



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		DPDT		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		DPDT		6...26,5 Vdc	100				
BS	2BSA	CC	SPDT	2A / 28 Vdc	3,2...70,6mA	25				
	1BSK				4,0...89,2mA	40				
	2BSK				DPDT					
BN	1BN	CC	SPDT	5A / 28 Vdc	6...76,0 Vdc	280				
	2BN		DPDT							
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		DPDT							
4B			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		DPDT							
RFB	RFB	CC	SPDT	2A / 28 Vdc	6...76,5 Vdc	250				
	2RFB		DPDT							
RFBC	RFBC	CC	SPDT	2A / 28 Vdc	4,0...89,2 mA	40				
	2RFBC		DPDT							
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

Series
4MA

Product Description

A relay assembly incorporating two 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:

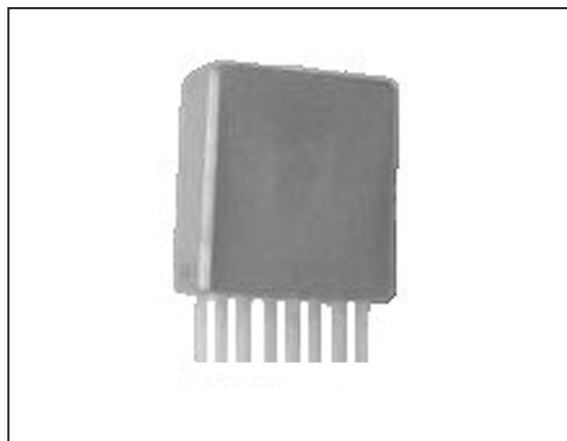
- Cleaning and sealing techniques ensures maximum internal cleanliness
- Low level to 1 amp. switching
- 4 form C, 4PDT contacts, special metal alloy with gold plating
- DC not polarised coil

Series Type

- 4MA 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	Type load	Contact load	Cycles min.
(Note: All ratings with grounded case)	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 Overtemp. range	Drop-out Min. Vdc Overtemp. range
		Nominal	Max.			
4MA	105	5.0	7.5	25	3.5	0.14
	106	6.0	10.0	49	4.5	0.18
	109	9.0	15.0	110	6.8	0.35
	112	12.0	20.0	195	9.0	0.41
	118	18.0	30.0	440	13.5	0.59
	126	26.5	40.0	780	18.0	0.89
	130	30.0	36.0	1250	22.0	1.00



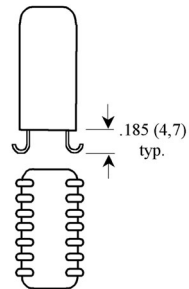
CRYSTAL CAN RELAY ASSY

1 AMPERE 4PDT DC COIL

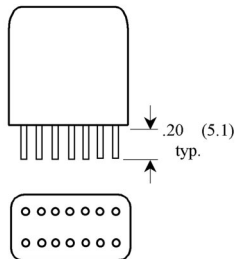
Series
4MA

Terminal Styles

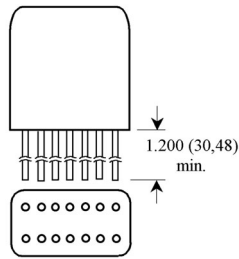
1
Solder Lug



2
Plug in

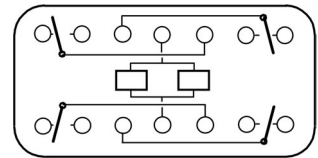


3
Wire Lead



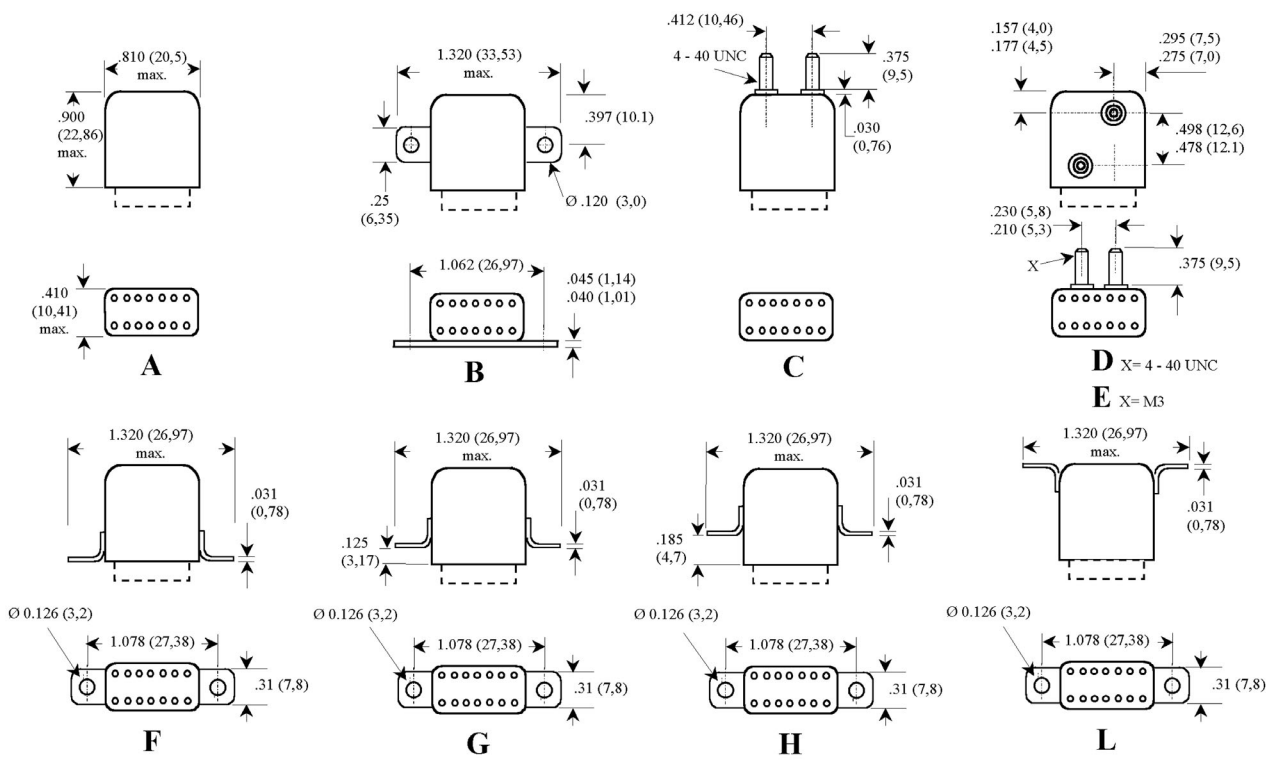
Note :
- Dimensions are shown in inches (millimetres in brackets)
- Terminal spacing 0.100 (2,54). Terminal diameter typ. 0.030 (0,76)

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)

