

### DESCRIPTION

High voltage Reed Relays for PCB mounting suitable for switching up to 7.5 kVDC and breakdown voltage up to 10 kVDC. This series is available with high voltage cables. Standard relays available in 1 Form A and 1 Form B switching configurations.



### FEATURES

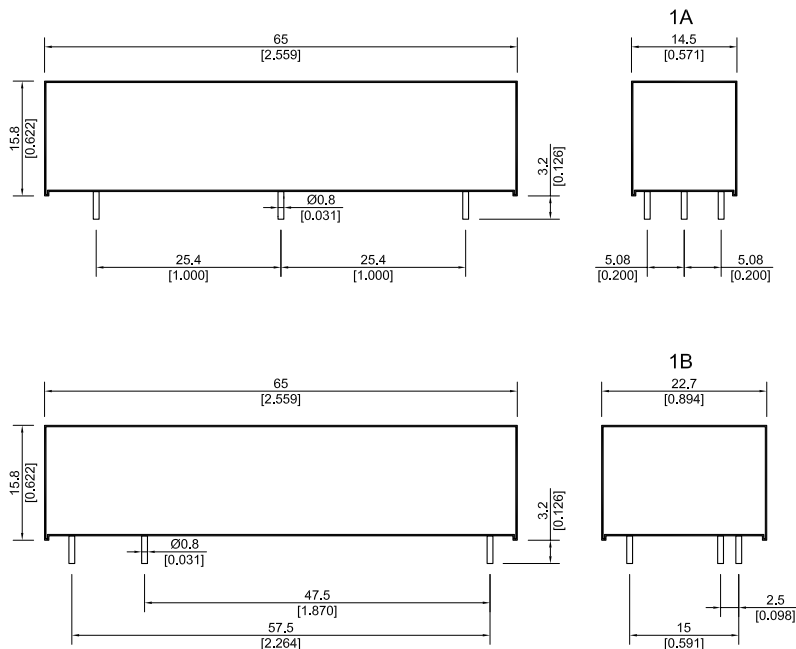
### APPLICATIONS

- High voltage test sets
- Cable testers
- Medical equipment (RF surgery)

- Power switching up to 50 W available
- Special pin outs available
- 1 Form A and 1 Form B are standard
- Various case sizes and cable lengths available
- $\geq 26$  mm spacing between contact and coil available

### DIMENSIONS

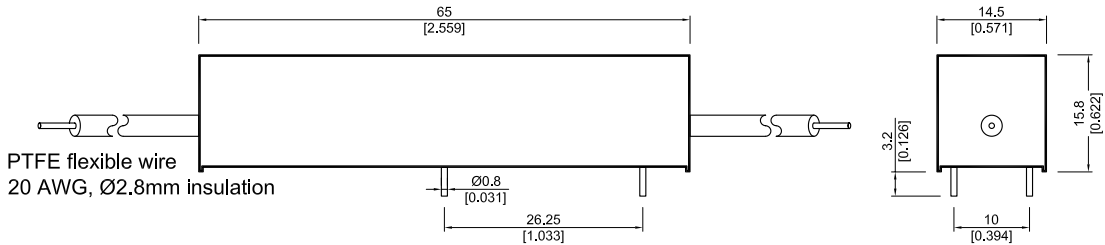
All dimensions in mm [inches]



## High Voltage Reed Relays for PCB Mounting

### DIMENSIONS

All dimensions in mm [inches]



### ORDER INFORMATION

#### Part Number Example

HE12 - 1A83 - 02

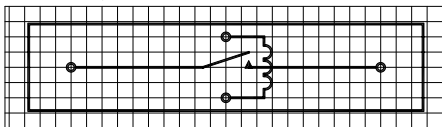
**12** is the nominal voltage  
**1A** is the contact form  
**83** is the switch model  
**02** is the pinout

| Series         | Nominal Voltage | Contact Form | Switch Model | Pin Out            |
|----------------|-----------------|--------------|--------------|--------------------|
| <b>HE</b>      | <b>XX -</b>     | <b>XX</b>    | <b>XX</b>    |                    |
| <b>Options</b> | 05, 12, 24      | 1 A<br>1 B   | 83           | 02. 03, 150<br>150 |

### PIN OUT

View from top of component  
 2.54mm [0.100"] pitch grid

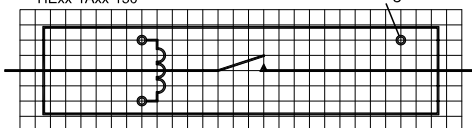
HExx-1Axx-02



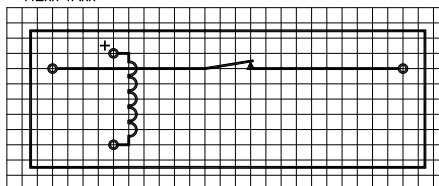
View from top of component  
 2.5mm [0.098"] pitch grid

HExx-1Axx-150

Locking Pin



HExx-1Axx\*



\* Version 2A available.

## RELAY DATA

| All Data at 20° C   | Switch Model --><br>Contact Form -->                              | Switch 83<br>Form A / B              |            |      |                           |
|---|---|--------------------------------------|------------|------|---------------------------|
| Contact Ratings   | Conditions  | Min.                                 | Typ.       | Max. | Unit                      |
| Switching Power   | Any DC combination of V & A not to exceed their individual max.'s |                                      |            | 50   | W                         |
| Switching Voltage   | DC or peak AC   |                                      |            | 7.5  | kV                        |
| Switching Current   | DC or peak AC   |                                      |            | 3.0  | A                         |
| Carry Current   | DC or peak AC   |                                      |            | 5.0  | A                         |
| Static Contact Resistance   | w/ 0.5 V & 10mA   |                                      |            | 150  | mΩ                        |
| Insulation Resistance across Contacts                                   | 100 volts applied   | 10 <sup>10</sup><br>10 <sup>12</sup> |            |      | Ω                         |
| Breakdown Voltage across Contact  | Voltage applied for 60 sec. min.                                  | 10<br>10                             |            |      | kVDC                      |
| Operation Time incl. Bounce   | Measured w/ 100 % overdrive                                       |                                      |            | 3.0  | ms                        |
| Release Time  | Measured w/ no coil suppression                                   |                                      |            | 1.5  | ms                        |
| Capacitance   | at 10 kHz cross contact   |                                      | 0.8<br>5.0 |      | pF                        |
| <b>Life Expectancies</b>  |   |                                      |            |      |                           |
| Switching 5 V - 10 mA   | DC only & <10 pF stray cap.                                       |                                      | 50         |      | 10 <sup>6</sup><br>Cycles |
| For other load requirements please see our life test section on P. 152. |   |                                      |            |      |                           |
| <b>Environmental Data</b>   |   |                                      |            |      |                           |
| Shock Resistance  | 1/2 sinus wave duration 11 ms                                     |                                      |            | 30   | g                         |
| Vibration Resistance  | From 10 - 2000 Hz   |                                      |            | 10   | g                         |
| Ambient Temperature   | 10°C/ minute max. allowable                                       | -20                                  |            | 70   | °C                        |
| Stock Temperature   | 10°C/ minute max. allowable                                       | -35                                  |            | 105  | °C                        |
| Soldering Temperature   | 5 sec.  |                                      |            | 260  | °C                        |

# High Voltage Reed Relays for PCB Mounting

## COIL DATA

| Contact Form   | Switch Model | Coil Voltage |      | Coil Resistance |      |      | Pull-in Voltage | Drop-out Voltage | Nominal Coil Power |
|--|--------------|--------------|------|-----------------|------|------|-----------------|------------------|--------------------|
| All Data at 20 °C  |              | VDC          |      | Ω               |      |      | VDC             | VDC              | mW                 |
|  |              | Nom.         | Max. | Min.            | Typ. | Max. | Max.            | Min.             | Typ.               |
| 1A   | 83           | 5            | 7.5  | 45              | 50   | 55   | 3.5             | 0.75             | 500                |
|  |              | 12           | 16   | 225             | 250  | 275  | 8.4             | 1.8              | 575                |
|  |              | 24           | 30   | 900             | 1000 | 1100 | 18              | 3.5              | 575                |
| 1B *   |              | 5            | 7.5  | 90              | 100  | 110  | 3.5             | 0.75             | 250                |
|  |              | 12           | 16   | 360             | 400  | 440  | 8.4             | 1.8              | 360                |
|  |              | 24           | 30   | 1350            | 1500 | 1650 | 18              | 3.5              | 385                |
| The pull-in / drop-out voltage and coil resistance will change at rate of 0.4% per °C.<br>* Re-closure of Form B may occur if the max. coil voltage is exceeded. Coil polarity on Form B must be observed. |              |              |      |                 |      |      |                 |                  |                    |