

Miniature High Power Relay

THD

Features

- Low height: 15.7mm
- 16A switching capability
- 5kV dielectric strength
(between coil and contacts)
- Creepage distance: 10mm
- Meeting reinforce insulation
- Product in accordance to IEC 60335-1 available
- Class F & Class B insulation system
- Socket available



(File No.:E134581)



(File No.: 40038122)

1. COIL DATA (at 23°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	3.50	0.50	7.50	80.0	62 x (1±10%)	Approx. 400
6	4.20	0.60	9.00	66.7	90 x (1±10%)	
9	6.30	0.90	13.5	44.4	202 x (1±10%)	
12	8.40	1.20	18.0	33.3	360 x (1±10%)	
18	12.6	1.80	27.0	22.2	810 x (1±10%)	
24	16.8	2.40	36.0	16.7	1440 x (1±10%)	
48	33.6	4.80	72.0	8.33	5760 x (1±15%)	

Notes: The maximum allowable voltage refers to the maximum value in a varying range of pick-up voltage, not the voltage for continuous operation.

2. CONTACT DATA

Contact Arrangement	1 Form A, 1 Form C	
Contact Resistance	100mΩ max. (at 1A 6VDC)	
Contact Material	AgNi	
Contact Ratings (Resistive load)	12A 250VAC	16A 250VAC
Max. Switching Voltage	440VAC / 300VDC	
Max. Switching Current	12A	16A
Max. Switching Power	3000VA	4000VA
Life Expectancy	Electrical	100,000 operations
	Mechanical	10,000,000 operations

3. CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Open Contacts	1000VAC 1min
	Coil and Contacts	5000VAC 1min
Surge voltage (between coil and contacts)		10kV (1.2 x 50μs)
Operate Time (at nominal voltage)		15ms max.
Release Time (at nominal voltage)		8ms max.
Temperature Rise (at nominal voltage)		55K max.
Temperature Range		-40℃ ~ 85℃
Shock Resistance*	Functional	98m/s ²
	Destructive	980m/s ²
Vibration Resistance*		10 ~ 150Hz 10g/5g
Humidity		5 ~ 85% RH
Termination		PCB
Weight		Approx. 13.5g
Outline Dimension (L x W x H)		29.0 x 12.7 x 15.7mm

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

2) *Index is not that of relay length direction.

4. SAFETY APPROVAL

UL/cUL	12A 250VAC 16A 250VAC
VDE	12A 250VAC at 85℃ 16A 250VAC at 85℃

Notes: Only some typical ratings are listed above. If more details are required, please contact us..

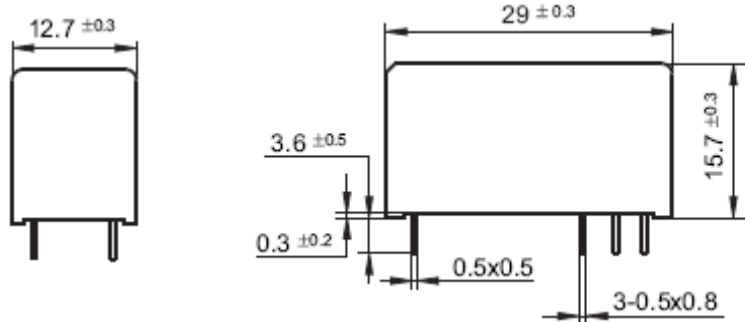
5. ORDERING INFORMATION

①	②	③	④	⑤	⑥	⑦
THD	1	-	H	12	S	F (XX)
① Relay Model	THD					
② Contact Arrangement	11: 1 Form A (SPST-NO) 1: 1 Form C (SPDT)					
③ Contact Current	E: 16A (5.0mm pinning, 1pole) H: 12A (3.5mm pinning, 1pole) Q: 12A (5.0mm pinning, 1pole)					
④ Coil Voltage	5=5VDC, 6=6VDC, 9=9VDC, 12=12VDC, 18=18VDC, 24=24VDC, 48=48VDC					
⑤ Construction	S: Sealed Type					
⑥ Insulation Standard	Nil: Class B F: Class F					
⑦ Customer Special Code	(XX): May be followed by additional letters and/or numbers (Does not affect the construction)					

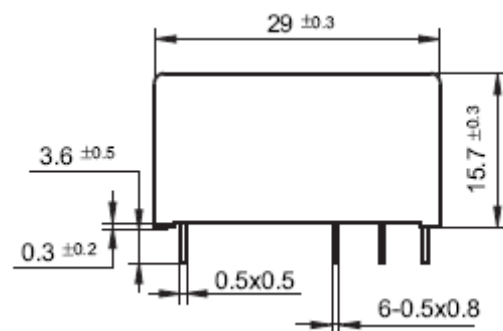
6. DIMENSIONS (Unit: mm)

Outline Dimensions

3.5mm pinning (1pole, 12A)



5mm pinning (1pole 12A, 1pole 16A)



Wiring Diagram (Bottom View)

3.5/5mm pinning (1pole, 12A)

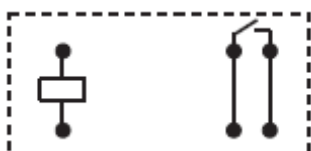


1 Form A

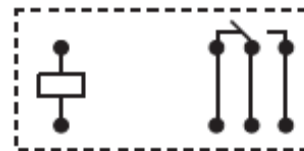


1 Form C

5mm pinning (1pole, 16A)



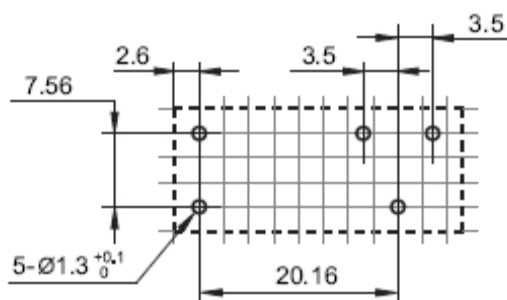
1 Form A



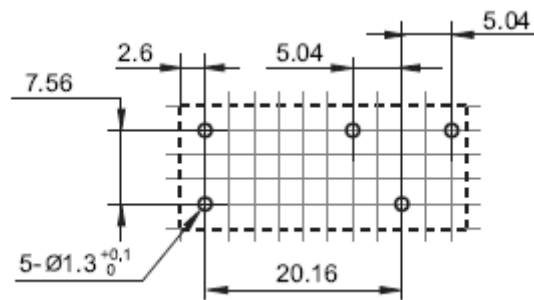
1 Form C

PCB Layout (Bottom view)

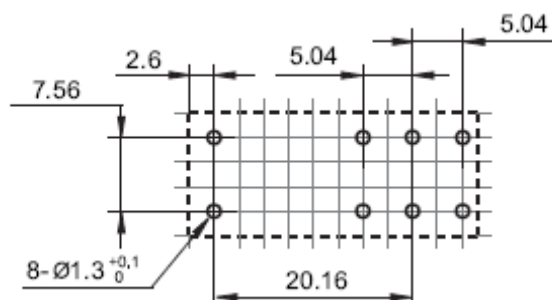
3.5mm 1Pole 12A



5mm 1Pole 12A



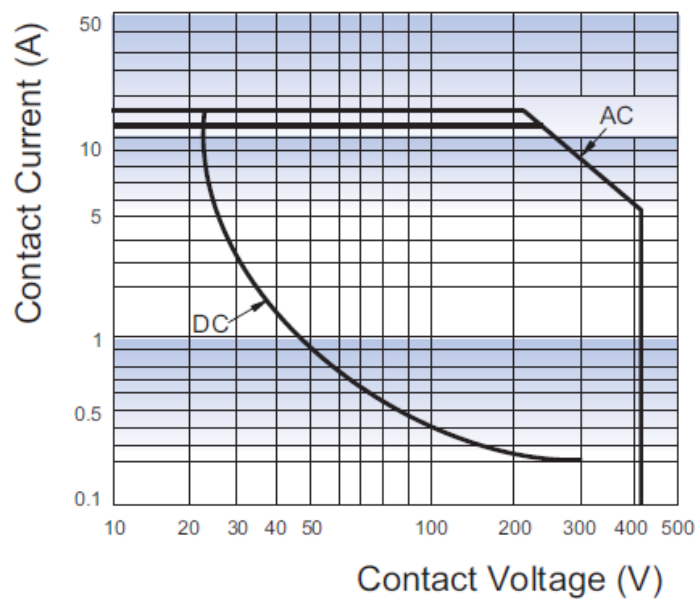
5mm 1Pole 16A



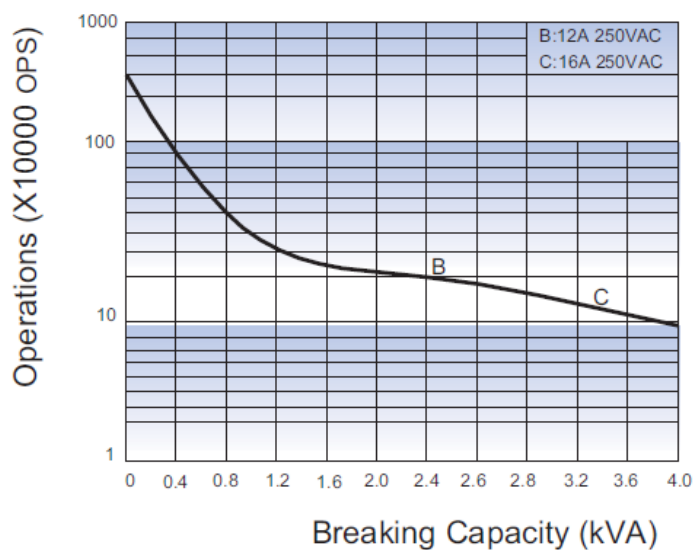
- Remark:**
- 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.
 - 2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$
 - 3) The width of the gridding is 2.52mm .

7. CHARACTERISTIC CURVES

Maximum Switching Power



Endurance Curve



Coil Operating Range

