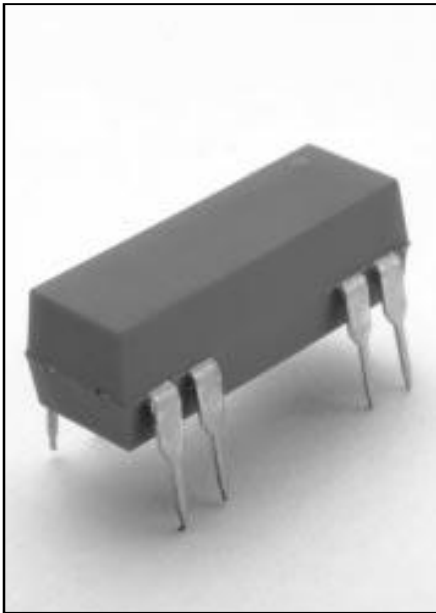


# 8000 Series/DIP Reed Relays

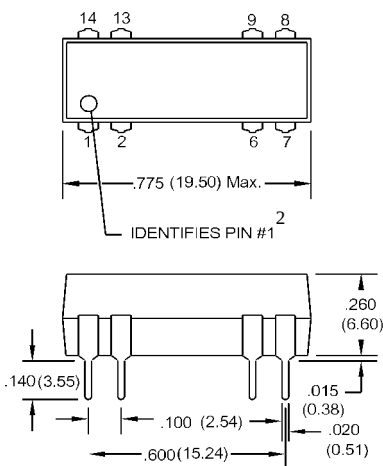


## DIP REED RELAYS

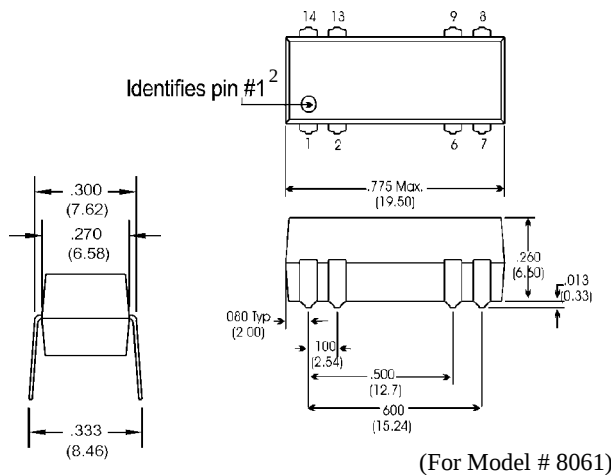
The 8000 Series is ideally suited to the needs of Automated Test Equipment, Instrumentation, Data Acquisition, and Process Control requirements. The specification tables allow you to select the appropriate relay for your particular application. If your requirements differ from the selection options, please consult your local representative or Coto's Factory to discuss a custom reed relay.

## 8000 SERIES FEATURES

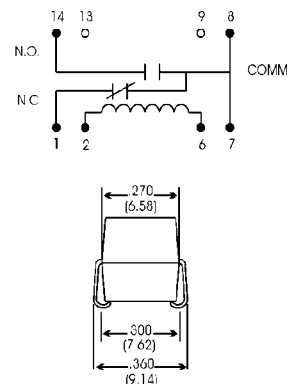
- ◆ 14 - Pin DIP Industry standard package.
- ◆ High Insulation Resistance -  $10^{12} \Omega$  offered on most models.
- ◆ High reliability, hermetically sealed contacts for long life. Proven to 500 million operations.
- ◆ Contact forms; 1A, 2A, 1B and 1C available.
- ◆ Surface mount version available.
- ◆ Molded thermoset body on integral lead frame design.
- ◆ Optional Electrostatic Shield for reducing capacitive coupling offered on some models.
- ◆ Coil suppression diode available upon request.
- ◆ High Voltage Breakdown versions available.



(For Model #'s 8001, 8002, 8021 & 8041)



(For Model # 8061)



Dimensions in Inches (Millimeters)

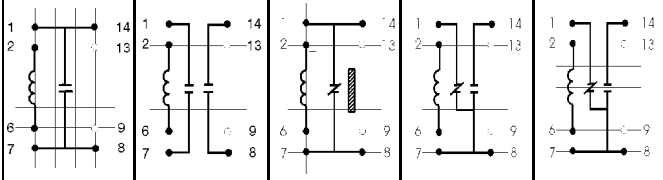
## Ordering Information

| Part Number                | 80XX-XX-XX1                           |
|----------------------------|---------------------------------------|
| Model Number               | 8001 8041 8061                        |
| Coil Voltage               | 05=5 volts<br>12=12 volts             |
| Diode Option <sup>3</sup>  | 0=No Diode 1=Diode                    |
| Shield Option <sup>4</sup> | 0=No Shield<br>1=Electrostatic Shield |

## Ordering Information

| Part Number                | 80XX-XX-XX                            |
|----------------------------|---------------------------------------|
| Model Number               | 8002 8021                             |
| Coil Voltage               | 05=5 volts<br>12=12 volts             |
| Diode Option <sup>3</sup>  | 0=No Diode 1=Diode                    |
| Shield Option <sup>4</sup> | 0=No Shield<br>1=Electrostatic Shield |

# 8000 Series/DIP Reed Relays

| Model Number                                                                                                  |                                                 |                        | 8001                                                                                 | 8002             | 8021             | 8041             | 8061             |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|
| Parameters                                                                                                    | Test Conditions                                 | Units                  | 1 Form A                                                                             | 2 Form A         | 1 Form B         | 1 Form C         | 1 Form C SMD     |
| <b>COIL SPECS.</b>                                                                                            |                                                 |                        |                                                                                      |                  |                  |                  |                  |
| Nom. Coil Voltage                                                                                             |                                                 | VDC                    | 5 12                                                                                 | 5 12             | 5 12             | 5 12             | 5 12             |
| Max. Coil Voltage                                                                                             |                                                 | VDC                    | 6.5 15                                                                               | 6.5 15           | 6.5 15           | 6.5 15           | 6.5 15           |
| Coil Resistance                                                                                               | +/- 10%, 25° C                                  | Ω                      | 500 500                                                                              | 200 500          | 200 500          | 200 500          | 200 500          |
| Operate Voltage                                                                                               | Must Operate by                                 | VDC - Max.             | 3.8 9.6                                                                              | 3.8 9.6          | 3.8 9.6          | 3.8 9.6          | 3.8 9.6          |
| Release Voltage                                                                                               | Must Release by                                 | VDC - Min.             | 0.5 1.0                                                                              | 0.5 1.0          | 0.5 1.0          | 0.5 1.0          | 0.5 1.0          |
| <b>CONTACT RATINGS</b>                                                                                        |                                                 |                        |                                                                                      |                  |                  |                  |                  |
| Switching Voltage                                                                                             | Max DC/Peak AC Resist.                          | Volts                  | 200                                                                                  | 200              | 200              | 100              | 100              |
| Switching Current                                                                                             | Max DC/Peak AC Resist.                          | Amps                   | 0.5                                                                                  | 0.5              | 0.5              | 0.25             | 0.25             |
| Carry Current                                                                                                 | Max DC/Peak AC Resist.                          | Amps                   | 1.0                                                                                  | 1.0              | 1.0              | 0.5              | 0.5              |
| Contact Rating                                                                                                | Max DC/Peak AC Resist.                          | Watts                  | 10                                                                                   | 10               | 10               | 3                | 3                |
| Life Expectancy-Typical <sup>1</sup>                                                                          | Signal Level 1.0V,10mA                          | x 10 <sup>6</sup> Ops. | 500                                                                                  | 500              | 500              | 100              | 100              |
| Static Contact Resistance (max. init.)                                                                        | 50mV, 10mA                                      | Ω                      | 0.150                                                                                | 0.150            | 0.150            | 0.200            | 0.200            |
| Dynamic Contact Resistance (max. init.)                                                                       | 0.5V, 50mA at 100 Hz, 1.5 msec                  | Ω                      | 0.200                                                                                | 0.200            | 0.200            | 0.250            | 0.250            |
| <b>RELAY SPECIFICATIONS</b>                                                                                   |                                                 |                        |                                                                                      |                  |                  |                  |                  |
| Insulation Resistance (minimum)                                                                               | Between all Isolated Pins at 100V, 25°C, 40% RH | Ω                      | 10 <sup>12</sup>                                                                     | 10 <sup>12</sup> | 10 <sup>12</sup> | 10 <sup>10</sup> | 10 <sup>10</sup> |
| Dielectric Strength (minimum)                                                                                 | Between Contacts                                | VDC/peak AC            | 300                                                                                  | 300              | 300              | 200              | 200              |
|                                                                                                               | Contacts to Shield                              | VDC/peak AC            | 1500                                                                                 | 1500             | 1500             | 1500             | 1500             |
|                                                                                                               | Contacts/Shield to Coil                         | VDC/peak AC            | 1500                                                                                 | 1500             | 1500             | 1500             | 1500             |
| Operate Time - including bounce - Typical                                                                     | At Nominal Coil Voltage, 30 Hz Square Wave      | msec.                  | 0.5                                                                                  | 0.5              | 0.5              | 1.0              | 1.0              |
| Release Time - Typical                                                                                        | No Suppression                                  | msec.                  | 0.5                                                                                  | 0.5              | 0.5              | 0.5              | 0.5              |
|                                                                                                               | Diode Suppression                               | msec.                  | 1.0                                                                                  | 1.0              | 1.0              | 1.5              | 1.5              |
| <b>Top View:</b><br>Dot stamped on top of relay refers to pin #1 location<br>Grid = .1"x.1" (2.54mm x 2.54mm) |                                                 |                        |  |                  |                  |                  |                  |

\* For SMD reed relays, maximum reflow soldering temperature is 221°C for one minute. If high temperature solder (95% Sn / 5% Sb) is used in the relay construction, the temperature limit is 226 °C for one minute.  
for through-hole relays (molded or potted), maximum wave solder temperature is 270 °C for 10 secs.

## Notes:

- <sup>1</sup> Consult factory for life expectancy at other switching loads.
- <sup>2</sup> Molded depression on top of relay refers to pin #1 location.
- <sup>3</sup> Optional coil suppression diode across pins 2(+) and 6(-).
- <sup>4</sup> Optional ES Shield is tied to pins 9 & 13.

## Environmental Ratings

Storage Temp: -35°C to +100°C;  
 Operating Temp: -20°C to +85°C  
 The operate and release voltage and the coil resistance are specified at 25°C.  
 These values vary by approximately 0.4%/°C as the ambient temperature varies.  
 Vibration: 20 G's to 2000 Hz; Shock: 50 G's