

# 9200-9300 Series/Surface Mount Reed Relays



## SURFACE MOUNT REED RELAYS

Ideally suited to the needs of Automated Test Equipment, Instrumentation and Telecommunications requirements, Coto's 9200, and 9300 Series specification tables allow you to select the appropriate relay for your particular application. If your requirements differ, please consult your local representative or Coto's Factory to discuss a custom design.

### SERIES FEATURES

- ◆ High Insulation Resistance -  $10^{12} \Omega$  minimum ( $10^{13} \Omega$  Typical).
- ◆ High reliability, hermetically sealed contacts for long life.
- ◆ Molded thermoset body on integral lead frame design.
- ◆ High speed switching compared to electromechanical relays.

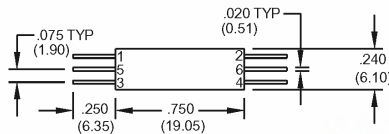
### 9200 Series

- ◆ Low profile - 0.19" height. Meets high board density requirements.
- ◆ 50  $\Omega$  Coaxial Shield for RF and Fast Rise Time Pulse switching.

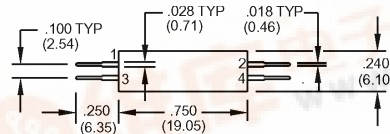
### 9300 Series

- ◆ Load switching (15 Watts) and high dielectric strength (500 VDC) between contacts.

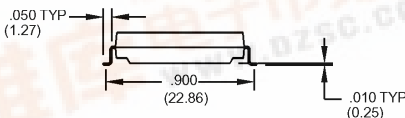
Model 9200



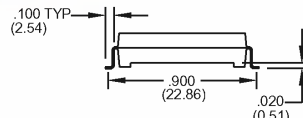
Model 9300



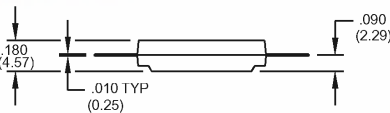
Gull Wing



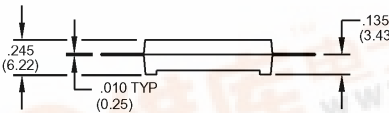
Gull Wing



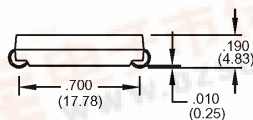
Axial



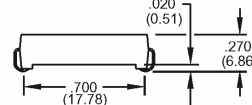
Axial



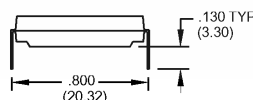
J-Lead



J-Lead



Radial



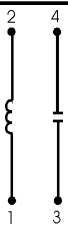
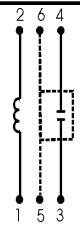
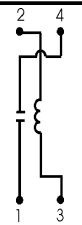
## Ordering Information

Part Number	9XXX-XX-XX	Lead Style
Model Number	9201 9202 9301	00=Gull Wing
Coil Voltage	05=5 volts	10=Axial
	12=12 volts	20=J-Lead
		30=Radial (9301 N/A)

Dimensions in Inches (Millimeters)



# 9200-9300 Series/Surface Mount Reed Relays

Model Number			9201		9202		9301	
Parameters	Test Conditions	Units	1 Form A		1 Form A 50 Ω Coaxial		1 Form A	
COIL SPECS.								
Nom. Coil Voltage		VDC	5	12	5	12	5	12
Max. Coil Voltage		VDC	6.5	15.0	6.5	15.0	6.5	15.0
Coil Resistance	+/- 10%, 25° C	Ω	250	650	150	650	350	1000
Operate Voltage	Must Operate by	VDC - Max.	3.75	9.0	3.75	9.0	3.75	9.0
Release Voltage	Must Release by	VDC - Min.	0.4	1.0	0.4	1.0	0.4	1.0
CONTACT RATINGS								
Switching Voltage	Max DC/Peak AC Resist.	Volts	200		200		200	
Switching Current	Max DC/Peak AC Resist.	Amps	0.5		0.5		0.5	
Carry Current	Max DC/Peak AC Resist.	Amps	1.5		1.5		1.5	
Contact Rating	Max DC/Peak AC Resist.	Watts	10		10		15	
Life Expectancy-Typical <sup>1</sup>	Signal Level 1.0V,10mA	x 10 <sup>6</sup> Ops.	1000		1000		250	
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.150		0.150		0.150	
Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.200		0.200		0.200	
RELAY SPECIFICATIONS								
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>	
Capacitance - Typical	No Shield	pF	0.7		-		0.7	
Across Open Contacts	Shield Floating	pF	-		0.8		-	
	Shield Guarding	pF	-		0.1		-	
Open Contact to Coil	No Shield	pF	1.4		-		1.4	
	Shield Floating	pF	-		1.4		-	
	Shield Guarding	pF	-		0.2		-	
Contact to Shield	Contacts Open, Shield Floating	pF	-		1.4		-	
Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	300		300		500 <sup>3</sup>	
	Contacts to Shield	VDC/peak AC	-		1500		-	
	Contacts/Shield to Coil	VDC/peak AC	1500		1500		1500	
Operate Time - including bounce - Typical	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.40		0.40		0.40	
Release Time - Typical	Zener-Diode Suppression <sup>4</sup>	msec.	0.10		0.10		0.10	
Top View: Dot stamped on top of relay refers to pin #1 location								

## Notes:

<sup>1</sup>Consult factory for life expectancy at other switching loads.

<sup>2</sup>Surface mount component processing temperature: 430°F(221°C) max for 1 minute dwell time. Temperature measured on leads where lead exits molded package.

<sup>3</sup>Higher dielectric strength available, consult factory.

<sup>4</sup>Consists of 20V Zener-diode and 1N1002 diode in series, connected in parallel with coil.

## 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