Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

FRD12000 series

RF Relay, screened, 8kV, 6A
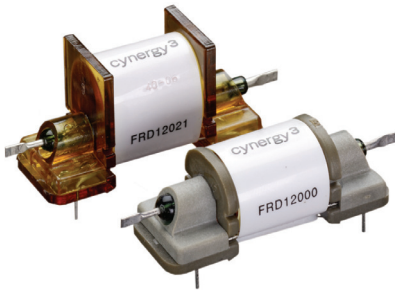
An open frame RF reed relay with 8kV isolation and 6A (at 30MHz) carry current, the FRD12000 series has been used many HF radio system specifcations over the years, with applications in commercial maritime (GMDSS) equipment and military HF radio units worldwide. The use of vacuum reed switches with rhodium contacts offers high isolation voltages, low contact resistance and long operating lifetime.

Available as Form A (SPNO) or Form B (SPNC) contact confgurations.

- **Up to 8kVDC Isolation between Contacts**
- **6A Carry Current (up to 30MHz)**
- **Excellent RF Performance**
- **Ideal for Antenna Tuning Units**
- **Form A/B Contact Confguration**
- **Customising Facility**

Contact	Units	Conditions	FRD12014	FRD12015	FRD12021	FRD12049
Action (form A, B or Latching)		A	A	A	B	B
Carry Current	A	RMS max	6	6	6	6
Switching Current	A	DC max	1	1	1	1
Switching Power	W	DC max	20	20	20	20
Switching Voltage	V	DC max	20	20	20	20
Isolation	kV	DC max	8	8	8	8
Capacitance	pF	coil/screen gnd	0.4	0.4	0.6	0.6
Lifetime	operations	dry switching	10^9	10^9	10^9	10^9
Contact Resistance	mOhms	maximum (typical)	50 (15)	50 (15)	50 (15)	50 (15)
Insulation Resistance	Ohms	minimum (typical)	10^{10} (10^{13})	10^{10} (10^{13})	10^{10} (10^{13})	10^{10} (10^{13})
ESR at 4.5A, 30MHz	mOhms	typical	100	100	150	150
COIL at 20°C						
Nominal Working Voltage	VDC		12	24	12	24
Must Operate	VDC	max	8	15	8	14
Must Release	VDC	min	2	2	2	4
Nominal Resistance	ohms	+/10%	340	1000	380	1500
RF Screening			Part	Part	-	-
RF Screening Connection		pin position	2 & 5	2 & 5		
Coil Connections		pin position	1 & 6	1 & 6	1 & 6	1 & 6
RELAY						
Operate time (including bounce)	ms		3	2	3	3
Release time	ms		1	1	2	2
Isolation contact to all other terminals	kV	DC max	10	10	10	10
Isolation coil to screen	kV	DC max	0.5	0.5	N/A	N/A
Capacitance contact to all other terms	pF	contacts open	2.0	2.0	2.5	2.5
ENVIRONMENTAL						
Storage temperature range	°C		-55 to +125			
Operating temperature range	°C	Limited current*	-40 to +85			
Shock	g	11ms 1/2 sine pk	100			
Bump	g	6ms 1/2 sine pk	40			
Vibration	g	10- 500Hz	10			
Weight	gm		24	24	33	33

* see graphical data.

Please refer to this document for circuit design notes:-
http://www.cynergy3.com/blog/application-notes-reed-relays-0

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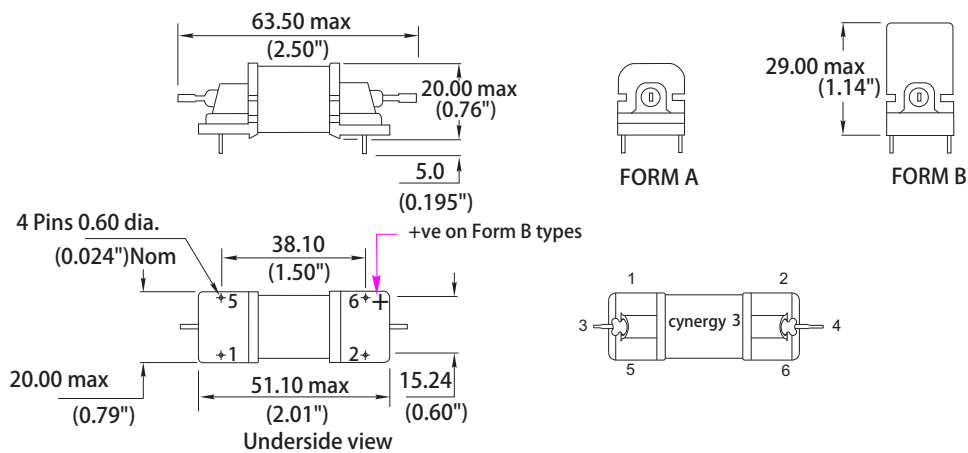
www.cynergy3.com

FRD12000 2016

FRD12000 series
screened   8kV, 6A

FRD12000 Series (no screen)

Max Current vs Frequency

	20°C
	65°C
	85°C

FRD12000 Series (part screen)

Max Current vs Frequency

	20°C
	65°C
	85°C

Please refer to this document for circuit design notes:-
http://www.cynergy3.com/blog/application-notes-reed-relays-0
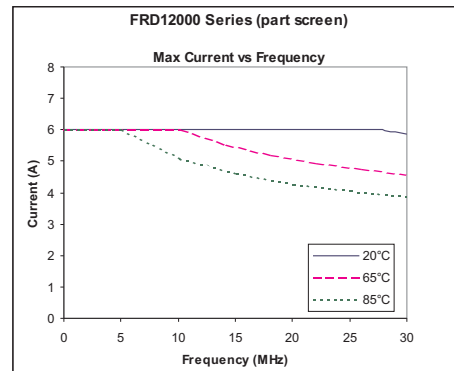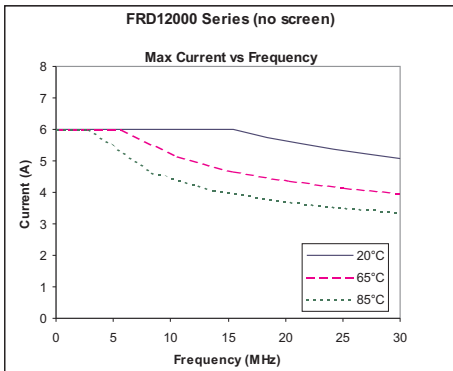
Mechanical Dimensions
All dimensions are in millimeters (inches)

63.50 max
(2.50")

20.00 max
(0.76")

5.0
(0.195")

4 Pins 0.60 dia.
(0.024")Nom

38.10
(1.50")

+ve on Form B types

+5   6+

+1   2+

20.00 max
(0.79")

51.10 max
(2.01")

15.24
(0.60")

Underside view

FORM A

29.00 max
(1.14")

FORM B

1   2

3   cynergy 3   4

5   6

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