

FRS22012 & SLR3 SERIES

MINIATURE LATCHING, 1.5A, 3.5KV, REED RELAY



Latching RF relay designs for manpack, portable HF radio systems, from 1-30MHz, where power resources are limited and board space is at a premium.

These relays have separate set and reset coils to simplify board design.

Capable of carrying up to 1.5A current at 30MHz and withstanding either 1.5, 3 or 3.5kV between contacts.

The FRS22012 is a fast latching relay with both RF and magnetic screening, that enables switching with coil pulse lengths down to 0.5ms.**1

Features

- Bistable Latching relay
- 1.5A Carry current (up to 30MHz)
- 3.5kV DC Isolation
- 0.5ms Coil pulse length version

SPECIFICATIONS

Contact	Unit	Condition	FRS22012	SLR305SD01	SLR305SD02
Contact Material			Rhodium	Rhodium	Rhodium
Switch Action			Bistable	Bistable	Bistable
Carry Current Max	А	RMS@30MHz	1.5	1.5	1.5
Switching Current	А	DC max	0.5	0.5	0.5
Switching Power	W	max	10	10	10
Switching Voltage	V	max	20	20	20
Isolation	kV	DC max	3.5	1.5	3.0
Capacitance	pF	coil/screen gnd	0.2	<1	<1
Contact Connections		pin position	3 & 4	3 & 4	3 & 4
Lifetime	operations	dry switching	10 ⁹	10 ⁹	10 ⁹
Contact Resistance	mΩ	max (typical)	80 (30)	80 (30)	80 (30)
Insulation Resistance	mΩ	max (typical)	10 ¹⁰ (10 ¹³)	1010 (1013)	10 ¹⁰ (10 ¹³)
ESR at 1.5A, 30MHz	mΩ	typical	400	400	400



Coil at 20°C	Unit	Condition	FRS22012	SLR305SD01	SLR305SD02	
Operating Voltage	V	Nominal	12	5	5	
Resistance	Ω	Nominal	500	300	300	
RF Screening			Partial	None	None	
RF Screening Connection		pin position	7			
Coil Connections	Set	pin position	5 & 6 (+)	5 & 6 (+)	5 & 6 (+)	
	Reset	pin position	1 & 2 (+)	1 & 2 (+)	1 & 2 (+)	
Relay						
Construction			Covered	Open Frame	Open Frame	
Pulse Length	ms	Minimum	0.5	2	2	
Operate Time	ms	diode fitted	0.5	2	2	
Isolation Contact to all other Terminals	kV	DC max	4	4	4	
Isolation Contact to Screen	kV	DC max	250	250	250	
Capacitance Contact to all other Terminals	pF	contact open	3	2.5	2.5	
Environmental Conditions						
Storage Temperature	°C	range	-55 to +125			
Operating Temperature	°C	range	-40 to +85			
Weight	gm	typical	11	7	7	

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

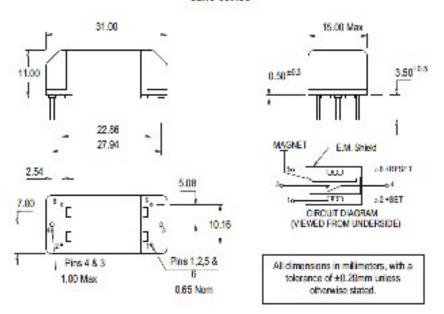




All dimensions are in millimeters.

FRS22012 12.0 (0.47°) Pin Size 7.62 10.16. 4.0 Pins 3 & 4 1.0 (0.039 "dia. (0.40°) 00.30% (0.15") Pins 1, 2, 5 & 6 0.7(0.026*)dia. 75.4 10.16 Pin 7 0.65mm square(0.039*) (1.00°) (0.40°) MAGNE E.M. Shield 62 14.0 TRESET (0.55%) 06 70. 6 SET 30.67 F.S. Sheld E.S. Shield (1.20°)CIRCUIT DIVIGRAM (VIEWED FROM UNDERSIDE)

SLR3 series



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