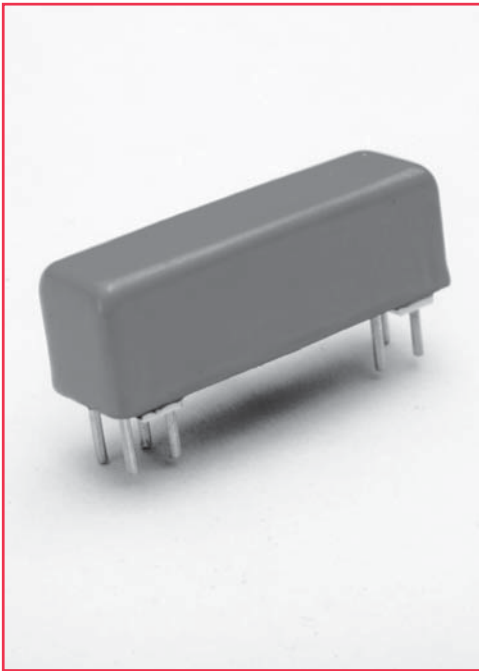


# 2900 Series Reed Relays

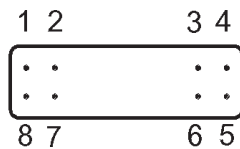
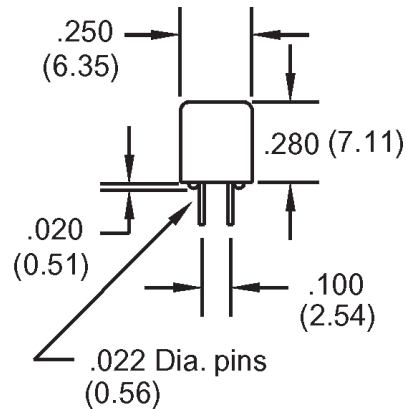
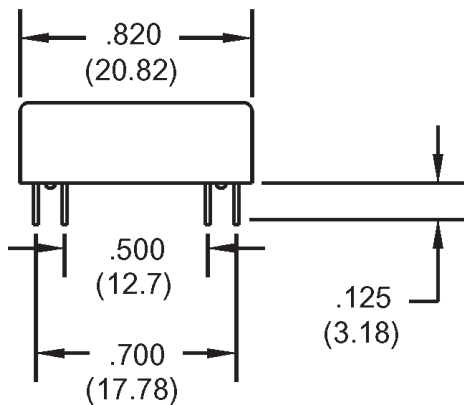


## 2900 Series Reed Relays

Ideally suited to the needs of Automated Test Equipment and RF requirements. The specification tables allow you to select the appropriate relay for your particular application. Slightly larger than the 2200 Series; these relays provide maximum versatility with options such as a Form C with electrostatic or co-axial shielding. If your requirements differ, please consult your local representative or Coto's Factory.

## 2900 Series Features

- ◆ Very small (0.20 in<sup>2</sup>), high reliability reed relays
- ◆ High Insulation Resistance - 10<sup>12</sup> Ω offered on some models
- ◆ High speed switching compared to electromechanical relays
- ◆ Hermetically sealed contacts for long life
- ◆ Epoxy coated steel shell provides magnetic shielding
- ◆ Optional Electrostatic Shield for reducing capacitive coupling
- ◆ Optional Coaxial Shield for 50 Ω impedance and switching of fast rise time digital pulses



**Bottom View**

*Dimensions in Inches (Millimeters)*

## Ordering Information

Model Number	Part Number	Coil Voltage	Shielding Options <sup>2</sup>
2904	29XX-XX-XX1	05=5 volts	0=No Shield
2911		12=12 volts	1=Electrostatic Shield
2920			2=Co-axial Shield

**Coil Options**

- 1=Use for Model #2920 (5 & 12 volt coil)
- 3=Use for Model #2904 (12 volt coil) and for Model #2911 (5 & 12 volt coil)
- 4=Use for Model #2904 (5 volt coil)

# 2900 Series Reed Relays

Model Number			2904 <sup>2</sup>		2911 <sup>2</sup>		2920 <sup>2,3</sup>	
Parameters	Test Conditions	Units	1 Form A		1 Form C		1 Form A Hg Wet	
<b>COIL RESISTANCE</b>								
Nom. Coil Voltage		VDC	5	12	5	12	5	12
Coil Resistance	+/- 10%, 25° C	Ω	370	1500	230	1500	75	250
Operate Voltage	Must Operate by	VDC - Max.	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
<b>CONTACT RATING</b>								
Switching Voltage	Max DC/Peak AC Resist.	Volts	200		150		500	
Switching Current	Max DC/Peak AC Resist.	Amps	0.5		0.25		1.0	
Carry Current	Max DC/Peak AC Resist.	Amps	1.5		1.0		2.0	
Contact Rating	Max DC/Peak AC Resist.	Watts	10		3		50	
Life Expectancy-Typical <sup>1</sup>	Signal Level 1.0V, 10mA	x 10 <sup>6</sup> Ops.	500		100		1000	
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.100		0.150		0.075	
Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.200		0.200		0.100	
<b>RELAY SPECIFICATIONS</b>								
Insulation Resistance (minimum)	Between all Isolated Pins at 100V, 25°C, 40% RH	Ω	10 <sup>12</sup>		10 <sup>11</sup>		10 <sup>10</sup>	
Capacitance - Typical Across Open Contacts	Shield Floating	pF	1.0		2.0		1.4	
	Shield Guarding	pF	0.3		1.0		0.2	
Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	350		200		1000	
	Contacts to Shield	VDC/peak AC	350		200		1000	
	Contacts/Shield to Coil	VDC/peak AC	1500		1500		1500	
Operate Time - including bounce - Typical	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.5		1.0		1.5	
Release Time - Typical	Zener-Diode Suppression <sup>4</sup>	msec.	0.1		2.0		1.0	
Top View: 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.
- <sup>2</sup>Model 2904, 2911 and 2920, pin #7 is tied to optional electrostatic shield, pins #6 & #7 are tied to optional coaxial shield.
- <sup>3</sup>Model 2920 has Hg wet contacts - position sensitive, must be mounted within 30° of vertical plane. See schematic. Hg Content per capsule: Form A, 0.04 grams.
- <sup>4</sup>Consists of 56V Zener diode and 1N4148 diode in series, connected in parallel with coil.

## Environmental Ratings:

Storage Temp: -35°C to +100°C;  
 Operating Temp: -20°C to +85°C  
 Solder Temp: 270°C max; 10 sec. max  
 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