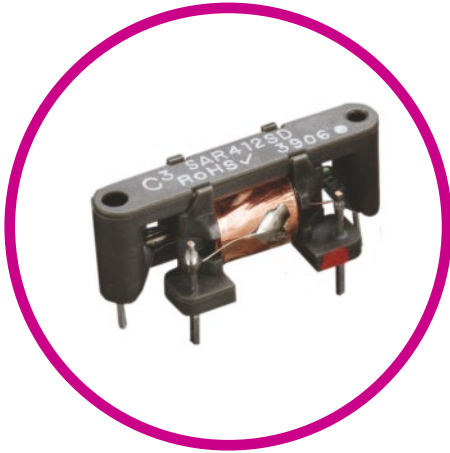




## | 4 SERIES

### 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	
<b>Contact Material</b>			Rhodium			Rhodium			Rhodium	
<b>Isolation across contacts</b>	kV	DC or AC peak	3			3			3.5	
<b>Max. carry current</b>	A	DC or AC rms	3.5*			3.5*			1.5	
<b>Max. switching power</b>	W		10			10			10	
<b>Max. switching voltage</b>	V	DC or AC peak	20			20			20	
<b>Max. switching current</b>	A	DC or AC peak	0.5			0.5			0.5	
<b>Capacitance across contacts</b>	pF	coil/screen grounded	<0.1			<0.1			<0.1	
<b>Lifetime</b>	operations	dry switching	10 <sup>9</sup>			10 <sup>9</sup>			10 <sup>9</sup>	
<b>Lifetime</b>	operations	10W switching	10 <sup>8</sup>			10 <sup>8</sup>			10 <sup>8</sup>	
<b>Contact Resistance</b>	mΩ	maximum (typical)	80 (30)			80 (30)			80 (30)	
<b>Insulation Resistance</b>	Ω	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> )	
<b>ESR at 30MHz (no screen)</b>	mΩ	typical	95 @ 3A rms			95 @ 3A rms			200 @ 1.5A rms	
<b>ESR at 30MHz (part screen)</b>	mΩ	typical	80 @ 3A rms			80 @ 3A rms			180 @ 1.5A rms	
<b>Coil</b>			<b>5V</b>	<b>12V</b>	<b>24V</b>	<b>5V</b>	<b>12V</b>	<b>24V</b>	<b>5V</b>	<b>12V</b>
<b>Must Operate</b>	V	DC, 20°C	3.5	8	15	3.5	8	15	3	7
<b>Must Release</b>	V	DC, 20°C	1	2	4	1	2	4	N/A	N/A
<b>Min Pulse Length</b>	ms		N/A	N/A	N/A	N/A	N/A	N/A	2.0	2.0
<b>Operate Time</b>	ms		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Release Time</b>	ms	diode fitted	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0
<b>Resistance</b>	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)

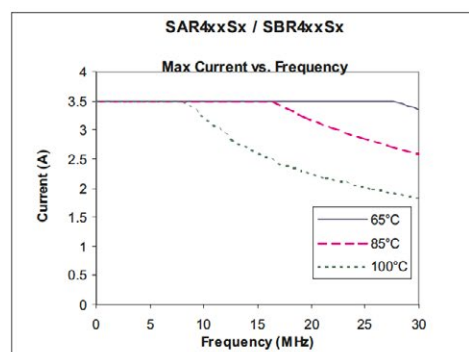
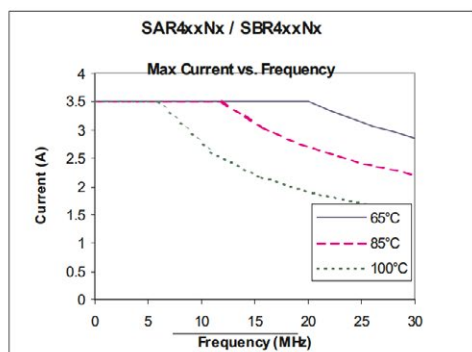
Contact	Unit	Condition	Form A	Form B	Latching
<b>Construction</b>					
Isolation contact to coil	kV	DC or AC peak	3	3	3.5
Capacitance contact to all other terminals	pF	Contacts open	<1.0	<1.0	<1.0
Capacitance contact to all other terminals	pF	Contacts closed	<1.5	<1.5	<1.5
<b>Environmental Conditions</b>					
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.

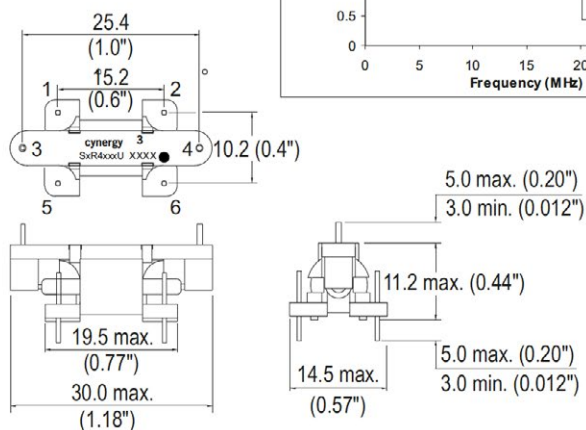


## DIMENSIONS

All dimensions are in millimeters.

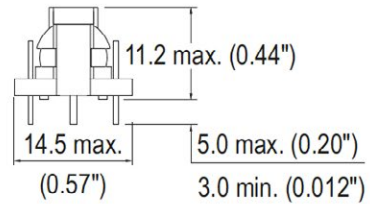
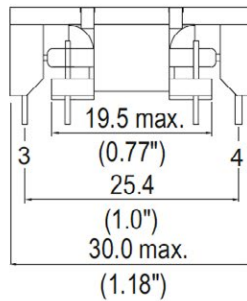
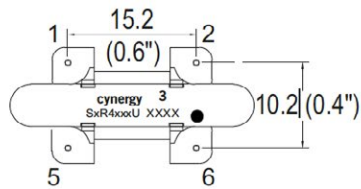


**Flying Lead  
(Pins Up)**

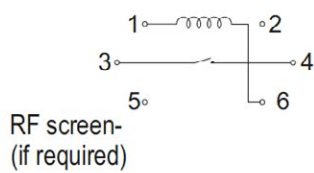


Pins 1, 2, 5 & 6 are 0.635mm square and require 0.9mm +/- 0.05m diameter holes  
Pin 3 & 4 are 0.8mm diameter.

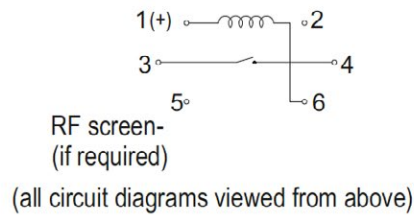
## PCB Mount (Pins Down)



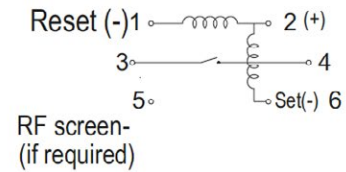
Circuit Diagram, Form A



Circuit Diagram, Form B



Circuit Diagram, Latching



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
<b>Reed switch Size</b>	_____	_____	_____	_____	_____	_____	_____
<b>Contact Form</b>	_____	_____	_____	_____	_____	_____	_____
<b>A</b> = Form A <b>B</b> = Form B <b>L</b> = Latching							
<b>Contact Material</b>	_____	_____	_____	_____	_____	_____	_____
<b>R</b> = Rhodium							
<b>Relay Series Number</b>	_____	_____	_____	_____	_____	_____	_____
<b>Coil Voltage</b>	_____	_____	_____	_____	_____	_____	_____
<b>05</b> = 5V <b>12</b> = 12V <b>24</b> = 24V							
<b>Screening</b>	_____	_____	_____	_____	_____	_____	_____
<b>S</b> = Screened <b>N</b> = Unscreened							
<b>Contact Pin Orientation</b>	_____	_____	_____	_____	_____	_____	_____
<b>D</b> = PCB <b>U</b> = Flying Lead							

Please refer to this document for circuit design notes:

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

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