FH42L

Latching Relay

Features

- 16A /20A switching capability
- Single coil and double coils are optional
- High sensitive,coil power is 250mW
- More lower height(the height is 15.8mm)
- Breakdown voltage(between contact and coil):5KV
- UL insulation system:Class F
- Environment-friendly product(RoHS compliant)
- Outline Dimensions:(24.0×10.0×15.8)mm
- Main application:Smart home、Lighting control、Electric power meter

TV-8

■ CHARACTERISTICS

Specifications	Item		
Contact Data	Contact arrangement		1A、1B
	Contact resistance		≤50mΩ(6VDC 1A)
	Contact material		$AgSnO_2$
Rated value	Rated load(Resistance load)		16A 250VAC (Standards) 20A 250VAC
	Max.switching voltage		277VAC
	Max.switching current		20A
	Max.switching capacity		4000VA
	Min.allowing load		5VDC 100mA
Electrical performance	Insulation resistance(initial)		1000MΩ(500VDC)
	Dielectric strength (initial))	Between open contacts	1000VAC,1 min
		Between coil&contacts	4000VAC,1 min
	Set time		≤15ms
	Reset time		≤15ms
Mechanical performance	Shock resistance	Functional	$98m/s^2$
		Destructive	$980m/s^2$
	Vibration resistance		10Hz~55Hz 1.5mm DA
Endurance	Mechanical		$1×10^6$ops
	Electrical(Room temperature)		16A 250VAC $9×10^4$ops(ON/OFF=1s/9s) 20A 250VAC $5×10^4$ops(ON/OFF=1s/9s) 600W 120VAC(LED lamp load) $5×10^4$ops(ON/OFF=1s/9s) TV-8 $2.5×10^4$ops(ON/OFF=1s/9s)
Operate condition	Ambient temperature		-40℃~85℃
	Humidity		5% to 90%
Termination			PCB
Unit weight			Approx.8g
Construction			Plastic sealed、Flux proofed

■ COIL DATA(23℃)

■ Single coil latching

Nominal Voltage	Set Voltage VDC	Reset Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 3V	≤2.4	≤2.4	83.3mA	36Ω	250mW	DC 4.5V
DC 5V	≤3.75	≤3.75	50.0 mA	100Ω		DC 7.5V
DC 6V	≤4.50	≤4.50	41.7 mA	144Ω		DC 9V
DC 9V	≤6.75	≤6.75	27.8mA	324Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	20.8 mA	576Ω		DC 18V
DC 24V	≤18.00	≤18.00	10.4 mA	2304Ω		DC 36V

■ Double coils latching

Nominal Voltage	Set Voltage VDC	Reset Voltage VDC	Rated Current (±10%)	Coil Resistance (±10%)	Nominal Power	Max Voltage
DC 3V	≤2.4	≤2.4	166.7/166.7mA	18/18Ω	500mW	DC 4.5V
DC 5V	≤3.75	≤3.75	100/100mA	50/50Ω		DC 7.5V
DC 6V	≤4.50	≤4.50	83.3/83.3mA	72/72Ω		DC 9V
DC 9V	≤6.75	≤6.75	55.6/55.6mA	162/162Ω		DC 13.5V
DC 12V	≤9.00	≤9.00	41.7/41.7mA	288/288Ω		DC 18V
DC 24V	≤18.00	≤18.00	20.8/20.8mA	1152/1152Ω		DC 36V

■ ORDERING INFORMATION

FH42L -1A S T -L1 R -XXX DC12V

① Type

② Contact arrangement:1A=1 open contacts
1B=1 close contacts

③ Construction(1):Nil=Flux proofed,S=Plastic sealed

④ Contact material:T=$AgSnO_2$

⑤ Sort:L1=1 coil latching L2=2 coils latching

⑥ Operation polarity:Nil=standard polarity R=reversed polarity

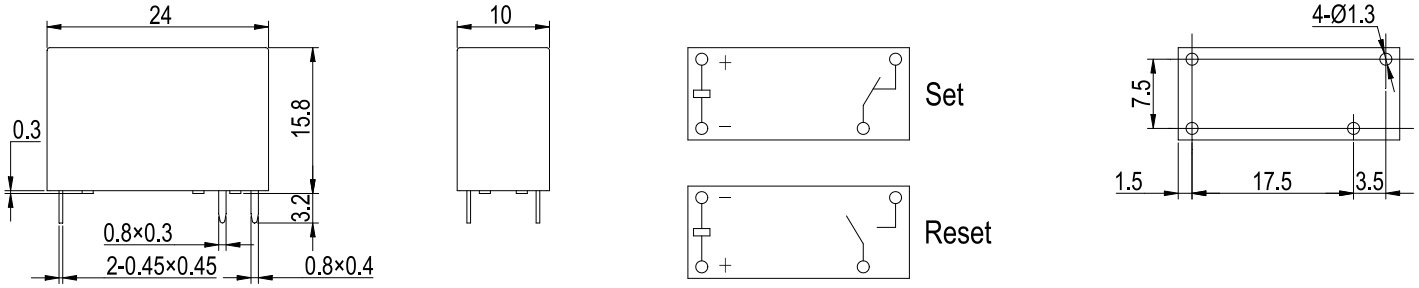
⑦ Customer special code:numbers or letters denote customer's requirements

⑧ Coil specification:DC3/5/6/9/12/24V

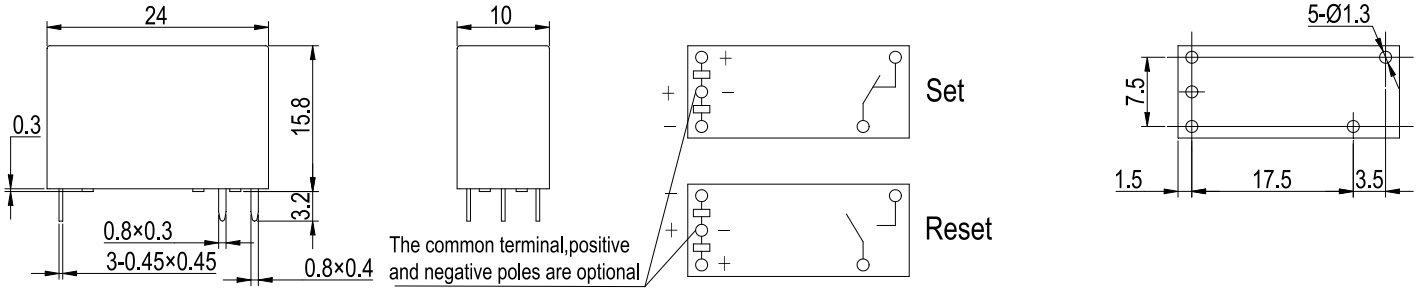
(1) When used in clean environment(excluding H_2S,SO_2,NO_2,dust and other pollutants), it is recommended to choose the Flux proofed type;When used in unclean environment(contain H_2S,SO_2,NO_2,dust and other pollutants), it is recommended to choose the Plastic sealed.

■ OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT(Unit:mm)

1A/1B Outline Dimensions Wiring Diagram PCB Layout
(single coil latching) (Bottom view) (Bottom view)



1A/1B Outline Dimensions Wiring Diagram PCB Layout
(double coils latching) (Bottom view) (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 ±0.5mm.

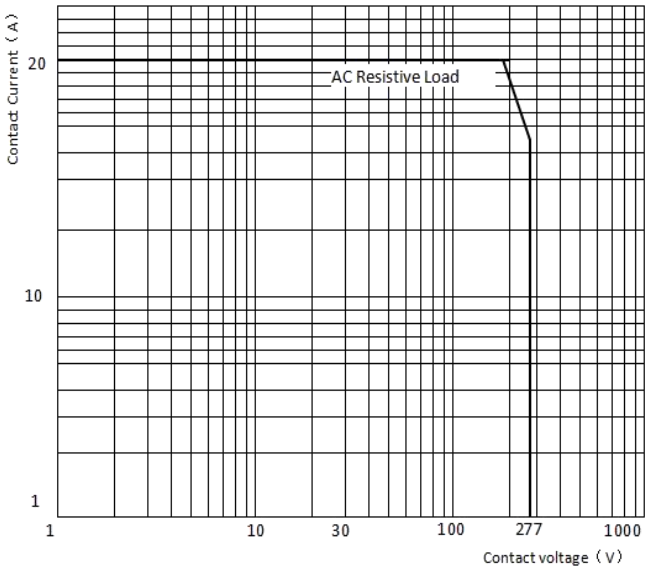
(2) The tolerance without indicating for PCB layout is always ±0.1mm.

■ SAFETY APPROVAL RATINGS

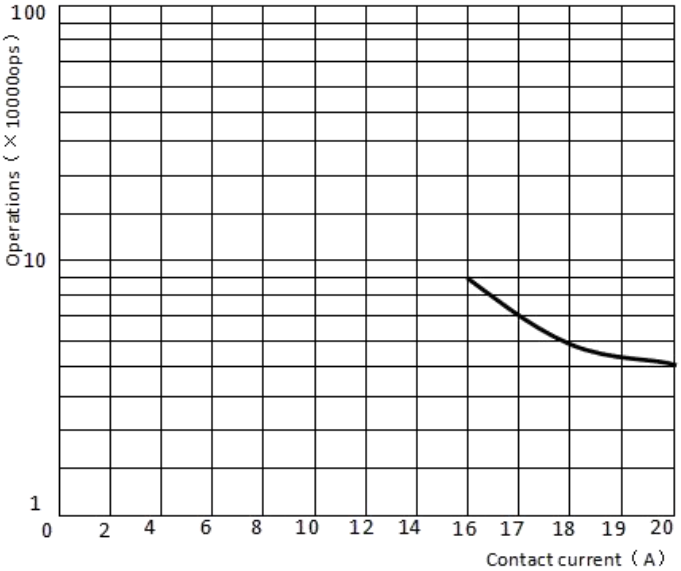
Approval	File No.	Contact arrangement	Contact material	Approved ratings
CQC	CQC18002203863	1A、1B	$AgSnO_2$	16A 250VAC 85℃
UL/C-UL	E475405	1A、1B	$AgSnO_2$	16A 250VAC 85℃ 20A 250VAC 85℃ 600W 120VAC(LED lamp load) 85℃ TV-8 85℃

■ PERFORMANCE CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



NOTICE

① With the consideration of shock risen from transit and relay mounting,relay's initial state might be changed ,please impose pulse voltage to reset the relay before using(rated coil voltage,impulse width≥5 times operation time.

② In order to maintain the initial performance parameters of the relay, please be careful not to drop the product;

③ In order to maintain the "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than “set” or “reset” time. Do not energize the voltage to "set" coil and "reset" coil simultaneously.

④ The specification is for reference only.Specifications subject to change without notice.