Miniature High Power Relay	KH

Features

- 20A switching capability
- 5kV dielectric strength (between coil and contacts)
- 10kV surge voltage (between coil and contacts)
- Meet requirement of 8mm creepage distance
- PCB & QC layouts available
- Class F & Class B available

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(File No.:E122258)

1. COIL DATA (at 20°C)

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)
5	4.00	0.5	6.50	108	46 x (1±10%)	Approx. 540
6	4.80	0.6	7.80	90	67 x (1±10%)	
9	7.20	0.9	11.7	60	150 x (1±10%)	
12	9.60	1.2	15.6	45	270 x (1±10%)	
24	19.2	2.4	31.2	22.5	1050 x (1±10%)	
48	38.4	4.8	62.4	11.3	4250 x (1±10%)	

Notes: 1) The data shown above are initial values.

2) The maximum allowable voltage refers to the maximum voltage which relay coil could endure in a short period of time.

2. CONTACT DATA

Contact Arrangement		1 Form A
Contact Resistance		100mΩ max. (at 1A 6VDC)
Contact Material		AgSnOInO
Minimum Load		1A 6VDC
Load		Resistive load (COSΦ=1)
Contact Ratings (Resistive load)		H (High capacity): 20A 250VAC Nil (Standard): 16A 250VAC, 16A 30VDC, 20A 125VAC
Max. Switching Voltage		277VAC / 30VDC
Max. Switching Current		20A
Life Expectancy	Electrical	100,000 operations (at 6 operations/minute)
	Mechanical	10,000,000 operations (at 300 operations/minute)

3. CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Open Contacts	1000VAC (50/60Hz for 1min)
	Coil and Contacts	5000VAC (50/60Hz for 1min)
Operate Time (at nominal voltage)		10ms max.
Release Time (at nominal voltage)		5ms max.
Temperature Range		-40℃ ~ 105℃ (no freezing)
Shock Resistance	Operating Extremes	10G
	Damage Limits	100G
Vibration Resistance		10 ~ 55Hz 1.5mm DA
Max. switching frequency	Mechanical	18,000 operations/hr
	Electrical	360 operations/hr
Humidity		20 ~ 85%
Termination		PCB, PCB & QC
Construction		Dust proof, Plastic sealed
Weight		Approx. 15g
Outline Dimension (L x W x H)		H (High capacity): 29.0 x 12.6 x 23.3mm Nil (Standard): 29.0 x 12.5 x 24.8mm

4. SAFETY APPROVAL RATINGS

Safety Standard	Contact Arrangement	Contact Rating
UL/cUL	Nil (Standard)	20A 125VAC 16A 250VAC 1/3HP 120/250/277VAC
	H (High capacity)	20A 250/277VAC 20A 30VDC 2HP 240/250/277VAC 12FLA/72LRA 250/277VAC

5. ORDERING INFORMATION

KH ①	11 ②	TMP ③	-	E12 ④	S ⑤	H ⑥

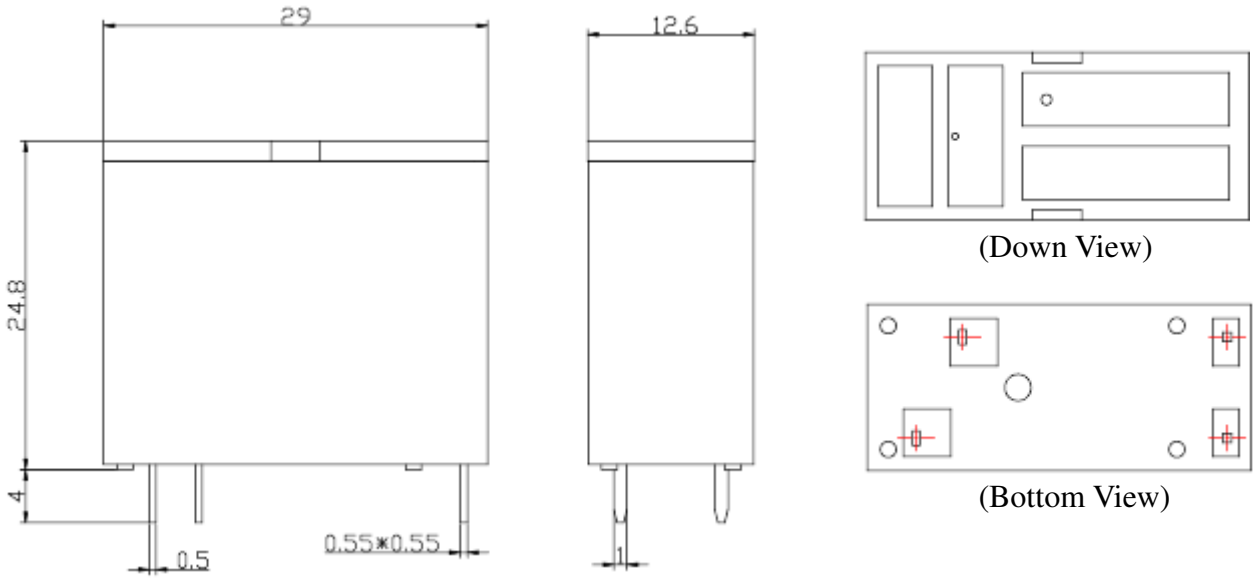
① Relay Model	KH
② Contact Arrangement	11: 1 Form A (SPST-NO)
③ Termination	Nil: PCB TMP: PCB & QC
④ Coil Voltage	E5=5VDC, E6=6VDC, E9=9VDC, E12=12VDC, E18=18VDC, E24=24VDC, E48=48VDC
⑤ Construction	Nil: Dust Proof Type S: Plastic Sealed Type (High capacity type only)
⑥ Contact Capacity	Nil: Standard (16A) H: High Capacity (20A)

6. DIMENSIONS (Unit: mm)

1) PCB Type

Standard (16A)

Outline Dimensions



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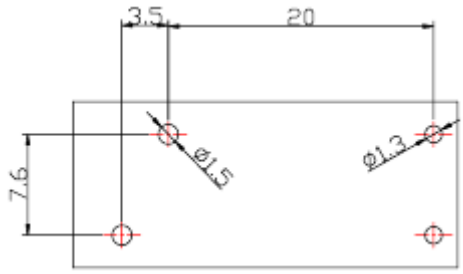
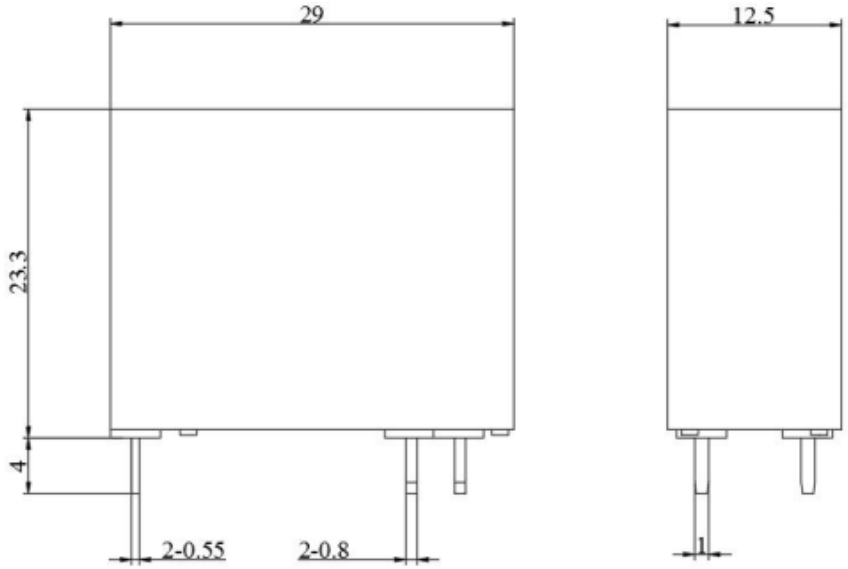


PCB Layout

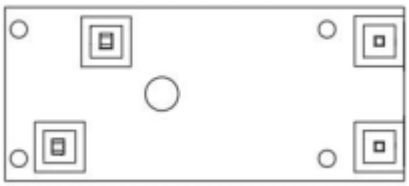
Wiring Diagram

High Capacity (20A)

Outline Dimensions



(Down View)



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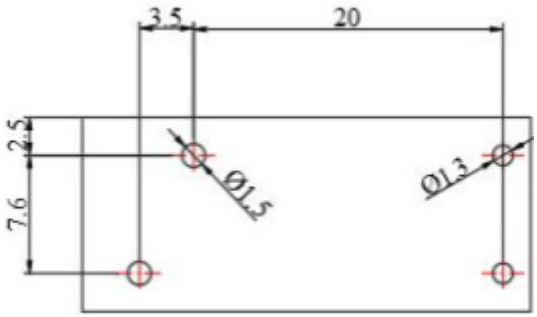
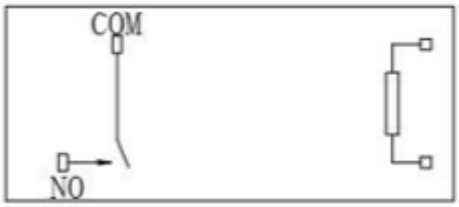


PCB Layout

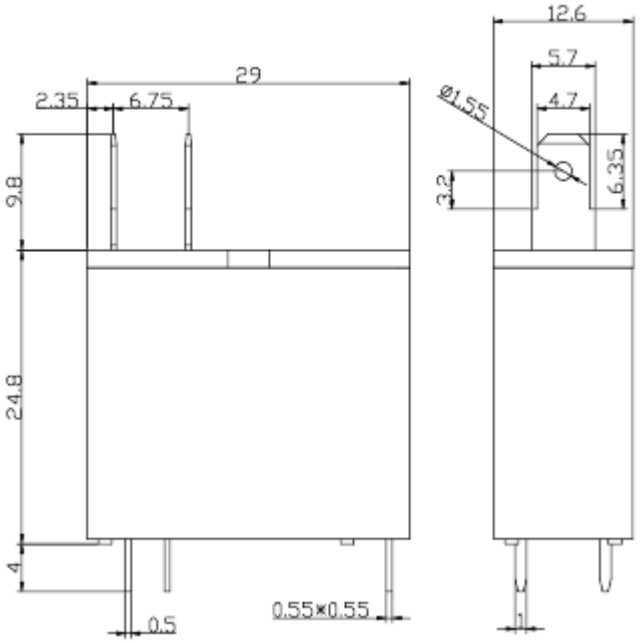


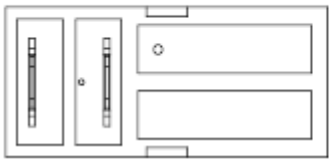
Wiring Diagram

2) PCB & QC Type

Standard (16A)

Outline Dimensions





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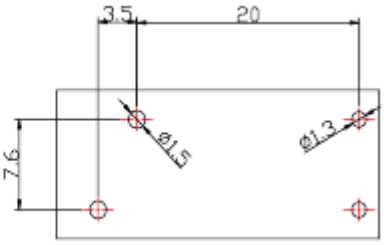

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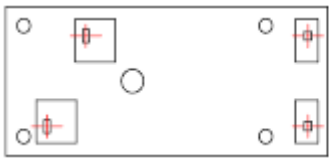

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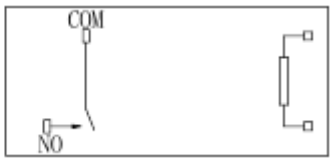
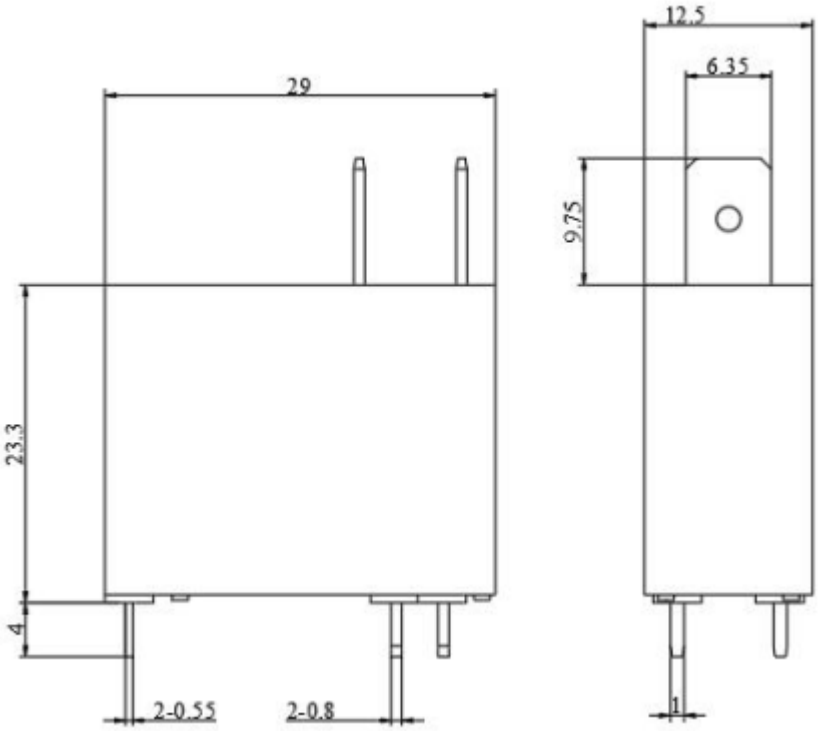
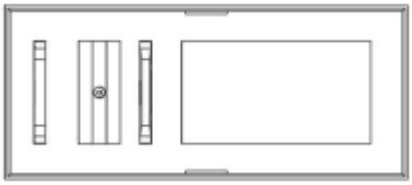


Wiring Diagram

High Capacity (20A)

Outline Dimensions





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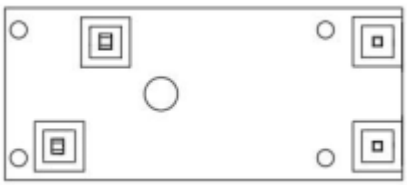

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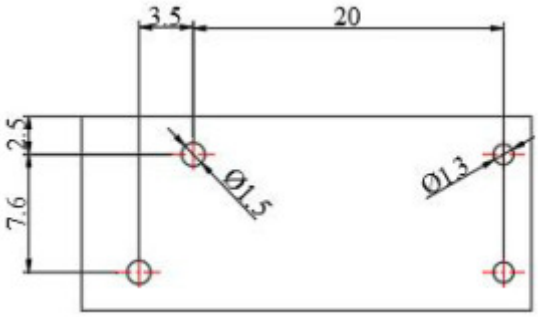

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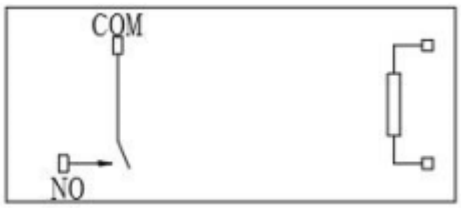

Wiring Diagram

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 additional tip top is max. 1mm.

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