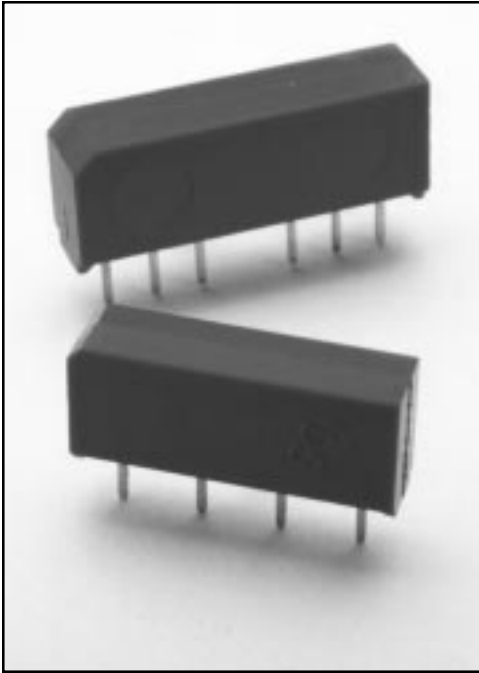


9000 Series / Molded SIP Reed Relays



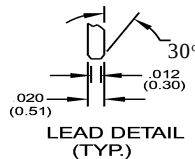
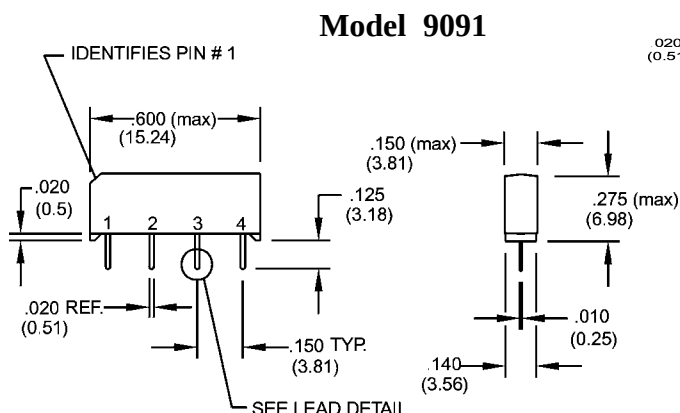
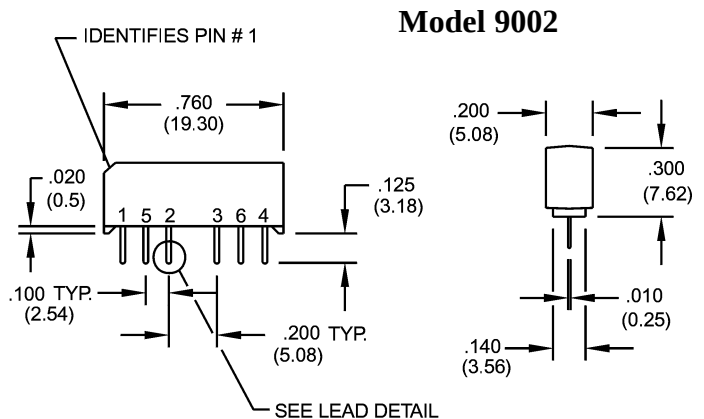
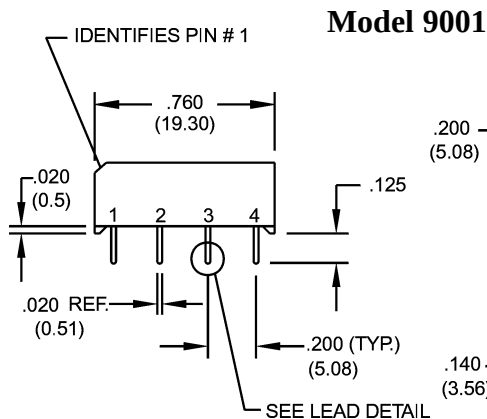
HIGH PERFORMANCE SIP REED RELAYS

The SIP relay is the industry standard when high reliability and consistent performance are desired in a compact package. The 9001 and 9002 are high performance relays ideally suited for Automatic Test Equipment, Instrumentation, RF, and Telecommunications applications. The 9091 is a compact version of the 9001. It offers many of the same features of the larger package while using 40% less board space. The specification tables allow you to select the appropriate relay for your application.

SERIES FEATURES

- ◆ High Insulation Resistance - $10^{12} \Omega$ minimum. ($10^{13} \Omega$ typical)
- ◆ High reliability, hermetically sealed contacts for long life. Tested to 1 Billion Operations.
- ◆ High dielectric strength available, consult factory.
- ◆ High speed switching compared to electromechanical relays.
- ◆ Molded thermoset body on integral lead frame design.
- ◆ Coaxial Shield for 50 Ω impedance and switching of fast rise time digital pulses - 9002 only.
- ◆ Optional Coil Suppression Diode - protects coil drive circuits.
- ◆ UL File # E-67117, CSA File # LR 28537

Dimensions in Inches (Millimeters)

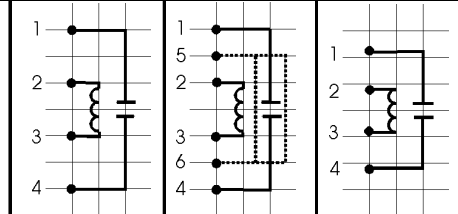


Ordering Information

Part Number	90XX-XX-XX	General Options
Model Number	9001 9002 9091	0=No Diode
Coil Voltage	05=5 volts 12=12 volts	1=Diode ²
Magnetic Shield Option	0=No Shield 1=Magnetic Shield (9091 Model)	2=Form B Contacts (Normally Closed ³) (9001 & 9002 Models, 5V only)

9000 Series / Molded SIP Reed Relays

Model Number			9001 ²	9002 ²	9091 ²
Parameters	Test Conditions	Units	4 Pin SIP	6 Pin SIP	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	500 1000	350 750	500 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	10
Life Expectancy-Typical ¹	Signal Level 1.0V, 1.0mA	x 10 ⁶ Ops.	1000	1000	500
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.150	0.150	0.125
Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.200	0.200	0.150
RELAY SPECIFICATIONS					
Insulation Resistance (minimum)	Between all Isolated Pins at 100V, 25°C, 40% RH	Ω	10 ¹²	10 ¹²	10 ¹²
Capacitance - Typical Across Open Contacts	No Shield	pF	0.7	-	0.1
	Shield Floating	pF	-	0.8	-
	Shield Guarding	pF	-	0.1	-
Open Contact to Coil	No Shield	pF	1.4	-	2.0
	Shield Floating	pF	-	1.4	-
	Shield Guarding	pF	-	0.5	-
Contact to Shield	Contacts Open, Shield Floating	pF	-	1.4	-
	Between Contacts	VDC/peak AC	300	300	200
	Contacts to Shield	VDC/peak AC	-	1500	-
Dielectric Strength (minimum)	Contacts/Shield to Coil	VDC/peak AC	1500	1500	1500
	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.35	0.35	0.50
	Zener-Diode Suppression ⁴	msec.	0.10	0.10	0.30
Release Time - Typical	Diode Suppression		-	-	0.12



Top View:
Dot stamped
on relay refers
to pin #1
Grid = .1"x.1"
(2.54mm x 2.54mm)

Notes:

¹Consult factory for life expectancy at other switching loads. 9090 series contact resistance >0.5W defines end of life or failure to open.

²Optional diode is connected to pin #2 (+) and pin #3(-). Correct coil polarity must be observed.

³9000 series part numbers designated with Form B contacts, these relays contain bias magnets. Correct coil polarity must be observed.

⁴Consists 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
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