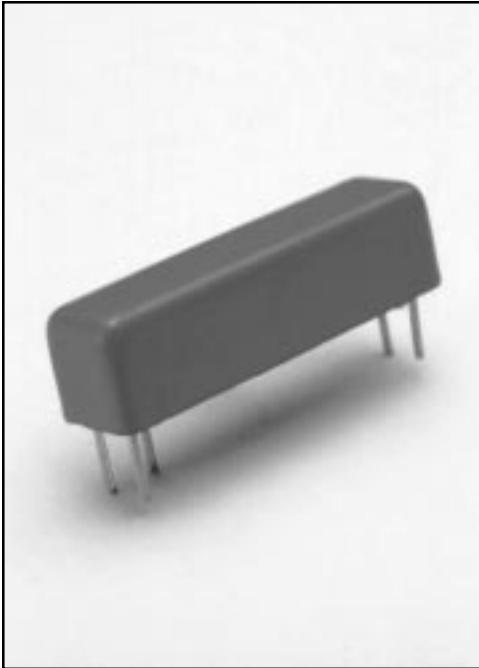


# 2200 Series/Microminiature Reed Relays

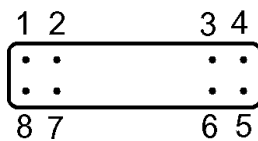
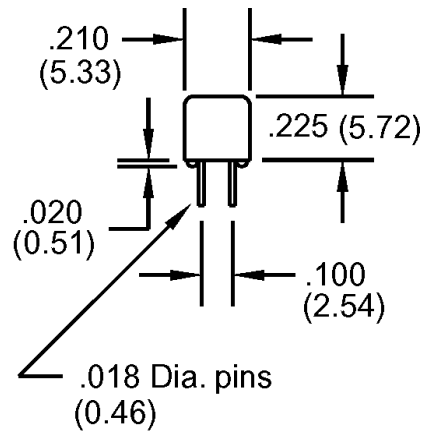
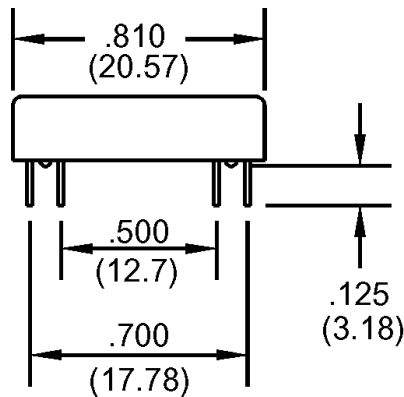


## MICROMINIATURE REED RELAYS

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. If your requirements differ, please consult your local representative or Coto's Factory.

## 2200 SERIES FEATURES

- ◆ Very small (0.17 in<sup>2</sup>), high reliability reed relays.
- ◆ High Insulation Resistance - 10<sup>12</sup> Ω available with 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 offered on some models.
- ◆ Relay models 2200-2301, 2200-2302, are ATE industry standards. Specifically engineered for OEM designs and maintenance of existing production fixtures.



Bottom View

Dimensions in Inches (Millimeters)

## Ordering Information

Part Number	XXXX-XX-XX1	Shielding Options <sup>2</sup>
Model Number		
2204		0 = No Shielding
2211		1 = Electrostatic Shield (N/A on Model #2211)
	Coil Voltage	2 = Coaxial Shield (N/A on Model #2211)
	05 = 5 volts	
	12 = 12 volts	
	Coil Options	
	3 = use for Model #2204 (12 volt coil) and Model #2211 (5 & 12 volt coil)	
	4 = use for Model #2204 (5 volt coil)	

### Note:

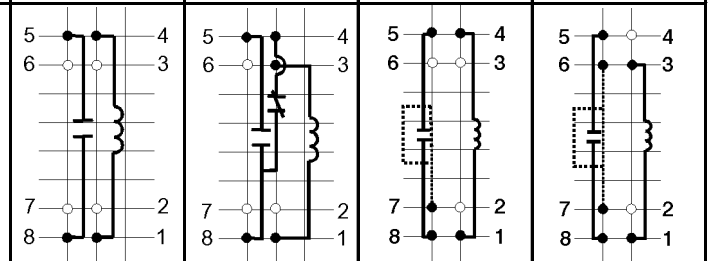
Model #'s 2200-2301 & 2200-2302 represent complete part numbers.

# 2200 Series/Microminiature Reed Relays

## Model Numbers Parameters

Parameters	Test Conditions	Units	2204 <sup>2</sup> 1 Form A	2211 1 Form C For Shield Option See 2911	2200-2301 1 Form A Electrostatic Shield	2200-2302 1 Form A Coaxial Shield
<b>COIL SPECS.</b>						
Nom. Coil Voltage		VDC	5 12	5 12	5	5
Coil Resistance	+/- 10%, 25° C	Ω	370 1500	230 1500	150	150
Operate Voltage	Must Operate by	VDC - Max.	3.8 9.0	3.8 9.0	3.6	3.6
Release Voltage	Must Release by	VDC - Min.	0.4 1.0	0.4 1.0	0.5	0.5
<b>CONTACT RATINGS</b>						
Switching Voltage	Max DC/Peak AC Resist.	Volts	200	100	150	150
Switching Current	Max DC/Peak AC Resist.	Amps	0.5	0.25	0.5	0.5
Carry Current	Max DC/Peak AC Resist.	Amps	1.0	0.5	1.0	1.0
Contact Rating	Max DC/Peak AC Resist.	Watts	10	3	10	10
Life Expectancy-Typical <sup>1</sup>	Signal Level 1.0V,10mA	x 10 <sup>6</sup> Ops.	500	100	500	500
Rated Loads		x 10 <sup>6</sup> Ops.	5	5	5	5
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.100	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	0.200
<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>11</sup>	10 <sup>11</sup>
Capacitance - Typical	Shield Floating	pF	0.9	0.9	0.9	0.9
Across Open Contacts	Shield Guarding	pF	0.2	N/A	0.2	0.2
Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	250	200	250	250
	Contacts to Shield	VDC/peak AC	250	N/A	250	250
	Contacts/Shield to Coil	VDC/peak AC	1500	1500	1500	1500
Operate Time - including bounce	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.5 (typ.)	1.0 (typ.)	0.55 (max.)	0.55 (max.)
Release Time - Typical	Zener-Diode Suppression	msec.	0.1	2.0	0.1	0.1

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 2204, pin #7 is tied to optional electrostatic shield, pins #6 & #7 are tied to optional coaxial shield.

### 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