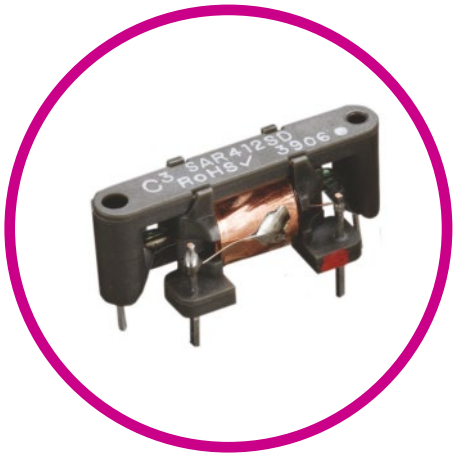
| 4 SERIES

MINIATURE SCREENED OPEN FRAMED REED RELAY 3.5 KV, 3.5A



A highly flexible, low cost package for RF applications in the 1-30MHz band. The use of vacuum reed switches with rhodium contacts offers high isolation voltages, low contact resistance and long operating lifetime. Additional RF screening is available to further enhance RF performance for more demanding applications.

Available as Form A (SPNO), Form B (SPNC) or latching (bistable) contact configurations with switch connections via either PCB or flying lead.

Features

- 3.5A RF at 1-30MHz
- 3.5kV Isolation
- Contacts Form A, B or Latching
- Long Lifetime

SPECIFICATIONS

Contact	Unit	Condition	Form A			Form B			Latching	
Contact Material			Rhodium			Rhodium			Rhodium	
Isolation across contacts	kV	DC or AC peak	3			3			3.5	
Max. carry current	A	DC or AC rms	3.5*			3.5*			1.5	
Max. switching power	W		10			10			10	
Max. switching voltage	V	DC or AC peak	20			20			20	
Max. switching current	A	DC or AC peak	0.5			0.5			0.5	
Capacitance across contacts	pF	coil/screen grounded	<0.1			<0.1			<0.1	
Lifetime	operations	dry switching	10^9			10^9			10^9	
Lifetime	operations	10W switching	10^8			10^8			10^8	
Contact Resistance	mΩ	maximum (typical)	80 (30)			80 (30)			80 (30)	
Insulation Resistance	Ω	minimum (typical)	10^{10} (10^{13})			10^{10} (10^{13})			10^{10} (10^{13})	
ESR at 30MHz (no screen)	mΩ	typical	95 @ 3A rms			95 @ 3A rms			200 @ 1.5A rms	
ESR at 30MHz (part screen)	mΩ	typical	80 @ 3A rms			80 @ 3A rms			180 @ 1.5A rms	
Coil			**5V**	**12V**	**24V**	**5V**	**12V**	**24V**	**5V**	**12V**
Must Operate	V	DC, 20°C	3.5	8	15	3.5	8	15	3	7
Must Release	V	DC, 20°C	1	2	4	1	2	4	N/A	N/A
Min Pulse Length	ms		N/A	N/A	N/A	N/A	N/A	N/A	2.0	2.0
Operate Time	ms		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Release Time	ms	diode ftted	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0
Resistance	Ω (± 10%)	20°C	70	380	1500	65	350	1200	85 per coil	500 per coil

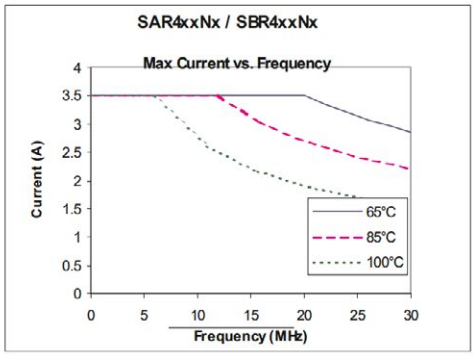
Note. The operate / release voltage and coil resistance will change at a rate of 0.4% per degree C. Values are stated at room temperature (20 degrees C)

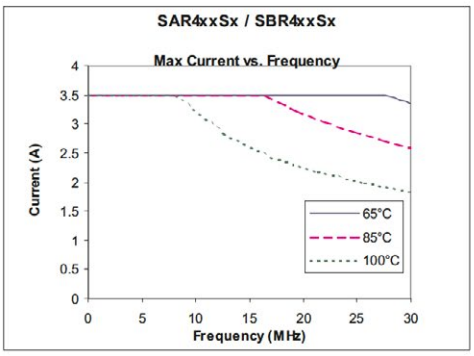
Contact	Unit	Condition	Form A	Form B	Latching
Construction					
Isolation contact to coil	kV	DC or AC peak	3	3	3.5
Capacitance contact to all other terminals	pF	Contacts open	<1.0	<1.0	<1.0
Capacitance contact to all other terminals	pF	Contacts closed	<1.5	<1.5	<1.5
Environmental Conditions					
Operating temperature range	˚C	Limited Current	-40 to +100*	-40 to +100*	-40 to +100*
Storage temperature range	˚C		-40 to +125	-40 to +125	-40 to +125
Weight	gm	typical	3.5	4.2	3.1

*see graphical dimensions overleaf.

DIMENSIONS

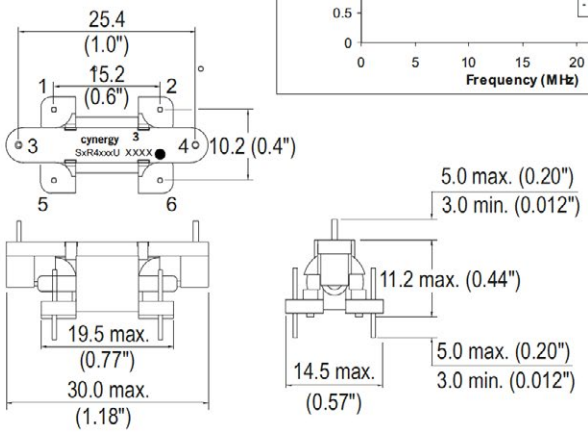
All dimensions are in millimeters.





Flying Lead

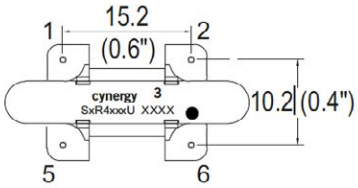
(Pins Up)

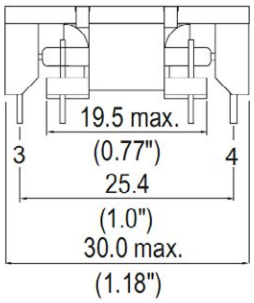


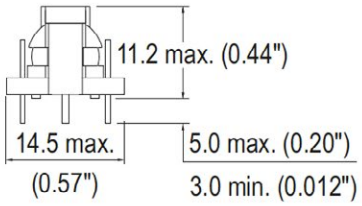
Pins 1, 2, 5 & 6 are 0.635mm square and require 0.9mm +/- 0.05m diameter holes
Pin 3 & 4 are 0.8mm diameter.

PCB Mount

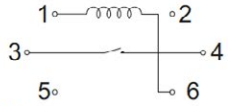
(Pins Down)





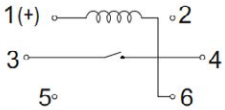


Circuit Diagram, Form A



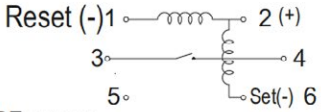
RF screen-
(if required)

Circuit Diagram, Form B



RF screen-
(if required)

Circuit Diagram, Latching



RF screen-
(if required)

(all circuit diagrams viewed from above)

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

ORDERING OPTIONS

Example : SAR405SU

S	A	R	4	05	S	U

Reed switch Size

Contact Form

A = Form A
B = Form B
L = Latching

Contact Material

R = Rhodium

Relay Series Number

Coil Voltage

05 = 5V
12 = 12V
24 = 24V

Screening

S = Screened
N = Unscreened

Contact Pin Orientation

D = PCB
U = Flying Lead

Please refer to this document for circuit design notes:
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