

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	A	RMS@30MHz	1.5	1.5	1.5
Switching Current	A	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)	10 ¹⁰ (10 ¹³)	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

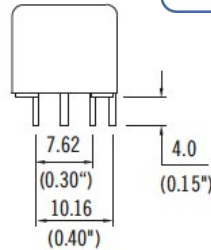
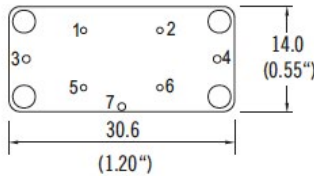
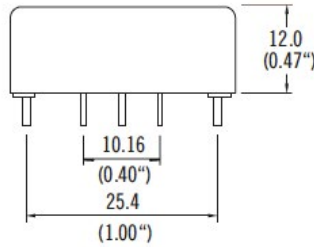
Please refer to this document for circuit design notes:
<https://www.cynergy3.com/blog/reed-relay-application-notes>



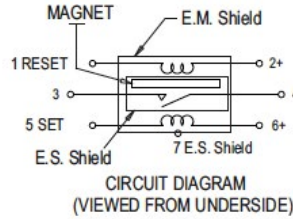
DIMENSIONS

All dimensions are in millimeters.

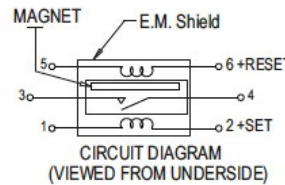
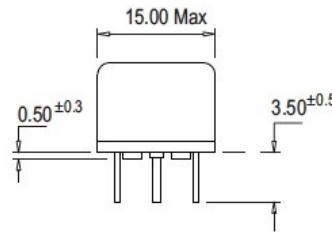
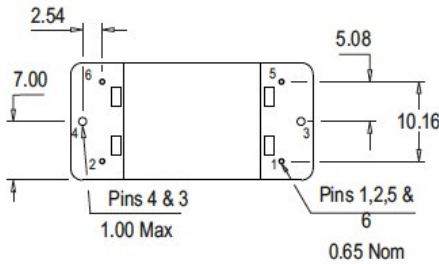
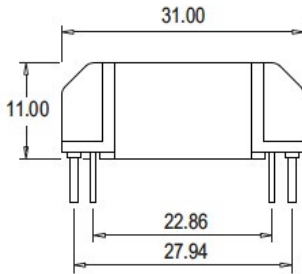
FRS22012



	Pin Size
Pins 3 & 4	1.0 (0.039")dia.
Pins 1, 2, 5 & 6	0.7 (0.026")dia.
Pin 7	0.65mm square(0.039")



SLR3 series



All dimensions in millimeters, with a tolerance of ±0.20mm unless otherwise stated.

Please refer to this document for circuit design notes:

<https://www.cynergy3.com/blog/reed-relay-application-notes>

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