or Current	Operating Power at P.I. (mW)	Applicable Specification Approvals							
			Arrangement	Rating			MILITARY		CECC					
							Mil-PRF-39016/	Mil-PRF-28776/	16101-	16207-				
MA	MA	TO-5	DPDT	1A / 28 Vdc	5...30,0 Vdc	130	9							
	MA-D				5...26,5 Vdc		15							
	MA-DD						20							
	MA-T							1						
MA2		TO-5	DPDT	1A / 28 Vdc	5...30,0 Vdc	130			003					
MCA		TO-5	DPDT	2A / 28 Vdc	5...26,5 Vdc	150								
MS	MS	TO-5	DPDT	1A / 28 Vdc	5...48,0 Vdc	60	11							
	MS-D						16							
	MS-DD						21							
	MS-T							3						
MS2		TO-5	DPDT	1A / 28 Vdc	5...48,0 Vdc	60			004					
1MA	1MA	TO-5	SPDT	1A / 28 Vdc	5...26,5 Vdc	100	7							
	1MA-D						23							
	1MA-DD						24							
	1MA-T							5						
1MA1		TO-5	SPDT	1A / 28 Vdc	5...26,5 Vdc	100			005					
1MS	1MS	TO-5	SPDT	1A / 28 Vdc	5...40,0 Vdc	50	10							
	1MS-D						25							
	1MS-DD						40							
	1MS-T						50		4					
1MS1		TO-5	SPDT	1A / 28 Vdc	5...40,0 Vdc	50			006					
	MGA	CUBIC .100GRID	DPDT	1A / 28 Vdc	5...26,5 Vdc	130	17							
	MGA-D						18							
MGA-DD	150													
MGAE	MGAE	CUBIC .100GRID	DPDT	1A / 28 Vdc	5...28,0 Vdc	130				801				
	MGAE-D													
	MGAE-DD						150							
MGA2	MGA2/D2	CUBIC	DPDT	1A / 28 Vdc	5...28,0 Vdc	140			007					
MGS	MGS	CUBIC .100GRID	DPDT	1A / 28 Vdc	5...48,0 Vdc	60	41							
	MGS-D						42							
	MGS-DD						43							
MGSE	MGSE	CUBIC .100GRID	DPDT	1A / 28 Vdc	5...48,0 Vdc	60				802				
	MGSE-D													
	MGSE-DD													
MGS2	MGS2/D2	CUBIC	DPDT	1A / 28 Vdc	5...48,0 Vdc	60			008					
12K		1/2 CC	DPDT	2A / 28 Vdc	5...26,5 Vdc	250	6							
2K		1/2 CC	DPDT	2A / 28 Vdc	5...48,0 Vdc	250								
2K6600		1/2 CC	DPDT	2A / 28 Vdc	5...48,0 Vdc	250			007.014.021					
							MILITARY Compliance							
							Mil-R-39016/	Mil-R-5757/						
2K7940		1/2 CC	DPDT	2A / 28 Vdc	6...26,5 Vdc	250	22							
KA	2KA	1/2 CC	DPDT	2A / 28 Vdc	5...48,0 Vdc	100								
HA	2HA	1/2 CC	DPDT	5A / 28 Vdc	5...48,0 Vdc	300								
B	2B	CC	DPDT	2A / 28 Vdc	6...76,0 Vdc	250								
	2BR				26,5...115 Vac		370							
2B6660		CC	DPDT	3A / 28 Vdc	6...76,0 Vdc	250			008					
2B7506		CC	DPDT	2A / 28 Vdc	6...26,5 Vdc	250			10					
	BS						CC	DPDT	2A / 28 Vdc	6...26,5 Vdc	100			
	2BSA											CC	SPDT	2A / 28 Vdc
1BSK	CC	DPDT	2A / 28 Vdc	3,2...70,6mA	40									
2BSK						CC	DPDT	2A / 28 Vdc	4,0...89,2mA	40				
BN	1BN	CC	SPDT	5A / 28 Vdc	6...76,0 Vdc						280			
	2BN					CC	DPDT	2A / 28 Vdc	4,0...90,0mA	40				
2BC7201		CC	DPDT	2A / 28 Vdc	4,0...90,0mA						40		13	
BCN	1BCN	CC	SPDT	5A / 28 Vdc	6...40,0 Vdc	80								
	2BCN						CC	DPDT	2A / 28 Vdc	6...115 Vdc	400			
4B		CC	4PDT	2A / 28 Vdc	6...115 Vdc	400								
T	2T	CC	DPDT	10A / 28 Vdc	6...115 Vdc	500								
	2TR				115 Vac									
TN	2TN	CC	DPDT	15A / 28 Vdc	6...115 Vdc	500								
	2TNR				115 Vac									
2T7188		CC	DPDT	10A / 28 Vdc	6...120 Vdc	500			23					
RFK	RFK	1/2 CC	SPDT	2A / 28 Vdc	6...26,5 Vdc	250								
	2RFK						CC	DPDT	2A / 28 Vdc	6...76,5 Vdc	250			
RFB	RFB	CC	SPDT	2A / 28 Vdc	6...76,5 Vdc	250								
	2RFB						CC	DPDT	2A / 28 Vdc	4,0...89,2 mA	40			
RFBC	RFBC	CC	SPDT	2A / 28 Vdc	4,0...89,2 mA	40								
	2RFBC						CC	DPDT	1A / 28 Vdc	5,0...30,0 Vdc	260			
4MA		CC	4PDT	1A / 28 Vdc	5,0...30,0 Vdc	260								
4MS		CC	4PDT	1A / 28 Vdc	5,0...48,0 Vdc	120								



CRYSTAL CAN RELAY ASSY

1 AMPERE 4PDT DC COIL SENSITIVE

Series
4MS

Product Description

A relay assembly incorporating two sensitive MIL TO-5 relays in standard size crystal can relay that offers switching capability of low level signals up 1 ampere under the most extreme environmental conditions.

The following construction features ensure the highest reliability in extreme environments:

- Cleaning and sealing techniques ensures maximum internal cleanliness
- Low level to 1 amp. switching
- 4 form C, 4PDT contacts, special metal alloy with gold plating
- DC not polarised coil

Series Type

- 4MS 4 form C, 4PDT



Environmental and Physical Specifications

Temperature (Ambient)	-65°C to + 125°C
Shock	50 g's, 11 msec.
Vibration (sinusoidal)	15 g's, 10 to 2000 Hz
Acceleration	50 g's
Sealing	Hermetic, internally welded
Weight	1.2 oz. (34 grams)

Electrical Characteristics (over the Temperature range, unless otherwise noted)

Coil Data	See Typical Characteristics chart		
Contact Rating (Note: All ratings with grounded case)	Type load	Contact load	Cycles min.
	Low Level	10 mA / 30 mV	1.000.000
	Resistive	1 Amp / 28 Vdc	100.000
	Overload	2 A / 28 Vdc	100
	Inductive	0.35 Amp / 28 Vdc (200 mH)	100.000
Contact Resistance	0,1 ohm max. initial		
Operate Time	4,0 ms. max. at 25 °C		
Release Time	2,0 ms. max. at 25 °C		
Contact Bounce	2,0 ms. max. at 25 °C		
Contact Simultaneously	Within 1 ms. above min. pick-up voltage		
Dielectric strength	500 Vrms min., 50 Hz, all points		
Insulation Resistance	500 Mohms min. all points at 500 Vdc		

Typical Characteristics

Series Type	Voltage Code	Coil Voltage		Coil Resistance ± 10% at 25 °C	Pick-up Max. Vdc Over temp. range	Drop-out Min. Vdc Over temp. range
		Nominal	Max.			
4MS	105	5.0	7.5	50	3.5	0.14
	106	6.0	10.0	100	4.5	0.18
	109	9.0	15.0	200	6.8	0.35
	112	12.0	20.0	400	9.0	0.41
	118	18.0	30.0	800	13.5	0.59
	126	26.5	40.0	1600	18.0	0.89
	136	36.0	57.0	3250	27.0	1.25
	148	48.0	75.0	5500	36.0	1.60



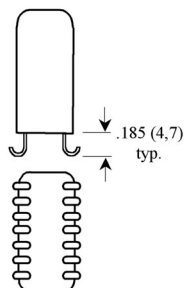
CRYSTAL CAN RELAY ASSY

1 AMPERE 4PDT DC COIL SENSITIVE

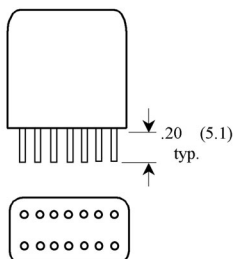
Series
4MS

Terminal Styles

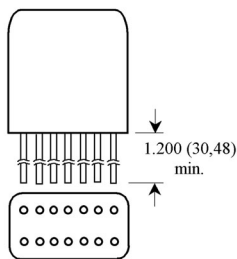
1
Solder Lug



2
Plug in



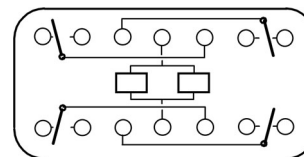
3
Wire Lead



Note :

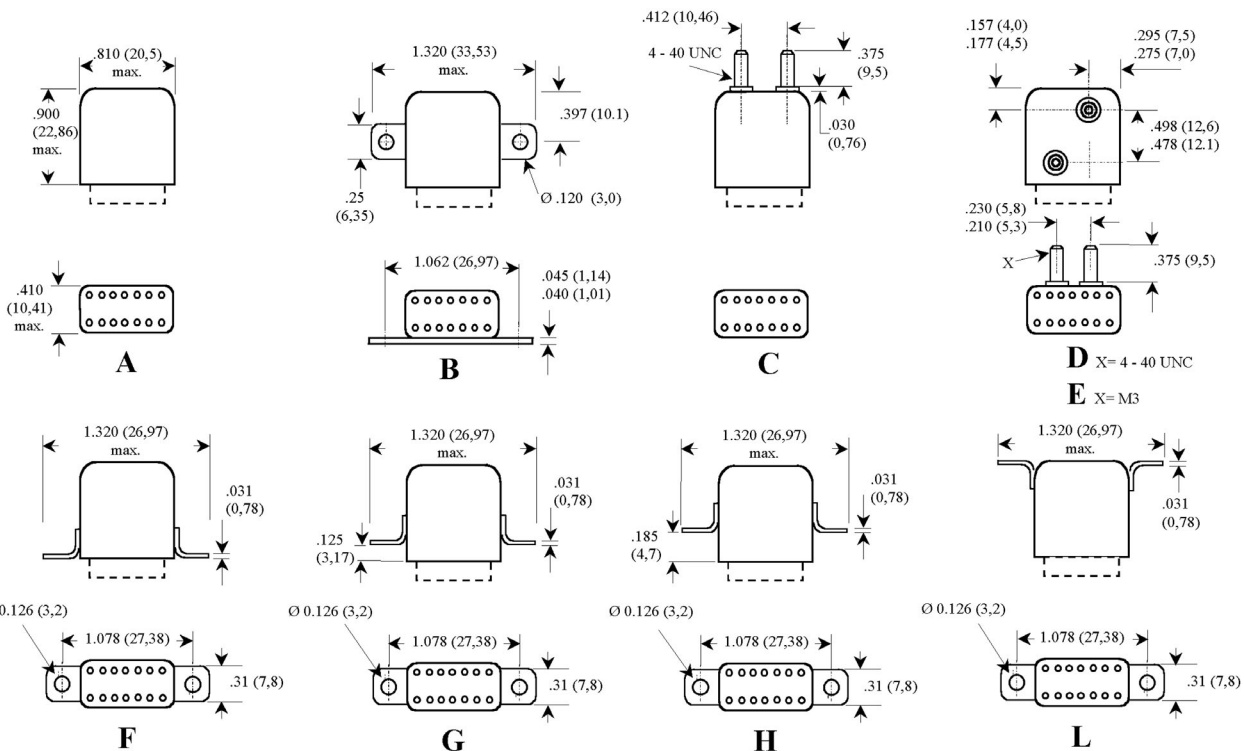
- Dimensions are shown in inches (millimetres in brackets)
- Terminal spacing 0.100 (2,54). Terminal diameter typ. 0.030 (0,76)

Schematic Diagram



Note: - Schematic is viewed from terminals

Mounting Styles



Note : - Dimensions are shown in inches (millimetres in brackets)

How to Order (Part Numbering System)

