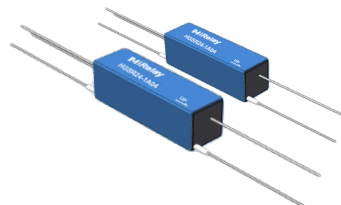


## HGSR Series

## High voltage Mercury Reed Relay

### 1 Feature

- ◆ High power mercury reed relay with dielectric strength up to 4000VDC
- ◆ High carry current
- ◆ High Insulation resistance, up to  $10^{11}\Omega$
- ◆ Low contact resistance, excellent lifetime characteristics
- ◆ External magnetic and electrostatic shield
- ◆ Custom Design, conforming to Rohs directive



### 2 Performance Data

| Paramenter                             |                        | Units | Value                               |           |           |
|--|------------------------|-------|-------------------------------------|-----------|-----------|
| Relay Model                            |                        | /     | HGSR□-1A□                           | HGSR□-2A□ | HGSR□-□C□ |
| Contact Rating                         |                        | W     | 100                                 |           |           |
| Max.Switching Voltage (Max DC/Peak AC) |                        | V     | 2000(at 1.0mA)                      |           |           |
| Max.Switching Current (Max DC/Peak AC) |                        | A     | 2.0                                 |           |           |
| Max.Carry Current                      |                        | A     | 8.5                                 |           |           |
| Contact Resistance                     |                        | mΩ    | 80                                  |           |           |
| Dielectric Strength (static)           | Between contact        | V     | 3000/3500/3800/4000/4500            |           |           |
|  | Contact/shield to coil | V     | 4500                                |           |           |
|  | Contacts to shield     | V     | 4500                                |           |           |
| Insulation Resistance                  |                        | Ω     | 10 <sup>11</sup>                    |           |           |
| Operate Time                           |                        | ms    | 2.0                                 |           | 1.5       |
| Release Time                           |                        | ms    | 2.0                                 |           | 1.5       |
| Vibration(0～2000Hz)                    |                        | G     | 20                                  |           |           |
| Shock(11ms, 1/2 sine)                  |                        | G     | 50                                  |           |           |
| Operating Temp                         |                        | ℃     | -20～+70                             |           |           |
| Storage Temp                           |                        | ℃     | -35～+105                            |           |           |
| Life Expectancy                        |                        | Ops   | 5×10 <sup>7</sup> (at 500VDC-100mA) |           |           |
| Outline Dimensions                     |                        | /     | Reference outline drawing           |           |           |

### 3 Coil Parameters

| Model     | Nominal Voltage (VDC) | Pickup Voltage Max.(VDC) | Dropout Voltage Min.(VDC) | Operate Voltage Max.(VDC) | Coil Resistance (±10%Ω at 20℃) |
|-----------|-----------------------|--------------------------|---------------------------|---------------------------|--------------------------------|
| HGSR□-1A□ | 5                     | 4                        | 0.5                       | 6.5                       | 120                            |
| HGSR□-2A□ |                       |                          |                           |                           | 60                             |
| HGSR□-1A□ | 12                    | 9                        | 1                         | 16                        | 600                            |
| HGSR□-2A□ |                       |                          |                           |                           | 200                            |

地址：上海市普陀区中山北路 3000 号长城大厦 1007

ADDRESS:1007, Great Wall Building, 3000 Zhongshan North Road, Putuo District, Shanghai

邮政编码：200063

POSTAL CODE:200063



| Model     | Nominal Voltage (VDC) | Pickup Voltage Max.(VDC) | Dropout Voltage Min.(VDC) | Operate Voltage Max.(VDC) | Coil Resistance ( $\pm 10\% \Omega$ at 20°C) |
|-----------|-----------------------|--------------------------|---------------------------|---------------------------|--|
| HGSR□-1A□ | 24                    | 18                       | 2                         | 29                        | 2000   |
| HGSR□-2A□ |                       |                          |                           |                           | 1200   |
| HGSR□-□C□ | 5                     | 4                        | 0.5                       | 7                         | 125  |
|           | 12                    | 9                        | 1                         | 16                        | 685  |
|           | 24                    | 18                       | 2                         | 29                        | 2650   |

#### 4 Example of order marking

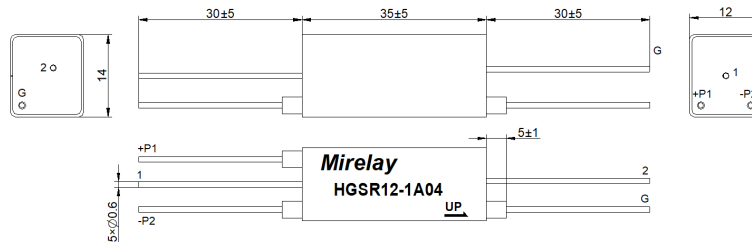
**HGSR □ - □ □ (XXX)**

① ② ③ ④ ⑤

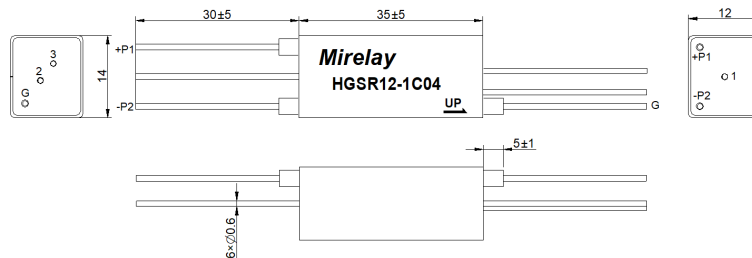
- ① Product model: HGSR
- ② Nominal coil voltage: 05: 5VDC、12: 12VDC、24: 24VDC
- ③ Contact form: 1A: 1 Form A、2A: 2 Form A、1C: 1 Form C、2C: 2 Form C
- ④ Breakdown voltage: 01: 3000VDC、02: 3500VDC、03: 3800VDC、04: 4000VDC、05: 4500VDC
- ⑤ Special code: Customer special requirement

#### 5 Outline drawing

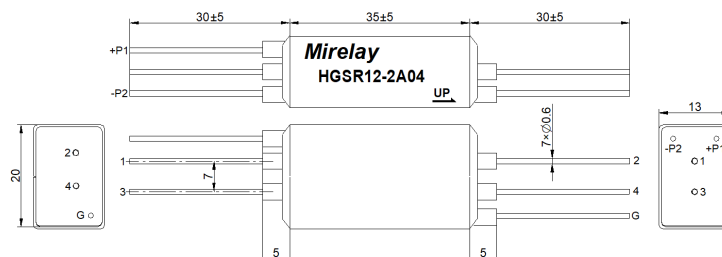
##### 1) HGSR□-1A□



##### 2) HGSR□-1C□



##### 3) HGSR□-2A□



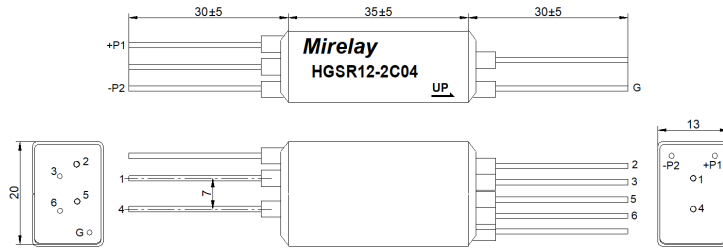
地址：上海市普陀区中山北路 3000 号长城大厦 1007

ADDRESS:1007, Great Wall Building, 3000 Zhongshan North Road, Putuo District, Shanghai

邮政编码：200063

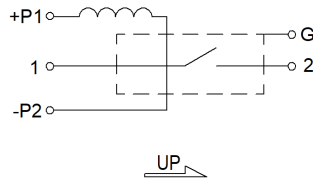
POSTAL CODE:200063

## 2) HGSR□-2C□

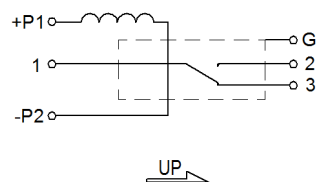


## 6 Wiring diagram

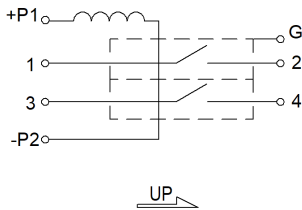
### 1) HGSR□-1A□



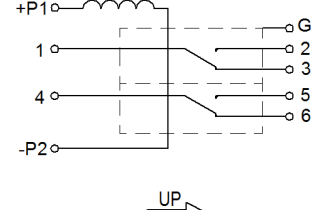
### 2) HGSR□-1C□



### 3) HGSR□-2A□



### 4) HGSR□-2C□



## 7 Precautions for use

- ※ Avoid installing relays where rain falls, or where there is a strong magnetic field, or near an object with thermal radiation.
- ※ Switching inductive or capacitive load systems will produce peak voltage or current, it is recommended to use protective circuit, otherwise, may cause relay damage.
- ※ Avoid excessive packing density in use which may affect the electrical characteristics of the relay.
- ※ Mechanical impact strength is too large, will cause the relay to use the fault.
- ※ When the relay is used for wave soldering, the maximum temperature is 260℃ and the time does not exceed 5s.
- ※ Hg wet contacts must be mounted within 30° of vertical plane.

### ⚠Statement:

The document is for customer reference only. Specifications and parameters may be changed due to product improvement. For the specific parameters and performance of each product, please refer to the specifications and samples provided by Mirelay without further notice.

Relay performance parameters in different application areas are different, so customers should choose the appropriate products according to the specific conditions of use, if in doubt, please contact Shanghai MiRelay Electronics Co.,Ltd. for more technical support.