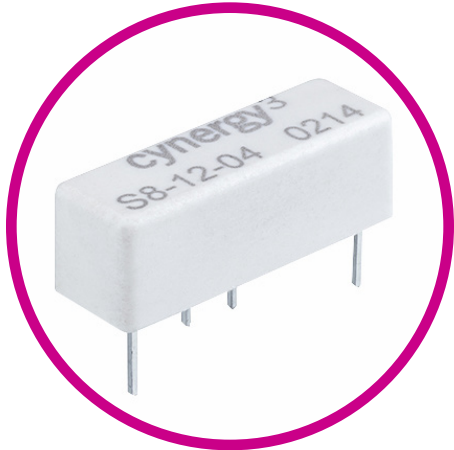


## S8 FORM A SERIES

MINIATURE HIGH VOLTAGE RELAY, 4KV ISOLATION



The S8, S8 (UL), S8-HR Form A series are miniature high voltage reed relay for applications where space saving is a prime consideration.

The coil pins are positioned near the center of the relay while the contact pins are near the ends to give improved isolation between the High Voltage contacts and the low voltage coil.

### Features

- Space saving package
- Up to 1000V switching voltage
- Isolation Voltage across contacts 4kV & 5kV (dependent on coil voltage)
- Isolation Voltage 7kV contact to coil
- 2.5A carry current
- S8 (UL) & S8-HR series UL approved

### Applications

- Medical
- Automated test equipment
- Test and measurement



## SPECIFICATIONS

| Contact                     |        | Condition               | 5V coil  | 12V coil | 24V coil |
|-----------------------------|--------|-------------------------|--|----------|----------|
| Switch Action               |        |                         | SPST (Form A)                                  |          |          |
| Material                    |        |                         | Rhodium  |          |          |
| Isolation Across Contacts   | kV     | DC or AC peak           | 4  | 4        | 5        |
| Switching Power Max.        | VA     | (W for V variants)      | 100  |          |          |
| Switching Voltage Max.      | V      |                         | 350dc/300ac (1000Vdc & ac peak for V variants) |          |          |
| Switching Current Max.      | A      | DC or AC peak           | 1.0  |          |          |
| Carry Current Max           | A      | DC                      | 2.5  |          |          |
| Capacitance Across Contacts | pF     | coil to screen grounded | 0.5 (typical)                                  |          |          |
| Lifetime Operations         |        | dry switching           | 10 <sup>9</sup>                                |          |          |
|                             |        | 100W switching          | 10 <sup>7</sup>                                |          |          |
| Contact Resistance          | mΩ max |                         | 150  |          |          |

| Coil                                 |   | Condition    | 5V coil | 12V coil  | 24V coil |
|--------------------------------------|---|--------------|---------|---|----------|
| Must Operate Voltage                 | V   | DC           | 4       | 9.6   | 19       |
| Must Release Voltage                 | V   | DC           | 1       | 2   | 3        |
| Operate Time                         | ms  | diode fitted | 1       | 1   | 1        |
| Release Time                         | ms  | diode fitted | 0.5     | 0.5   | 0.5      |
| Resistance                           | Ω   |              | 120     | 750   | 1550     |
| <b>Relay</b>                         |   |              |         |   |          |
| Isolation Contact/Coil               | kV  |              |         | 7   |          |
| Insulation resistance min. (typical) | Ω, Between all isolated pins at 1000V, 20°C ±5°C, 45% RH ±10% |              |         | S8,(U),(V), 10 <sup>10</sup> (10 <sup>12</sup> )<br>S8(-HR), 10 <sup>12</sup> (10 <sup>14</sup> ) |          |
| <b>Environmental Conditions</b>      |   |              |         |   |          |
| Operating Temp Range                 | °C  |              |         | -40 to +85*   |          |
| Storage Temp Range                   | °C  |              |         | -40 to +125   |          |

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

\*UL approved for use at up to 75°C

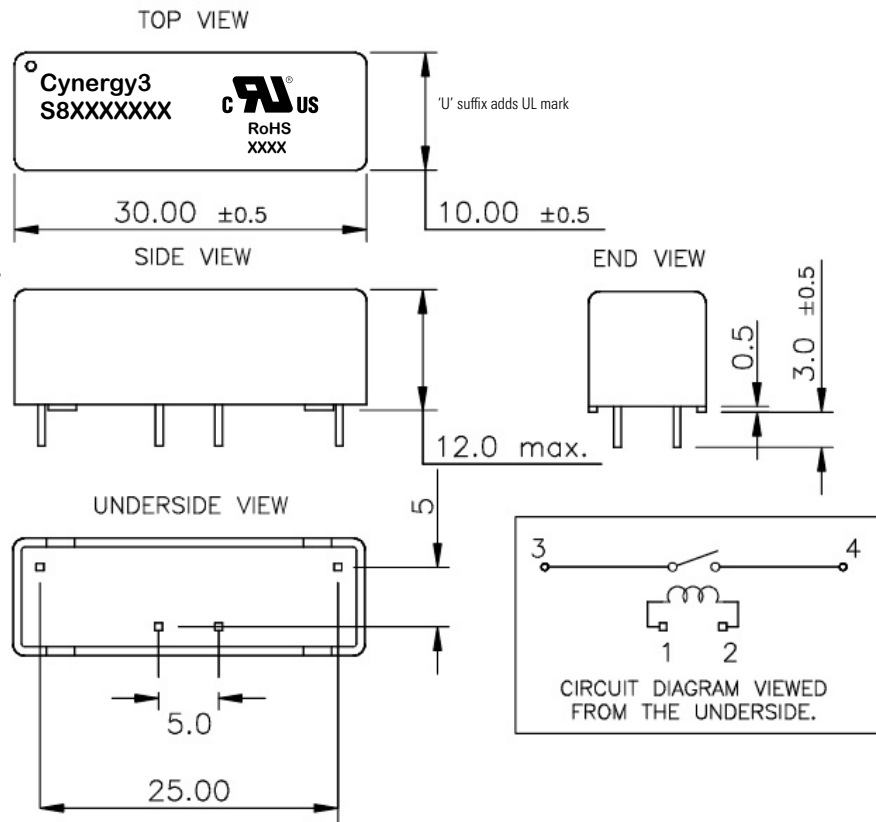
## STANDARD PARTS

| S8 Series | S8-HR Series | S8 (UL) Series | Coil Voltage Vdc | Isolation Across Contacts kV | Max. Switching Voltage Vdc (Vac peak) |
|-----------|--------------|----------------|------------------|------------------------------|---------------------------------------|
| S8-0504   | S8-0504-HR   | S8-0504U       | 5                | 4                            | 350 (300)                             |
| S8-0504V  | S8-0504V-HR  | S8-0504VU      | 5                | 4                            | 1000 (1000)                           |
| S8-1204   | S8-1204-HR   | S8-1204U       | 12               | 4                            | 350 (300)                             |
| S8-1204V  | S8-1204V-HR  | S8-1204VU      | 12               | 4                            | 1000 (1000)                           |
| S8-2405   | S8-2405-HR   | S8-2405U       | 24               | 5                            | 350 (300)                             |
| S8-2405V  | S8-2405V-HR  | S8-2405VU      | 24               | 5                            | 1000 (1000)                           |

Custom versions can be designed for particular applications. Please contact Sensata with your requirements.

## DIMENSIONS

All dimensions are in millimeters.  
Tolerances acc. to ISO 2768 class m



Pins 0.635mm Square ±0.05mm.

Pins 1 & 2 Tin over Nickel plated, on CuSn6 Phosphor Bronze.

Pins 3 & 4 Tin plated on NiFe Nickel Iron.

Case Material Nylon.

Encapsulant: Epoxy

### \*Consult factory for UL ratings

These products have been UL approved for use as per pollution degree 2 classification.

If you require further information as to how this may affect product usage, please contact <https://www.sensata.com/contact-us>.

### Please refer to this document for circuit design notes:

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

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