

FEATURES

- Subminiature automotive relay with reliability.
- Size: 18.9(L)×15.5(W)×15(H).
- Weight: Approx.10g.
- High performance / Low profile.
- Nominal power 360mW.
- Operating power 200mW.
- Three kinds of resistance 180 Ω , 320 Ω and 400 Ω for selection with coil voltage 12VDC.



CONTACT RATINGS

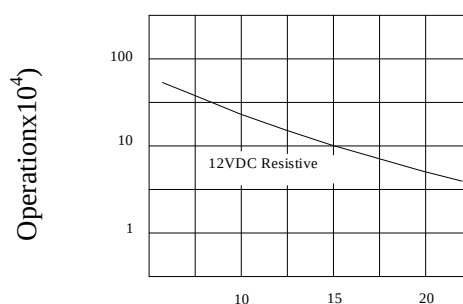
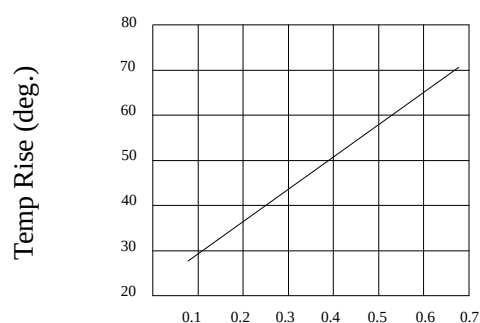
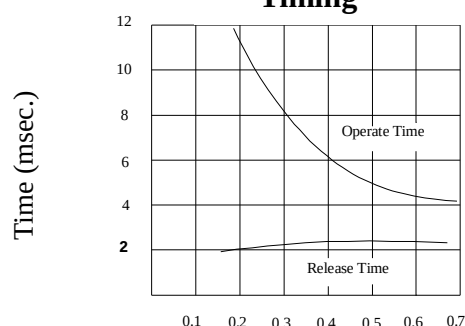
- Contact Arrangement
 -1 Form A(SPST-NO)
 -1 Form C(SPDT)
- Max. Switching Power.....210W
- Max. Switching Voltage.....14VDC
- Max. Switching Current.....15A
- Contact Resistance..... $\leq 100\text{m}\Omega$
- Rating Load.....15A/14VDC
- Contact Material.....Ag Alloy

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 750VAC 1 min. (between open contacts)
 -50/60Hz 1500VAC 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..... $-30^\circ\text{C} \sim +60^\circ\text{C}$
- Relative Humidity.....85% at 40°C
- Unit Weight.....Approx. 10g

963 Referential Data

Timing



Contact Current (A)

ORDERING INFORMATION

963 - 1C - 12 D S
1 2 3 4 5

Enclosure..... Nil = General Type
.....S = Sealed Type

Coil Type.....D: DC

Coil Voltage.....3~48V

Contact Arrangement..... 1A = 1 Form A (SPST-NO)
.....1C = 1 Form C (SPDT)

Model Number.....963

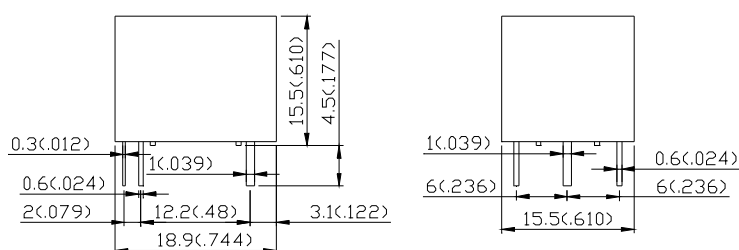
COIL RATINGS (at 20°C)

COIL TYPE	Coil Nominal Voltage (V)	Coil Resistance ($\Omega \pm 10\%$)	Pick-Up Voltage (V) $\leq$	Drop-Out Voltage (V) $\geq$	Nominal Current (mA)
DC Standard Coils	3	25	2.25	0.3	120
	5	70	3.75	0.5	71
	6	100	4.5	0.6	60
	9	225	6.75	0.9	40
	12	400	9	1.2	30
	18	900	13.5	1.8	20
	24	1600	18	2.4	15
	48	6400	36	4.8	7.5
Special Coils(I)	12	180	9	1.2	67
	22	1340	16.5	2.2	16.4
Special Coils(II)	12	320	9	1.2	37.5

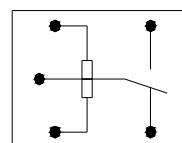
* Max Continuous Voltage at 20°C: 110% of Coil Nominal Voltage.

OUTLINE DIMENSIONS

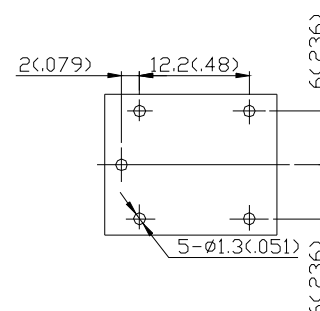
Dimensions



Internal Connections
(Bottom View)



Drilling Plan
(Bottom View)



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

UNIT: mm (inch)