1 Description

The 9094 Series is the high power 20W version of Coto Technology's industry standard 9091 MiniSIP relay. The robust contacts and small size of the 9094 series make it ideal for ATE and other high-reliability test and measurement applications where high board density and long life are key requirements.

Device Packages



2 Features

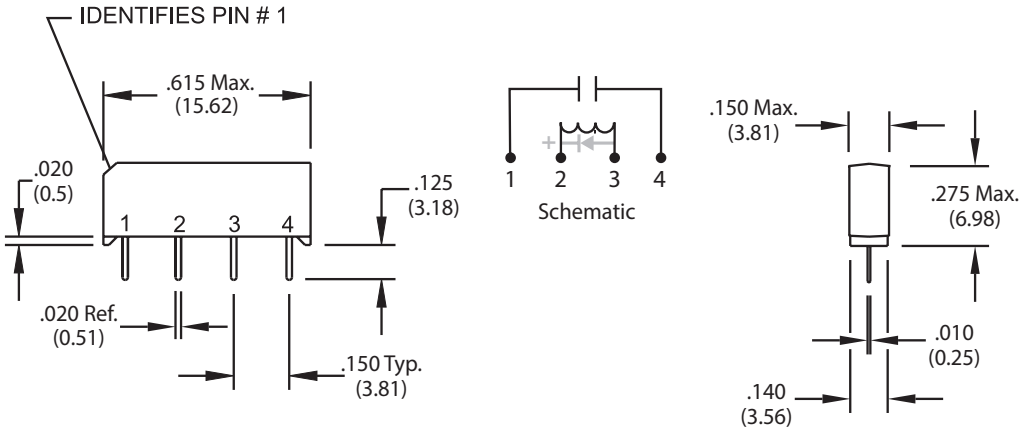
- 9094 is a 20W SIP relay measuring .615" x .150" x .275"
- 40% less board space (LxW) than the 9001 series
- Optional Coil Suppression Diode – protects coil drive circuits
- High insulation resistance - $10^{12}\,\Omega$
- Molded thermoset body on integral lead frame design
- High reliability, hermetically sealed contacts for long life
- High speed switching compared to electromechanical relays
- RoHS compliant

3 Applications

- Automated Test Equipment
- Instrumentation
- Telecommunications

4 Dimensions

In Inches (Millimeters)



5 Ordering Information

Ordering Information

Part Number 9094-XX-0X

Model Number
9094

Coil Voltage
05=5 volts
12=12 volts

General Options[2]
0=No Diode
1=Diode

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6 Parameters - Model Number 9094

Parameters	Test Conditions	Units	(20 Watt) 1 Form A SIP
Coil Specs.			
Nom. Coil Voltage		VDC	5.0 12.0
Max. Coil Voltage		VDC	6.5 15.0
Coil Resistance	+/- 10%, 25°C	Ω	125 500
Operate Voltage	Must Operate By	VDC - Max.	3.75 9.0
Release Voltage	Must Operate By	VDC - Min.	0.4 1.0
Contact Ratings			
Switching Voltage	Max DC/Peak AC Resist.	Volts	200
Switching Current	Max DC/Peak AC Resist.	Amps	0.5
Carry Current	Max DC/Peak AC Resist.	Amps	1.5
Contact Rating	Max DC/Peak AC Resist.	Watts	20
Life Expectancy - Typical[1]	Signal Level 1.0V, 10mA	x 10^6 Ops.	500
Static Contact Resistance (Max. Init.)	50mV, 10mA	Ω	0.125
Dynamic Contact Resistance (Max. Init.)	0.5V, 50mA at 100Hz, 1.5msec.	Ω	0.150
Relay Specifications			
Insulation Resistance (Min.)	Between all Isolated Pins at 100V, 25°C, 40%RH	Ω	10^{12}
Capacitance - Typical	Across Open Contacts Open Contact to Coil	pF	0.1 2.0
Dielectric Strength (Min.)	Between Contacts Contacts to Coil	VDC/peak AC	200 1500
Operate Time - Including Bounce - Typical	At Nominal Coil Voltage, 30Hz, Square Wave	msec.	0.5
Release Time - Typical		msec.	0.30

General Notes:

1. Consult factory for life expectancy at other switching loads. Resistance > 0.5 Ω or failure to open defines end of life.
2. Optional diode available connected to pin #2 (cathode) and #3 (anode). Correct coil polarity must be observed by connecting the positive terminal of the applied voltage to the cathode pin.

Environmental Ratings:

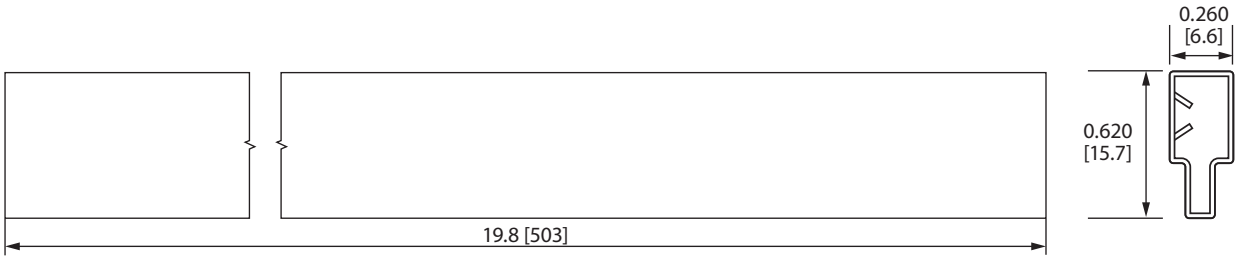
Storage Temp:-35°C to + 100°C; Operating Temp: -20°C to +85°C
All electrical parameters measured at 25°C unless otherwise specified.
Vibration: 20 G's to 2000 Hz; Shock: 50 G's

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7 Package Information

Plastic Tube Dimensions

- 30 relays per tube



8 Relay Processing Notes

8.1 Soldering

Relays can be soldered by hand or by wave solder processing. Coto Technology recommends the maximum wave solder temperature (measured at the relay leads) as 270°C for 10 seconds. Temperature and time in excess of the recommended levels may result in damage to the relay. All our through-hole relays are compatible with either SAC alloy or eutectic soldering process.

8.2 Cleaning

9094 is designed and manufactured to provide an adequate seal from external conditions. However, caution must be taken during the cleaning process not to expose the relays to conditions that will allow moisture to permeate into the package. Caution should be taken with dwell time between reflow and cleaning, high pressure spraying, and time in cleaning solvent/aqueous solutions, as these cleaning process parameters can contribute to moisture permeation. Board level bake out may be required after wash to remove moisture that has been introduced during cleaning operations.

8.3 Relay Storage

Relay parametric specifications are specified at 25°C and 40% RH. Reduced relay performance may result if storage or use environments significantly exceed these conditions. If high insulation resistance is required, Coto Technology recommends that relay storage, processing, and use environments are adequate to achieve the desired results. Relays should be stored in similar environmental conditions as other high-reliability active and passive electronic components. Proper storage of relays is also important to maintain solderability over an extended period of time.

8.4 Handling

Relays should be handled with care. Dropping or mishandling relays may result in damage that can contribute to a direct failure or, even worse, a latent field failure. If relays are dropped, Coto Technology recommends that they should be discarded.

Coto Technology does not recommend use of ultrasonic activated equipment with relays. The use of ultrasonic equipment may change the characteristics of the relay and can contribute to failure.

For more
technical and application information,
please refer to the QR code above.

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