



# 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	2BSA	CC	DPDT	2A / 28 Vdc	6...26,5 Vdc	100				
	1BSK				3,2...70,6mA		25			
	2BSK				4,0...89,2mA		40			
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 10 AMPERE DC or AC COIL

Series  
T

## Product Description

The economical approach to high current switching in a relay design for commercial and military applications. Through unique design innovations, this device incorporates an optimised magnetic structure and massive contact switching paths in less than 0.65 cubic inches. With proven switching characteristics of 10 amperes in excess of 100.000 operations under all environments, it performs in a wide variety of switching applications.

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

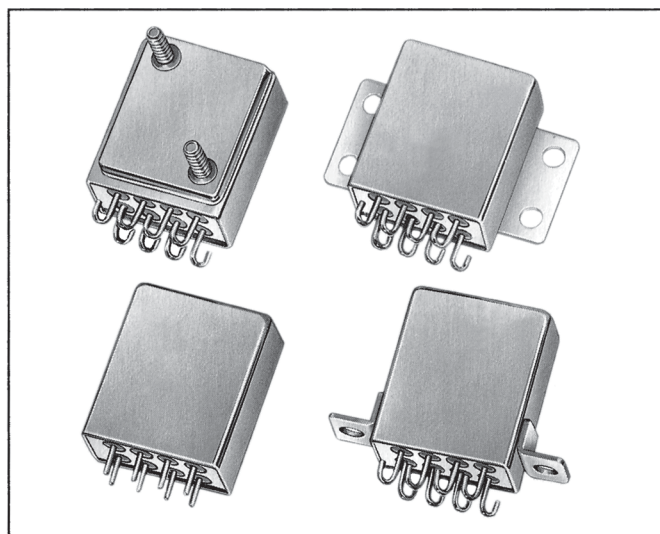
- All welded relay construction
- Cleaning and sealing techniques ensures maximum internal cleanliness
- 10 Amp. switching
- 2 form C, DPDT contacts, special metal alloy with gold plating

## Series Types

- 2T Basic Relay, 2 form C, DPDT
- 2TR Basic Relay combined with internal bridge diode, for AC operation

## Environmental and Physical Specifications

Temperature (Ambient)	-65°C to + 125°C
Shock	100 g's, 6 msec.
Vibration (sinusoidal)	20 g's, 10 to 2000 Hz
Acceleration	30 g's
Sealing	All welded, Hermetic
Weight	2 oz. (56,7 grams) max.



## 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	Resistive	10 Amp / 28 Vdc
		Inductive	5 Amp / 115 Vac, 400 Hz
	3 Amp / 115 Vac, 60 Hz		
	6 Amp / 28 Vdc (200 mH)		
Cycles min.	100.000		
Contact Resistance	0,01 ohm max. initial		
Operate Time	13,0 msec. max. at 25°C		
Release Time	13,0 msec. max. at 25°C / 16,0 msec. max. AC Series		
Contact Bounce	5,0 msec. max. at 25 °C, normally closed contacts		5,0 msec. max. at 25 °C, normally open contacts
Dielectric Strength	1000 Vrms min., 60 Hz, all points, 500 Vrms min., between open contacts and coil to case, at sea level		
Insulation Resistance	1000 megohms min. all points at 500 Vdc		
Sensitivity	500 milliwatts at pick-up, 1,7 watts typical at nominal rated coil voltage		



# CRYSTAL CAN RELAY 10 AMPERE DC or AC COIL

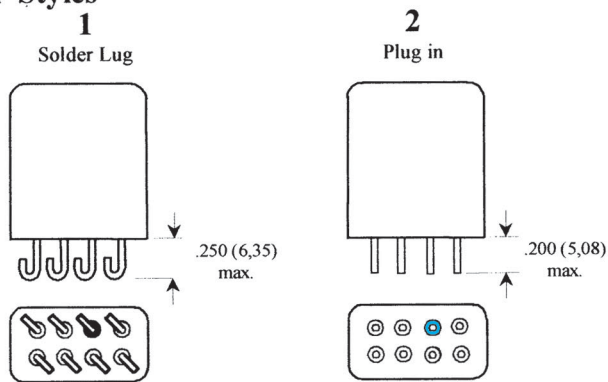
Series  
T

## Typical Characteristics (over the Temperature range, unless otherwise noted)

Series Types	Voltage Code	Coil Voltage Vdc		Coil Resistance ohms ± 10% at 25 °C	Pick-up Vdc Max. at 25 °C	Drop-out Vdc Min. at 25 °C
		Nominal	Max.			
2T	106	6	7,2	22	3,3	0,5
	112	12	14,4	90	6,7	1,0
	126	26,5	32	330	13,0	2,0
	215	115	125	7500	63,0	5,0
2TR	215	115	125	7500	66,0	7,0

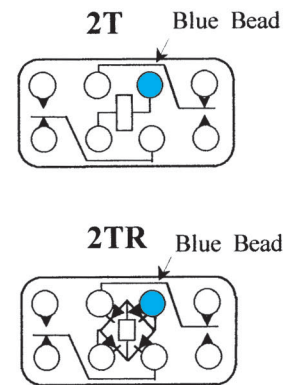
Note:  
AC operation 60 to 400 Hz

### Terminal Styles



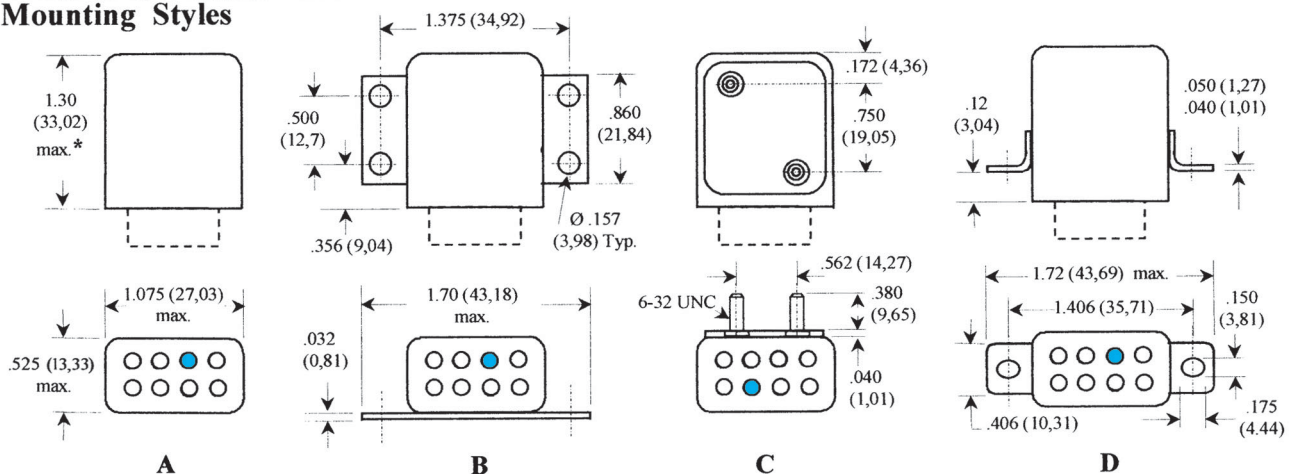
Note:  
- Dimensions are shown in inches (millimetres)  
- Terminal spacing is .200 (5,08). Terminal diameter is .050 (1,27) ± .002 (0,05)

### Schematic Diagrams



Note:  
Schematics are viewed from terminals

### Mounting Styles



Note:  
- Dimensions are shown in inches (millimetres). - \* 2TR series type 1.34 (34,03) max.

### How to Order (Part Numbering System)

