



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

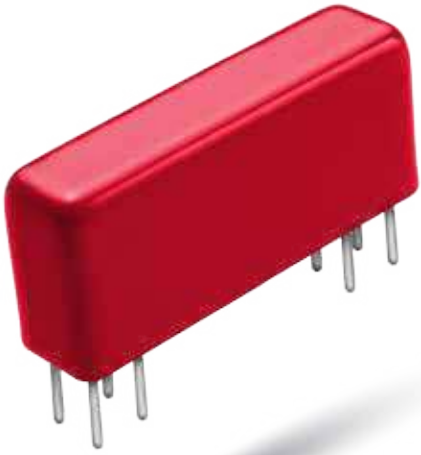
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# 2300 SERIES MULTI-POLE REED RELAYS



## 2300 Series Multi-Pole Reed Relays

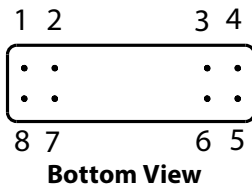
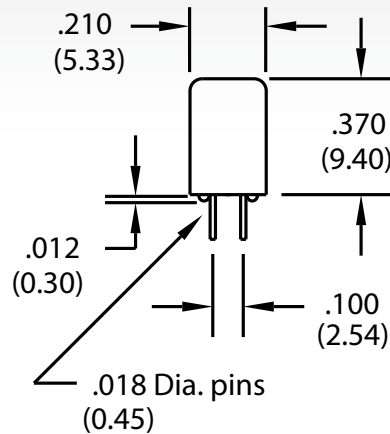
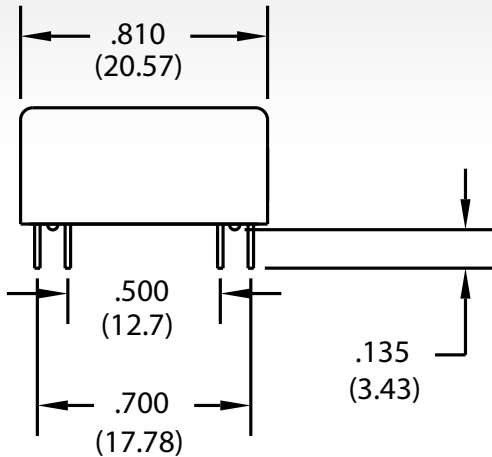
The Coto 2300 series is designed to offer the densest packaging available in a multi-pole reed relay. The size and footprint of the 2300 series complement the 2200 & 2900 series relays. The 1 Form C model is constructed with individual switch capsules for the normally open and magnetically biased normally closed contacts which are more reliable than the spring actuated 1 Form C reed switches. Custom pin-outs as well as custom designs are available to meet particular applications.

## 2300 Series Features

- ▶ Smallest Multi-pole Relay: 0.056 sq. inches/pole (3 pole relay)
- ▶ Up to 3 Form A or 2 Form C Contacts
- ▶ Hermetically Sealed Contacts
- ▶ Long Life / High Reliability
- ▶ Magnetically Shielding Steel Shell
- ▶ Optional Electrostatic Shield (on models 2332 & 2341)
- ▶ RoHS compliant

## DIMENSIONS

*in Inches (Millimeters)*



## Ordering Information

Part Number **23XX-XX-0X0**

### Model Number

2332 (2 Form A)  
2333 (3 Form A)  
2341 (1 Form C)  
2342 (2 Form C)

### Coil Voltage

05=5 volts  
12=12 volts

### Shielding Options<sup>3</sup>

2332 or 2341 only  
0=No Shielding  
1=Electrostatic Shield  
2=Coaxial Shield

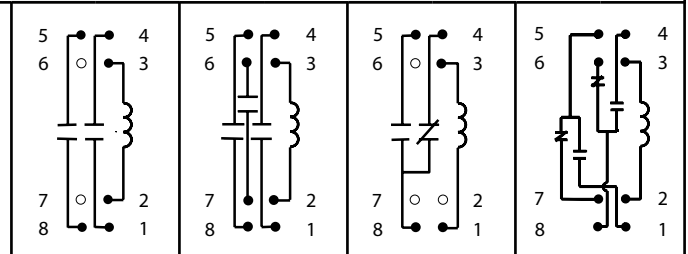
07082013

tel: (401) 943.2686

fax: (401) 942.0920

| MODEL NUMBER                                  |  |                        | 2332             | 2333             | 2341 <sup>2,4</sup> | 2342            |
|---|--|------------------------|------------------|------------------|---------------------|-----------------|
| Parameters                                    | Test Conditions                                    | Units                  | 2 Form A         | 3 Form A         | 1 Form C            | 2 Form C        |
| <b>COIL SPECS.</b>                            |  |                        |                  |                  |                     |                 |
| Nom. Coil Voltage                             |  | VDC                    | 5 12             | 5 12             | 5 12                | 5 12            |
| Coil Resistance                               | +/- 10%, 25° C                                     | Ω                      | 175 1000         | 175 1000         | 230 1000            | 175 1000        |
| Operate Voltage                               | Must Operate by                                    | VDC - Max.             | 3.8 9.0          | 3.8 9.0          | 3.8 9.0             | 3.8 9.0         |
| Release Voltage                               | Must Release by                                    | VDC - Min.             | 0.4 1.0          | 0.4 1.0          | 0.4 1.0             | 0.4 1.0         |
| <b>CONTACT RATINGS</b>                        |  |                        |                  |                  |                     |                 |
| Switching Voltage                             | Max DC/Peak AC Resist.                             | Volts                  | 200              | 200              | 200                 | 100             |
| Switching Current                             | Max DC/Peak AC Resist.                             | Amps                   | 0.5              | 0.5              | 0.5                 | 0.25            |
| Carry Current                                 | Max DC/Peak AC Resist.                             | Amps                   | 1.5              | 1.5              | 1.5                 | 0.5             |
| Contact Rating                                | Max DC/Peak AC Resist.                             | Watts                  | 10               | 10               | 10                  | 3               |
| Life Expectancy-Typical <sup>1</sup>          | Signal Level 1.0V, 10mA                            | x 10 <sup>6</sup> Ops. | 500              | 500              | 500                 | 100             |
| Static Contact Resistance (max. init.)        | 50mV, 10mA   | Ω                      | 0.150            | 0.150            | 0.150               | 0.200           |
| Dynamic Contact Resistance (max. init.)       | 0.5V, 50mA<br>at 100 Hz, 1.5 msec                  | Ω                      | 0.200            | 0.200            | 0.200               | 0.250           |
| <b>RELAY SPECIFICATIONS</b>                   |  |                        |                  |                  |                     |                 |
| Insulation Resistance (minimum)               | Between all Isolated Pins<br>at 100V, 25°C, 40% RH | Ω                      | 10 <sup>12</sup> | 10 <sup>12</sup> | 10 <sup>12</sup>    | 10 <sup>9</sup> |
| Capacitance - Typical<br>Across Open Contacts | No Shield  | pF                     | 0.8              | 0.8              | 1.7                 | 2.0             |
|   | Shield Guarding                                    | pF                     | 0.2              | N/A              | 0.7                 | N/A             |
| Dielectric Strength<br>(minimum)              | Between Contacts                                   | VDC/peak AC            | 250              | 250              | 250                 | 200             |
|   | Contacts to Shield                                 | VDC/peak AC            | 1000             | N/A              | 1000                | N/A             |
|   | Contacts/Shield to Coil                            | VDC/peak AC            | 1000             | 1000             | 1000                | 1000            |
| Operate Time -<br>including bounce - Typical  | At Nominal Coil Voltage,<br>30 Hz Square Wave      | msec.                  | 0.5              | 0.5              | 0.5                 | 1.5             |
| Release Time - Typical                        |  | msec.                  | 0.15             | 0.15             | 0.5                 | 2.0             |

Top View<sup>3</sup>:  
Dot stamped on top of relay refers to pin #1 location  
Grid = .1"x.1" (2.54mm x 2.54mm)



### Notes:

- <sup>1</sup> Consult factory for life expectancy at other switching loads. Resistance >0.5Ω defines end of life or failure to open.
- <sup>2</sup> Break-before-make action on Form C Model 2341 is not guaranteed. Consult factory if break-before-make is required.
- <sup>3</sup> Electrostatic shield (2332 & 2341 only) is connected to pin #6. Coaxial shield is connected to pins #6 and #7.
- <sup>4</sup> This relay is polarity sensitive. Pin #3 MUST be positive.

### Environmental Ratings:

Storage Temp: -35°C to +100°C; Operating Temp: -20°C to +85°C; Solder Temp: 270°C max; 10 sec. max  
All electrical parameters measured at 25°C unless otherwise specified.  
Vibration: 20 G's to 2000 Hz; Shock: 50 G's

07082013