



# 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									
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 RADIO FREQUENCY RELAY 75 Watt, 40 Milliwatt SENSITIVE

**Series  
RFBC**

## Product Description

This series of coaxial terminated hermetically sealed relays have been designed to provide reliable switching functions in the most demanding radio frequency applications. The use of 2BC relays in the basic construction, has been coupled with a unique and improved termination network to insure faultless performance under severe environmental conditions.

The design concepts employed in each of this series have been time tested through thousands of hours testing and millions of field operations to provide the highest degree of reliability.

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

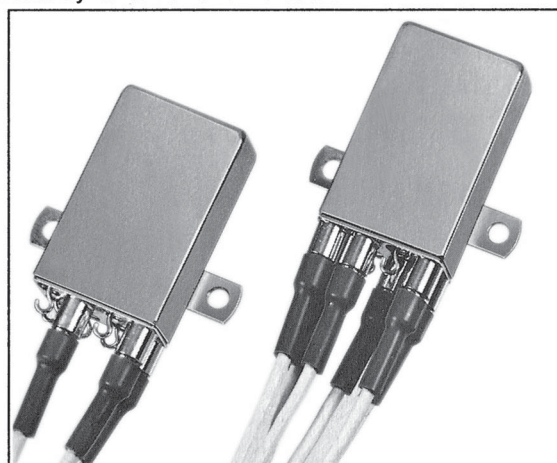
- All welded relay construction
- Cleaning and sealing techniques ensures maximum internal cleanliness
- Low level to 2 amp. auxiliary switching
- 1 or 2 form C RF contact, special metal alloy with gold plating
- Frame, armature designs and force / mass ratio provides exceptional immunity to shock and vibration.
- Coax interconnections
- Terminated with 6 inches length RG 196A/ u Teflon cable
- 200 watt RF carry capability
- 75 watt RF switching capability

## Series Types

- RFBC 1 form C, SPDT
- 2RFBC 2 form C, DPDT

## Environmental and Physical Specifications

Temperature (Ambient)	-65°C to +85°C
Shock	100 g's, 6 msec.
Vibration (sinusoidal)	15 g's, 10 to 2000 Hz
Acceleration	30 g's
Sealing	All welded, Hermetic



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

Coil Data	See Typical Characteristics chart		
Contact Rating	Type load	Contact Load	Cycles min.
	Resistive	2 Amp / 28 Vdc (aux) 75 Watts RF Switching , 200 Watts carry (cold switching)	100.000 100.000
Contact Resistance	0,05 ohm max. initial aux. contact		
Operate Time	15,0 msec. max. at 25 °C		
Release Time	3,0 msec. max. at 25 °C		
Dielectric Strength	500 Vrms min., 60 Hz, all mutually insulated, at sea level		
Insulation Resistance	1000 megohms min. all points at 500 Vdc		
Sensitivity	40 milliwatts at pick-up, at 25 °C		

## Radio frequency Characteristics

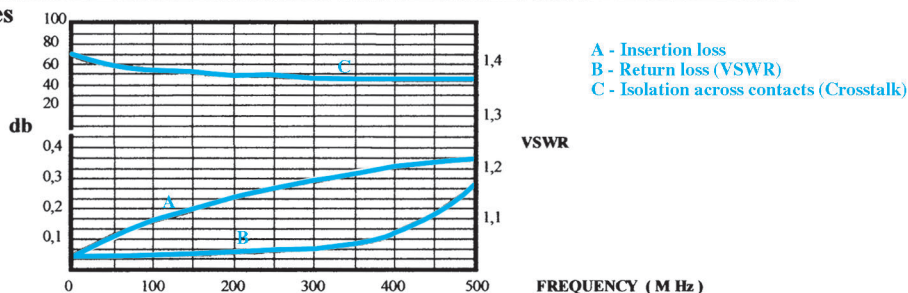
Frequency range	0 to 500 MHz (derated characteristics to 1000 MHz)	
	Typical at 100 MHz	Typical at 500 MHz
Voltage Standing Wave Ratio (VSWR)	< 1.1 : 1	< 1.2 : 1
Insertion Loss	0.16 dB	0.5 dB
Crosstalk	50 dB	40 dB
Power Switching	75 Watts	50 Watts
Power Handling	200 Watts max.	
Characteristic Impedance	50 or 75 ohms (other impedances available on special order)	

**Figure 1 - Radio Frequency curves**

Note:

Typical characteristics are based on factory knowledge. Tests to ensure compliance, are not performed

Values shown are in a 50 ohm impedance coaxial system





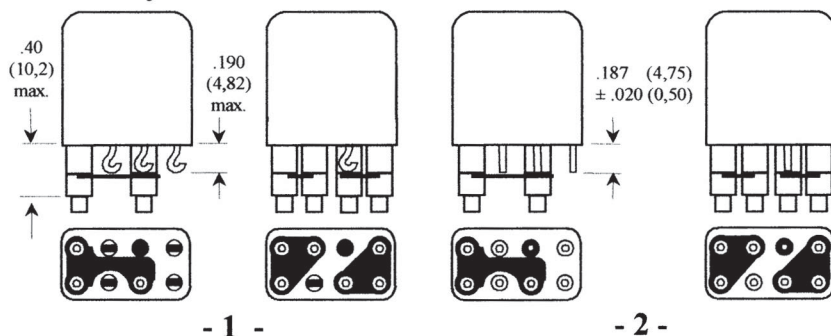
# CRYSTAL CAN RADIO FREQUENCY RELAY 75 Watt, 40 Milliwatt SENSITIVE

Series  
RFBC

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

Voltage Code	Coil Resistance ohms ± 10% at 25 °C	Nominal rated Coil		Pick-up mA Max. at 25 °C	Drop-out mA Min. at 25 °C
		Voltage (Vdc)	Current (mA)		
101	20	1,8	89,2	44,6	4,5
102	30	2,2	73,0	36,5	3,7
103	50	2,8	56,6	28,3	2,8
104	75	3,5	46,2	23,1	2,3
105	100	4,0	40,0	20,0	2,0
106	200	5,7	28,4	14,2	1,4
107	300	7,0	23,0	11,5	1,2
109	500	9,0	17,8	8,9	0,9
112	875	12,0	13,5	6,8	0,7
113	1000	12,6	12,6	6,5	0,6
118	2000	18,0	8,9	4,5	0,5
120	2500	20,0	8,0	4,0	0,4
128	5000	28,0	5,6	2,8	0,3
135	8000	36,0	4,5	2,3	0,2
140	10000	40,0	4,0	2,0	0,2

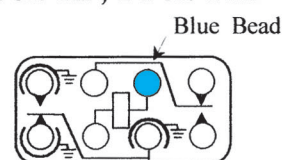
### Terminal Styles



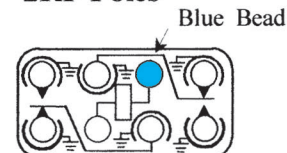
Note :  
 - Dimensions are shown in inches (millimetres)  
 - Terminal spacing is .200 (5,08). Aux. Terminal diameter is .030 (0,76) all headers

### Schematic Diagrams

#### 1 Pole RF, 1 Pole aux

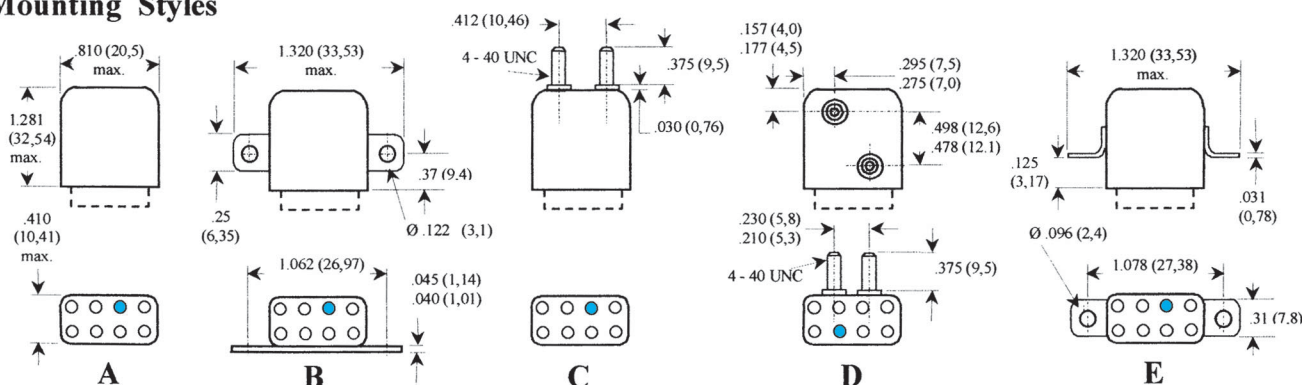


#### 2RF Poles



Note : Schematics are viewed from terminals

### Mounting Styles



Note : Dimensions are shown in inches (millimetres)

### Note

Contact factory for other cable types and lengths

### How to Order (Part Numbering System)

