

# FRD13000

## Fully Screened 6A, 9kV Reed Relay



A complete RF screen around the coil assembly for a low loss transmission path, results in better carry current at elevated temperatures for this open frame series. An anti-corona sleeve is fitted around the reed switch for improved RF voltage isolation. This type is widely used in HF Antenna Tuning Unit (ATU) applications.

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

- **New Fully Screened Coil for Low RF Loss**
- **Up to 9kVDC and 6A at 30MHz**
- **Ideal for HF Antenna Tuning Applications**
- **Customising Facility**

CONTACT	UNITS	CONDITIONS	FRD13506	FRD13503	FRD13504
Action (form A, B or Latching)			A	A	B
Switching Voltage	V	DC max	20	20	20
Switching Current	A	DC max	1	1	1
Carry Current	A	RMS at 30MHz max	6	6	6
Isolation	kV	DC max	9	9	9
Isolation	kV	RF peak (F=2MHz)	8	8	8
Capacitance	pF	coil/screen gnd	0.5	0.5	0.5
Lifetime	operations	dry switching	10 <sup>9</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Contact Resistance	mOhms	maximum (typical)	50 (15)	50 (15)	50 (15)
Insulation Resistance	Ohms	minimum (typical)	10 <sup>10</sup> (10 <sup>13</sup> )	10 <sup>10</sup> (10 <sup>13</sup> )	10 <sup>10</sup> (10 <sup>13</sup> )
ESR at 4.5A, 30MHz	mOhms	typical	30	30	30
<b>COIL at 20°C</b>					
Nominal Working Voltage	VDC		12	24	24
Must Operate	VDC	max	9	15	16
Must Release	VDC	min	2	3	3
Nominal Resistance	Ohms	+/-10%	98	900	900
RF Screening			Full	Full	Full
RF Screening Connection		pin position	2 & 5	2 & 5	2 & 5
Coil Connections		pin position	1 & 6	1 & 6	1(+) & 6
<b>RELAY</b>					
Operate time (incl. bounce)	mS		3	3	1
Release time	mS		1	1	3
Isolation contact to all other terminals	kV	DC max	9	9	9
Isolation coil to screen	kV	DC max	0.5	0.5	0.5
Capacitance contact to all other terms	pF	contacts open	1.5	1.5	1.5
<b>ENVIRONMENTAL</b>					
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		20	20	23

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**ISO9001 CERTIFIED**

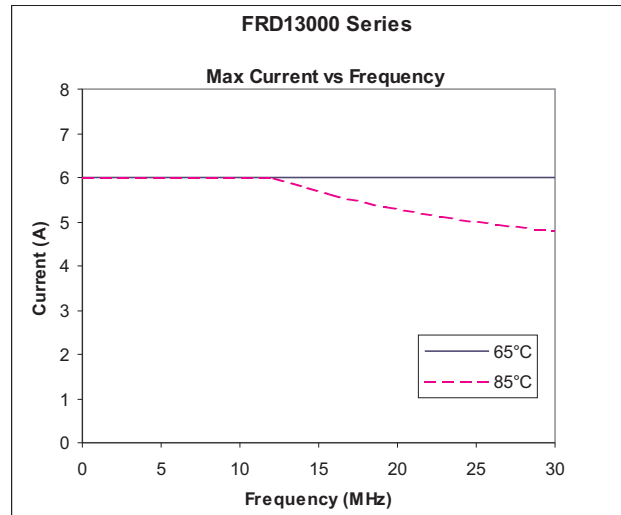
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[Please refer to this document for circuit design notes:-  
http://www.cynergy3.com/blog/application-notes-reed-relays-0](http://www.cynergy3.com/blog/application-notes-reed-relays-0)

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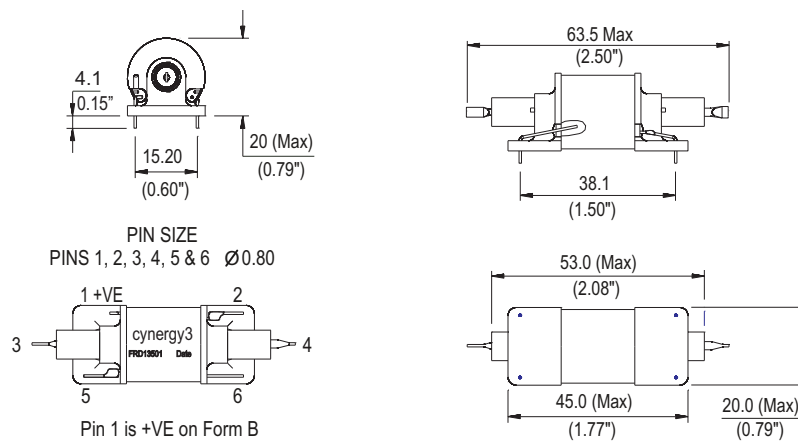
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## Mechanical Dimensions

All dimensions are in millimeters (inches)



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