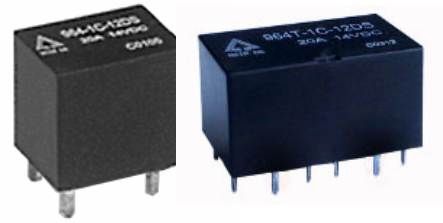


964 Series Relay

FEATURES

- Compact lightweight structure.
- High current contact capacity (20A carrying current).
- High resistance to vibration and shock.
- 20A 14VDC switching rating.
- Nominal power 600mW (A type 800mW).
- Operating power 340mW (A type 290mW).



CONTACT RATINGS

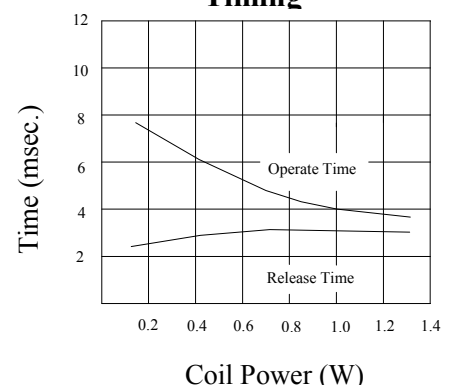
Contact Arrangement.....	1 Form C (SPDT)
Max. Switching Power.....	280W
Max. Switching Voltage.....	18VDC
Max. Switching Current.....	25A
Contact Resistance	$\leq 100\text{m}\Omega$
Rating Load.....	20A/14VDC
Contact Material.....	Ag Alloy

CHARACTERISTICS

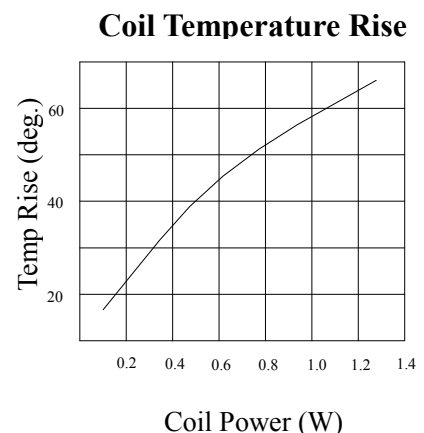
- Electrical Life..... 1×10^5
- Mechanical Life..... 1×10^7
- Initial Insulation Resistance.....Min. 100M Ω 500VDC
- Contact Resistance (Initial)..... $\leq 100\text{m}\Omega$
- Operate Time..... $\leq 10\text{ms}$
- Release Time..... $\leq 5\text{ms}$
- Initial Dielectric Strength
 -50/60Hz 500VAC 1 min. (between open contacts)
 -50/60Hz 1000VAC 1 min. (between contacts and coil)
- Vibration Resistance
 -Malfunction: 10 to 55Hz at Double Amplitude of 1.5mm
 -Destructive: 10 to 55Hz at Double Amplitude of 1.5mm
- Shock Resistance
 -Malfunction: 10G (11ms) / Destructive: 100G (6ms)
- Ambient Temperature..... $-30^\circ\text{C} \sim +85^\circ\text{C}$
- Relative Humidity.....85% at 40°C
- Unit Weight.....Approx. 6g

964 Referential Data

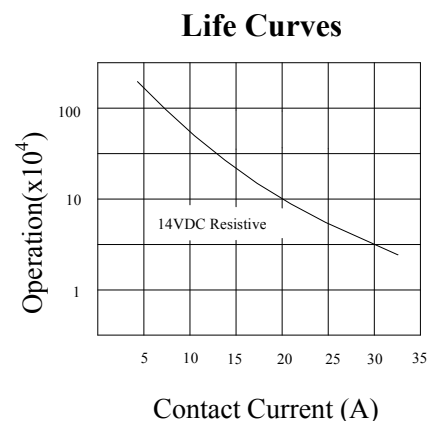
Timing



Coil Temperature Rise



Life Curves



ORDERING INFORMATION

964 I A -1C -12 D S

1 2 3 4 5 6 7

Enclosure.....Nil = General Type

.....S = Sealed Type

Coil Type.....D: DC

Coil Voltage.....5~24V

Contact Arrangement.....1C = 1 Form C (SPDT)

Contact Gap.....Nil = General Contact Gap Type

.....A = Wide Contact Gap Type

Optional.....Nil = General Type

.....T = Twin Relay with Length Cover

Model Number.....964

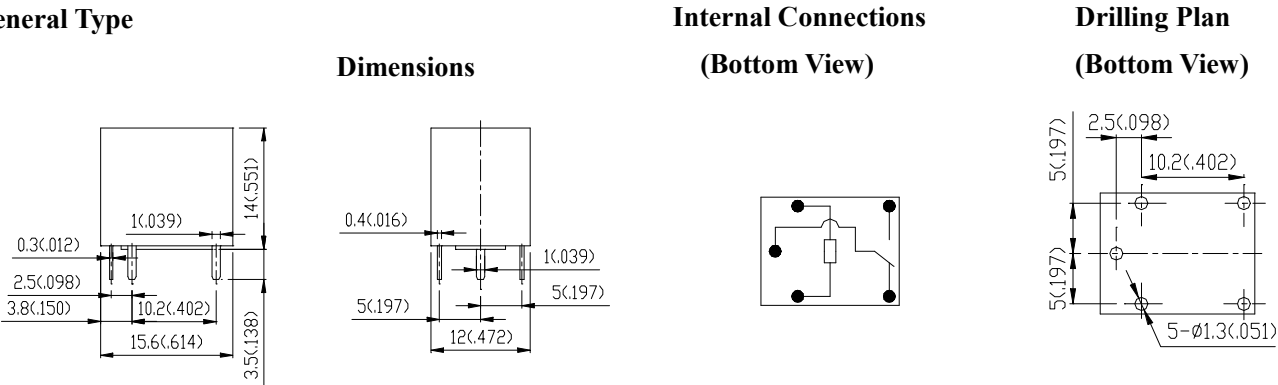
COIL RATINGS (at 20°C)

COIL TYPE	Coil Nominal Voltage (V)	Coil Resistance ($\Omega \pm 10\%$)	Pick-Up Voltage (V) $\leq$	Drop-Out Voltage (V) $\geq$	Nominal Current (mA)
Standard Coils (Contactgap=0.3mm)	5	42	3.0	0.5	119
	6	60	3.6	0.6	100
	9	135	5.4	0.9	66.7
	12	240	7.2	1.2	50
	24	960	14.4	2.4	25
A Type Coils (Contact Gap=0.6mm)	5	31	3.0	0.5	161
	6	45	3.6	0.6	133.4
	9	100	5.4	0.9	90
	12	180	7.2	1.2	66.7
	24	720	14.4	2.4	33.3

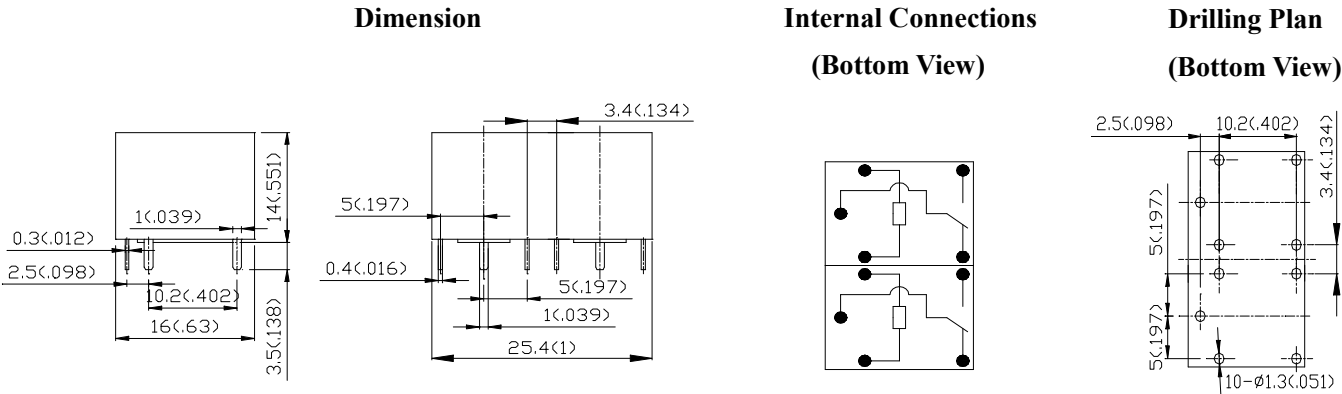
* Max Continuous Voltage at 20°C: 110% of Coil Nominal Voltage.

OUTLINE DIMENSIONS

General Type



T Type



REMARK: Tolerance of outline dimensions: $\pm 0.2(.008)$.
UNIT: mm (inch)

LIFE TEST (EXAMPLE)

Test Item	Test Circuit	Current Wave form
14VDC-20A motor lock 200,000operation minimum		
14VDC-20A motor free 400,000operation minimum		