Automotive Relay	KA

Features
- Compact size
- 20A switching capability
- Small size auto relay

c UL us
(File No.:E122258)

1. COIL DATA (at 20°C)

1) Coil Power "L" Type

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Current (mA)(±10%)	Coil Resistance (Ω)	Coil Power (mW)
6	3.90	0.48	7.80	100	60 x (1±10%)	600
9	5.85	0.72	11.7	66.7	135 x (1±10%)	
12	7.80	0.96	15.6	50.0	240 x (1±10%)	
24	15.6	1.92	31.2	25.0	960 x (1±10%)	

2) Coil Power "D" Type

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Current (mA)(±10%)	Coil Resistance (Ω)	Coil Power (mW)
6	3.90	0.48	7.80	133.3	45 x (1±10%)	800
9	5.85	0.72	11.7	88.9	100 x (1±10%)	
12	7.80	0.96	15.6	66.7	180 x (1±10%)	
24	15.6	1.92	31.2	33.3	720 x (1±10%)	

2. CONTACT DATA

Contact Arrangement		1 Form A, 1 Form C
Contact Resistance		100mΩ max. (at 1A 6VDC)
Contact Material		$AgSnO_2$
Load		Resistive load (COSΦ=1)
Contact Ratings		NO: 20A 14VDC NC: 12A 14VDC, 1C: 7A 120VAC
Minimum Load		100mA 5VDC
Max. Switching Voltage		250VAC / 16VDC
Max. Switching Current		25A
Max. Switching Power		840VA / 280W
Life Expectancy	Electrical	100,000 operations (at 30 operations/minute)
	Mechanical	10,000,000 operations (at 300 operations/minute)

3. CHARACTERISTICS

Insulation Resistance		100MΩ Min. (at 500VDC)
Dielectric Strength	Open Contacts	500VAC 1min
	Coil and Contacts	500VAC 1min
Operate Time		10ms
Release Time		5ms
Temperature Range		-40℃ ~ 85℃
Shock Resistance	Operating Extremes	10G
	Damage Limits	100G
Vibration Resistance		10 ~ 55Hz, 1.5mm
Max. switching frequency	Mechanical	18,000 operations/hr
	Electrical	1,800 operations/hr
Humidity		35 ~ 85%
Termination		PCB
Weight		Approx. 6g
Outline Dimension (L x W x H)		15.7 x 12.3 x 14.0mm

4. SAFETY APPROVAL RATINGS

UL / cUL	NO: 20A 14VDC NC: 12A 14VDC 7A 120VAC

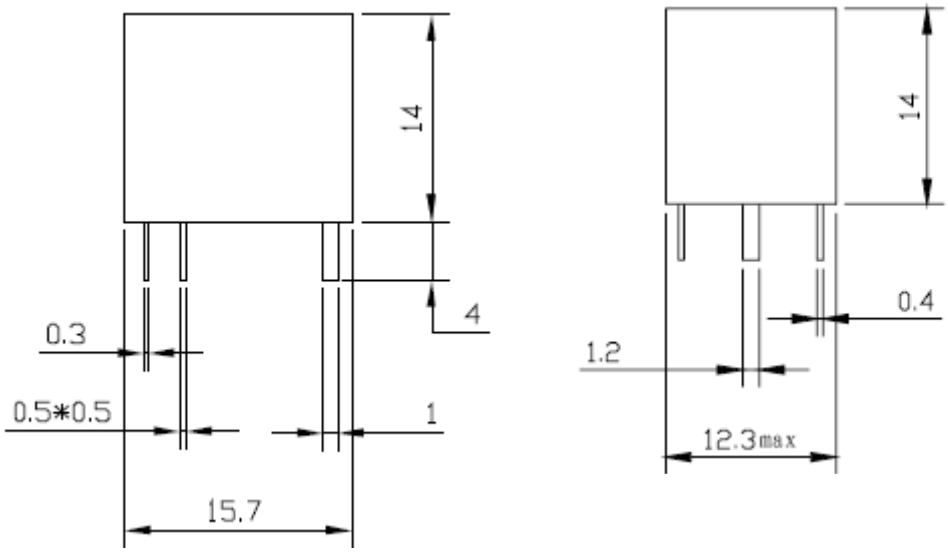
5. ORDERING INFORMATION

KA 1 - L 12 S
① ② ③ ④ ⑤

① Relay Model	KA
② Contact Arrangement	11: 1 Form A (SPST-NO) 1: 1 Form C (SPDT)
③ Coil Power	L: 600mW D: 800mW
④ Coil Voltage	6=6VDC, 9=9VDC, 12=12VDC, 24=24VDC
⑤ Construction	S: Sealed Type

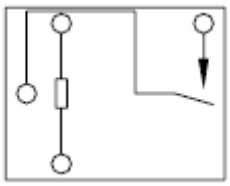
6. DIMENSIONS (Unit: mm)

Outline Dimensions

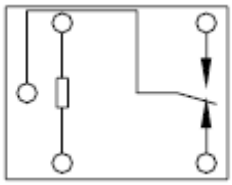


Wiring Diagram (Bottom View)

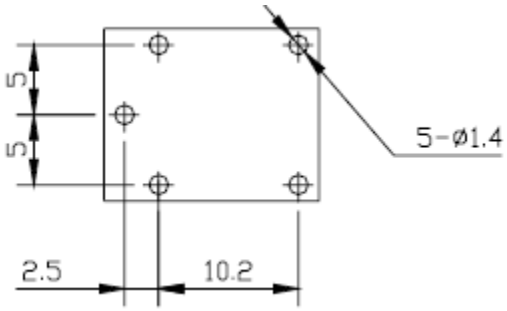
1 Form A



1 Form C



PCB Layout (Bottom view)

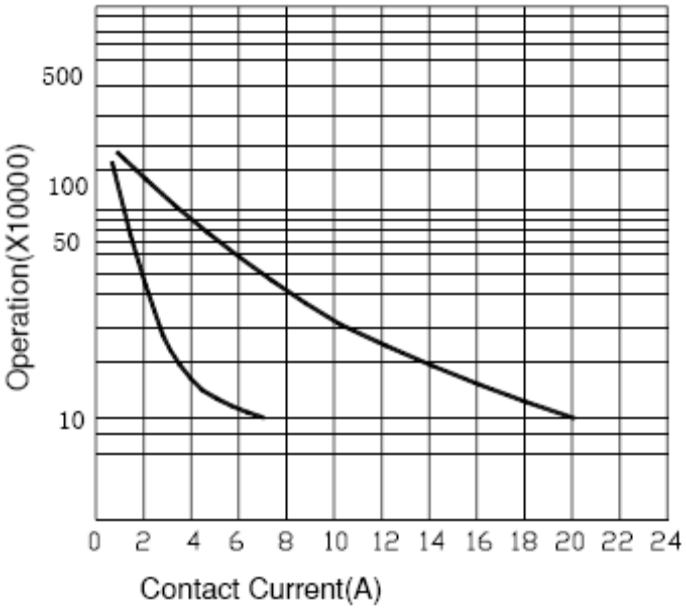


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

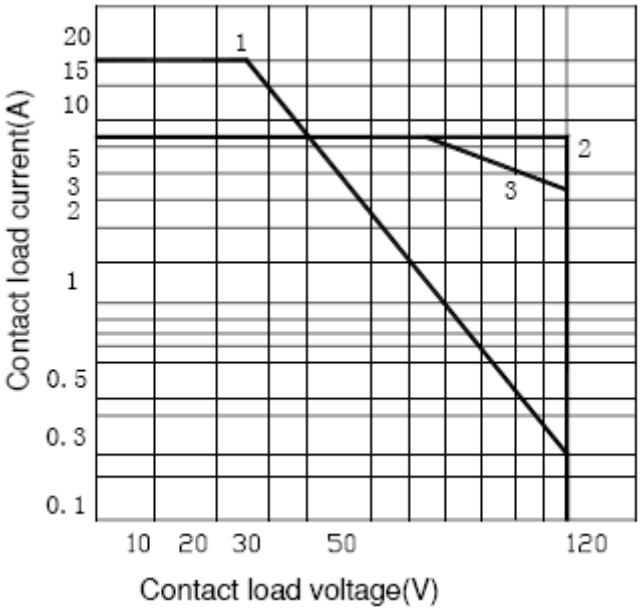
2) The tolerance without indicating for PCB layout is always ±0.1mm

7. CHARACTERISTIC CURVES

Service Life



Contact Switching Capacity



1. DC resistive 2. AC resistive 3. AC resistive

Temperature