

## HE700 D.I.L. Relay Features and Benefits



### Features

- Miniature dual in line package
- Choice of normally open, normally closed and change over contacts
- High voltage switching option
- Up to 2 normally open contacts
- Available with 5V, 12V or 24V coil options as standard
- Magnetic shield option
- Diode suppression option
- Diagonal coil option

### Benefits

- One relay, various contacts choices reducing space and cost without compromising flexibility
- Lower power coil consumption than competing electromechanical devices.
- Hermetically sealed switching contact is immune to the effects of its environment
- Transfer moulded package gives maximum component protection

### Applications

- Security
- Telecoms
- Instrumentation
- Process Control
- Industrial

## DIMENSIONS (in) mm

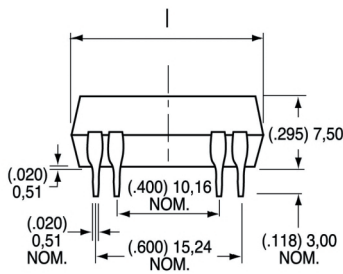


Figure 1 HE700

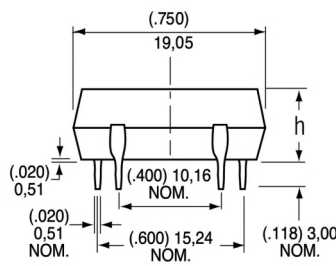


Figure 2 HE751

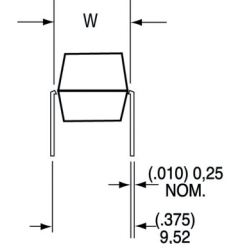


Figure 3 HE700 (All)

Table 1

| Relay Type | Body Type                           | l                            | w                          | h                          |
|------------|-------------------------------------|------------------------------|----------------------------|----------------------------|
| HE700      | Transfer Moulded<br>External Shield | (.750) 19,05<br>(.795) 20,19 | (.285) 7,24<br>(.300) 7,62 | (.295) 7,50<br>(.305) 7,75 |

## HE700 PCB LAYOUT (Bottom View)



## ORDERING INFORMATION

### PART NUMBER HE7X X X XX XX

#### Model Number

- HE72 - Standard
- HE75 - High Voltage

#### Number of Contacts

1,2

#### General Options

- 00 - No Options
- 10 - Coil Suppression Diode
- 20 - Electrostatic Shield
- 30 - Coil Diode and E.S. Shield
- 40 - External Magnetic Shield
- 50 - External Magnetic Shield and Diode

#### Contact Type

- A - Form A (SPST-NO)
- B - Form B (SPST-NC)
- C - Form C (SPDT-CO)
- E - Form C (SPDT-CO) alternate foot print 1
- R - Form C (SPDT-CO) alternate foot print 2

#### Standard Coil

- 05 - 5 Volt
- 12 - 12 Volt
- 24 - 24 Volt

**EXAMPLE:** The HE721A0540 is a I Form relay with a 5 Volt coil and external magnetic shield

Contact the Hamlin Applications Engineering Department for low profile and other option combinations available.

See next page for: **Electrical and Operating Characteristics Description and Coil Characteristics**

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**Table 2 HE700 Series**  **Electrical and Operating Characteristics @ 25°C.**

| Column Number                                    |                                  |                          | 1                                | 2                             | 3                              | 4                             |
|--|----------------------------------|--------------------------|----------------------------------|-------------------------------|--------------------------------|-------------------------------|
| Contact Type                                     |                                  |                          | Form A<br>SPST, DPST<br>Standard | Form C<br>SPDT-CO<br>Standard | Form A<br>SPST<br>High Voltage | Form B<br>SPST-NC<br>Standard |
| Relay Types                                      |                                  |                          | HE721, HE722                     | HE721C, E, R                  | HE751                          | HE721                         |
| CONTACT RATINGS                                  | Power, Switching                 | Watt - max.              | 10                               | 5                             | 10                             | 10                            |
| Contact Hamlin for<br>specific load/life details | Voltage, Switching               | Vdc - max.               | 200                              | 175                           | 300                            | 200                           |
|  | Current, Switching               | A - max.                 | 0.5                              | 0.25                          | 0.5                            | 0.5                           |
|  | Current, Carry                   | A - max.                 | 1.2                              | 1.5                           | 1.2                            | 1.2                           |
| VOLTAGE HOLD-OFF                                 | Across Open Contacts             | Vdc - min.               | 250                              | 200                           | 450                            | 250                           |
|  | Contacts to Coil                 | Vac - min.               | 500                              | 500                           | 2500                           | 500                           |
|  | Coil to E. Shield                | Vac - min.               | 150                              | 150                           | N/A                            | N/A                           |
|  | Between Isolated Terminals       | Vac - min.               | 500                              | N/A                           | N/A                            | N/A                           |
| RESISTANCE                                       | Contact, Initial                 | Ω - max.                 | 0.150                            | 0.200                         | 0.150                          | 0.150                         |
|  | Insulation: Across Open Contacts | Ω - min.                 | 10 <sup>10</sup>                 | 10 <sup>9</sup>               | 10 <sup>10</sup>               | 10 <sup>10</sup>              |
|  | Between Isolated Terminals       | Ω - min.                 | 10 <sup>10</sup>                 | 10 <sup>10</sup>              | 10 <sup>10</sup>               | 10 <sup>10</sup>              |
| TIMING   | Operate Time                     | ms - max.                | 1.0                              | 3.0                           | 1.0                            | 1.0                           |
|  | Release Time                     | ms - max.                | 1.0                              | 3.0                           | 1.0                            | 1.0                           |
| ENVIRONMENTAL                                    | Temperature, Operating           | °C                       | -40 to +85                       | -40 to +85                    | -20 to +85                     | -40 to +85                    |
|  | Temperature, Storage             | °C                       | -40 to +105                      | -40 to +105                   | -40 to +105                    | -40 to +105                   |
|  | Vibration Resistance             | G - max. 10-2000 Hz.     | 20                               | 20                            | 20                             | 20                            |
|  | Shock Resistance                 | G - max. 11 ms, 1/2 sine | 50                               | 50                            | 50                             | 50                            |

**Table 3 HE700 Series Miniature Relay** **Coil Characteristics @ 25°C.**

| Contact Form                  | Electrical & Operating Characteristics | Dimensions | Part Number | Nominal Coil Voltage Vdc | Coil Resistance ±10% Ohms | Must Operate Vdc | Must Release Vdc | Maximum Coil Voltage Vdc | Top View 2,54 mm, 0.1 in. Grid Dot on Case: Pin 1 Numbers not printed on case. |
|-------------------------------|--|------------|-------------|--------------------------|---------------------------|------------------|------------------|--------------------------|--|
| 1A<br>SPST-NO                 | See Table 2<br>Column 1                | Figure 1   | HE721A0500  | 5                        | 500                       | 3.75             | 0.5              | 12                       |  |
|                               |  |            | HE721A1200  | 12                       | 1000                      | 8.0              | 1.0              | 31                       |  |
|                               |  |            | HE721A2400  | 24                       | 2150                      | 16.0             | 2.0              | 46                       |  |
| 1B<br>SPST-NC                 | See Table 2<br>Column 4                | Figure 1   | HE721B0500  | 5                        | 500                       | 3.75             | 0.5              | See Note 2, 3<br>6.5     |  |
|                               |  |            | HE721B1200  | 12                       | 500                       | 9.0              | 1.0              | 14                       |  |
|                               |  |            | HE721B2400  | 24                       | 2150                      | 18.0             | 2.0              | 28                       |  |
| 1C<br>SPDT-CO                 | See Table 2<br>Column 2                | Figure 1   | HE721C0500  | 5                        | 200                       | 3.75             | 0.5              | 14                       |  |
|                               |  |            | HE721C1200  | 12                       | 500                       | 8.0              | 1.0              | 22                       |  |
|                               |  |            | HE721C2400  | 24                       | 2000                      | 16.0             | 2.0              | 44                       |  |
| 1C<br>SPDT-CO                 | See Table 2<br>Column 2                | Figure 1   | HE721E0500  | 5                        | 200                       | 3.75             | 0.5              | 14                       |  |
|                               |  |            | HE721E1200  | 12                       | 500                       | 8.0              | 1.0              | 22                       |  |
|                               |  |            | HE721E2400  | 24                       | 2000                      | 16.0             | 2.0              | 44                       |  |
| 1C<br>SPDT-CO                 | See Table 2<br>Column 2                | Figure 1   | HE721R0500  | 5                        | 200                       | 3.75             | 0.5              | 14                       |  |
|                               |  |            | HE721R1200  | 12                       | 500                       | 8.0              | 1.0              | 22                       |  |
|                               |  |            | HE721R2400  | 24                       | 2000                      | 16.0             | 2.0              | 44                       |  |
| 2A<br>DPST-NO                 | See Table 2<br>Column 1                | Figure 1   | HE722A0500  | 5                        | 200                       | 3.75             | 0.5              | 12                       |  |
|                               |  |            | HE722A1200  | 12                       | 500                       | 8.0              | 1.0              | 22                       |  |
|                               |  |            | HE722A2400  | 24                       | 2150                      | 16.0             | 2.0              | 46                       |  |
| 1A<br>SPST-NO<br>High Voltage | See Table 2<br>Column 3                | Figure 2   | HE751A0500  | 5                        | 500                       | 3.75             | 0.5              | 12                       |  |
|                               |  |            | HE751A1200  | 12                       | 1000                      | 8.0              | 1.0              | 31                       |  |
|                               |  |            | HE751A2400  | 24                       | 2150                      | 16.0             | 2.0              | 46                       |  |

- Notes:
- 1) The HE 700 Series is also available in low profile with (.225) 5.72mm height. Contact Hamlin for details.
  - 2) HE721B - Exceeding recommended voltage may cause contact closure.
  - 3) Optional external magnetic shield not available on Form B relays.

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