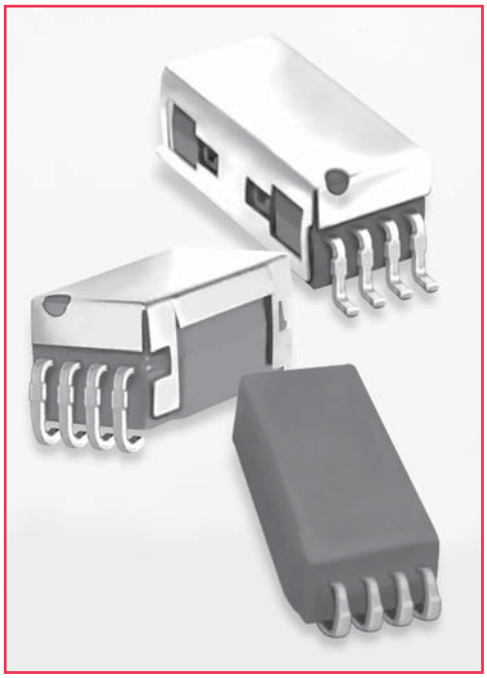
9800 Series/Surface Mount Reed Relays



SURFACE MOUNT REED RELAYS

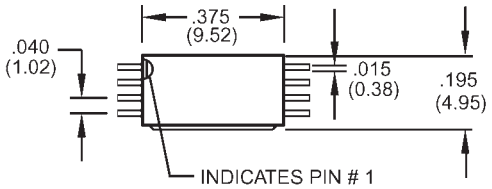
Ideally suited to the needs of Automated Test Equipment, Instrumentation and Telecommunications requirements, Coto's 9800 Series is an ultra-miniature Surface Mount Reed Relay that combines small size with exceptional RF performance. 9814 extends life at ATE loads 3X or more utilizing Coto's proprietary switch technology. The external Magnetic Shield reduces interaction between parts in high density boards. 9852 adds a form C capability. Small size plus added features allow for high density packing, and make these relays ideal for designs such as high speed, high pin count VLSI testers where speed, size and performance are all needed.

SERIES FEATURES

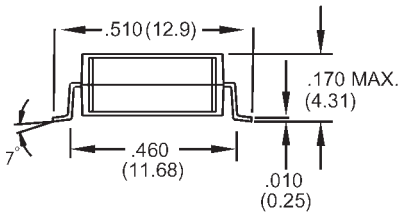
- Available in Axial, Gull wing and "J" lead configurations
- Tape and Reel packaging available
- High reliability, hermetically sealed contacts for long life
- High Insulation Resistance - 10^{12} Ω minimum
- Coaxial shield for 50 Ω impedance. Excellent for RF and Fast Rise Time Pulse switching (up to 6 GHz)
- External Magnetic Shield

Dimensions in Inches (Millimeters)

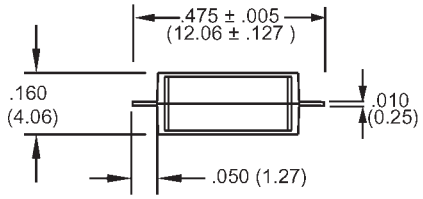
Model 9802



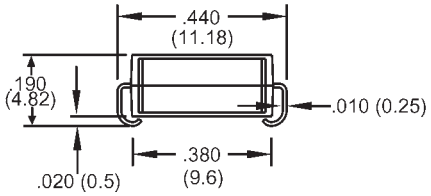
Gull Wing[2]



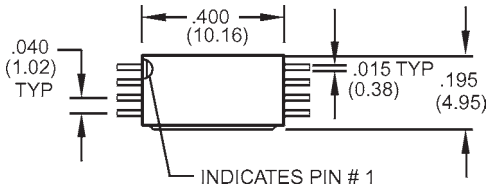
Axial

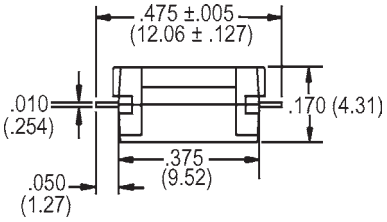


J-Lead[2]

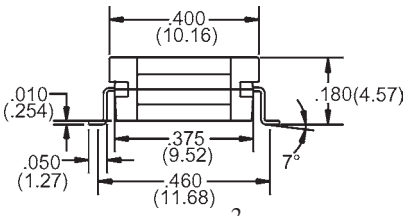


Models 9814 & 9852

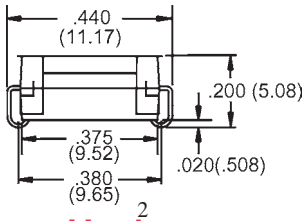




Axial



Gull Wing[2]



J-Lead[2]

Ordering Information

Part Number 9XXX-XX-XX

Model Number
9802 9814 9852

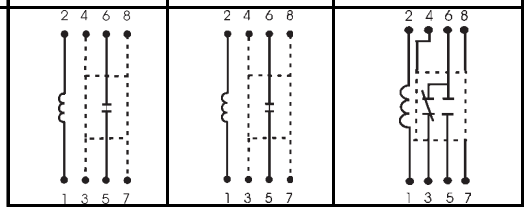
Coil Voltage
03=3.3 volts (9814 & 9852)
05=5 volts

Lead Style
00=Gull Wing
10=Axial
20=J-Lead

9800 Series/Surface Mount Reed Relays

Model Number			9802	9814	9852
Parameters	**Test Conditions**	**Units**	**1 Form A 50 Ω Coaxial**	**1 Form A 50 Ω Coaxial**	**1 Form C 50 Ω Coaxial**
COIL SPECIFICATIONS					
Nom. Coil Voltage		VDC	5	3.3 5	3.3 5
Max. Coil Voltage		VDC	6	4 6	4 6
Coil Resistance	+/- 10%, 25° C	Ω	150	70 150	70 110
Operate Voltage	Must Operate by	VDC - Max.	3.8	2.5 3.8	2.5 3.8
Release Voltage	Must Release by	VDC - Min.	0.4	0.4 0.4	0.4 0.4
CONTACT RATINGS					
Switching Voltage	Max DC/Peak AC Resist.	Volts	100	100	30
Switching Current	Max DC/Peak AC Resist.	Amps	0.25	0.25	0.1
Carry Current	Max DC/Peak AC Resist.	Amps	0.5	0.5	0.2
Contact Rating	Max DC/Peak AC Resist.	Watts	3	3	3
Life Expectancy-Typical[1]	Signal Level 1.0V,10mA	x 10^6 Ops.	250	1000	200 N/O 100N/C
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.125	0.125	0.150
Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.150	0.150	0.150
RELAY SPECIFICATIONS					
Insulation Resistance (minimum)	Between all Isolated Pins at 100V, 25°C, 40% RH	Ω	10^{12}	10^{12}	10^9
Capacitance - Typical Across Open Contacts	No Shield	pF	-	-	-
	Shield Floating	pF	-	-	-
	Shield Guarding	pF	0.2	0.2	1.0
Open Contact to Coil	No Shield	pF	-	-	-
	Shield Floating	pF	-	-	-
	Shield Guarding	pF	0.5	0.5	1.0
Closed Contact to Coil	Shield Guarding	pF	0.5	0.5	0.5
Contact to Shield	Contacts Open, Shield Floating	pF	-	-	-
Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	200	200	200
	Contacts to Shield	VDC/peak AC	1500	1500	1000
	Contacts/Shield to Coil	VDC/peak AC	1500	1500	1000
Operate Time - including bounce - Typical	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.25	0.25	0.26
Release Time - Typical	Zener-Diode Suppression[3]	msec.	0.05	0.05	0.26

Top View:
Dot stamped on top of relay refers to pin #1 location



Notes:

[1] Consult factory for life expectancy at other switching loads. Contact resistance 2.0Ω defines end of life.

[2] Surface mount component processing temperature: 438°F(226°C) max for 1 minute dwell time. Temperature measured on leads where lead exits molded package.

[3] 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