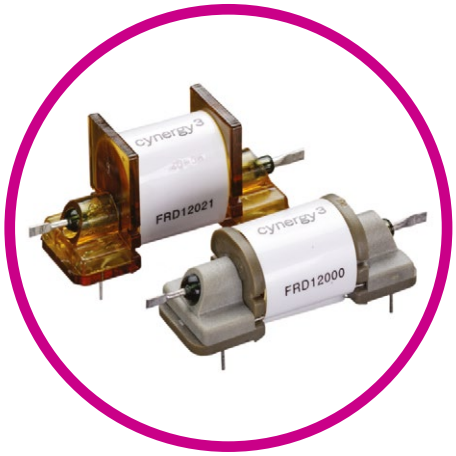
| FRD12000 SERIES

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 in many HF radio systems 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 configurations.

Features

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

SPECIFICATIONS

Contact	Units	Condition	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

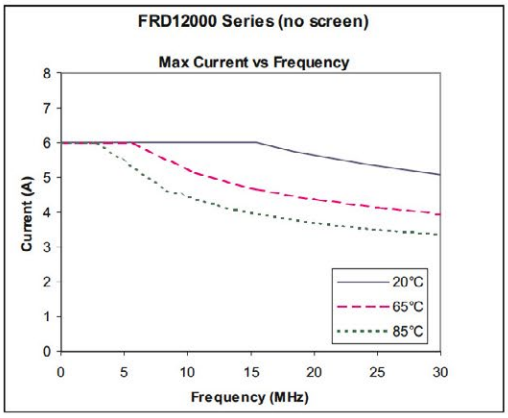
Relay	Unit	Condition	FRD12014	FRD12015	FRD12021	FRD12049
Operate Time (Including Bounce)	ms		3	2	3	3
Release Time	ms		1	1	2	2
Isolation Contact to all other Terminals	kV	DC max	10	10	10	10
Isolation Coil to Screen	kV	DC max	0.5	0.5	N/A	N/A
Capacitance Contact to all other Terminals	pF	contacts open	2.0	2.0	2.5	2.5
Environmental Conditions						
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

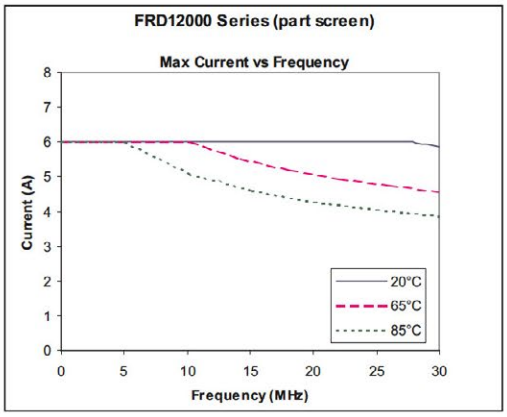
* see graphical data.

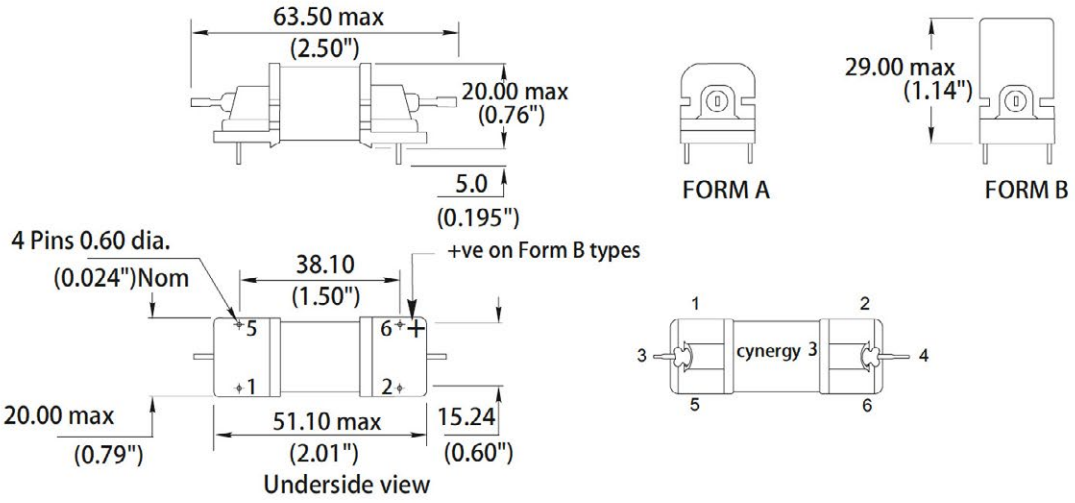
Please refer to this document for circuit design notes:
https://www.cynergy3.com/blog/reed-relay-application-notes

DIMENSIONS

All dimensions are in millimeters.







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