JT33F SUBMINIATURE HIGH POWER RELAY

c UL us
File No:E319069

File No:40048367

File No:CQC17002173824

Features

- 10A switching capability
- Creepage distance:8mm(coil&contacts)
- Creepage distance:NO type 4.5mm,CO type 4mm
- 1Form A and 1Form C configurations
- Standard PCB layout
- Plastic sealed and flux proofed types available
- UL insulation system:Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions:(20.5 x 10.2 x 15.3)mm
- Product in accordance to IEC 60335-1 available

CONTACT DATA

Contact arrangement	1A,1C		
Contact resistance[1)]	100mΩ max.(at 1A 6VDC)		
Contact material	$AgSnO_2$		
Contact rating (Res.load)	1A	1C	
		NO	NC
	5A 277VAC 5A 30VDC 10A 125VAC	5A 277VAC 5A 30VDC 10A 125VAC	3A 277VAC 3A 30VDC
Max.switching voltage	277VAC/30VDC		
Max.switching current	10A	3A	
Max.switching power	1385VA/150W	831VA/90W	
Mechanical endurance	1×10^6 ops		
Electrical endurance	1H type:1×10^5 ops(5A 277VAC, General load,Room temp,1s on 9s off) 1Z type:1×10^5 ops (NO:5A/NC:3A 277VAC,General load, Room temp,1s on 9s off)		

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

CHARACTERISTICS

Insulation resistance		1000MΩ(at 500VDC)
Dielectirc strength	Between coil&contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
Operate time(at nomi.volt.)		8ms max.
Release time(at nomi.volt.)		5ms max.
Shock resistance	Functional	$98m/s^2$
	Destructive	$980m/s^2$
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient tenperature		-40℃ to 85℃
Termination		PCB
Unit weight		Approx. 7g
Construction		Plastic sealed
		Flux proofed

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

COIL

Coil power	Standard:Approx. 450mW Sensitive:Approx. 200mW

COIL DATA

at 23℃

Standard type

Nominal Voltage VDC	Pick-up Voltage VDC[1)]	Drop-out Voltage VDC[1)]	Max. Voltage VDC*[2)]	Coil Resistance Ω
3	≤2.25	≥0.15	3.9	20 x (1±10%)
5	≤3.75	≥0.25	6.5	55 x (1±10%)
6	≤4.50	≥0.30	7.8	80 x (1±10%)
9	≤6.75	≥0.45	11.7	180 x (1±10%)
12	≤9.00	≥0.60	15.6	320 x (1±10%)
18	≤13.5	≥0.90	23.4	720 x (1±10%)
24	≤18.0	≥1.20	31.2	1280 x (1±10%)
48	≤36.0	≥2.40	62.4	5120 x (1±10%)

Sensitive type (Only for 1 Form A)

Nominal Voltage VDC	Pick-up Voltage VDC[1)]	Drop-out Voltage VDC[1)]	Max. Voltage VDC*[2)]	Coil Resistance Ω
3	≤2.25	≥0.15	4.5	45 x (1±10%)
5	≤3.75	≥0.25	7.5	125 x (1±10%)
6	≤4.50	≥0.30	9.0	180 x (1±10%)
9	≤6.75	≥0.45	13.5	400 x (1±10%)
12	≤9.00	≥0.60	18.0	720 x (1±10%)
18	≤13.5	≥0.90	27.0	1600 x (1±10%)
24	≤18.0	≥1.20	36.0	2800 x (1±10%)

Notes: 1)The data shown above are intial values.
2)*Maximum Voltage refers to the maximum voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	$AgSnO_2$	1 Form A	5A 277VAC /30VDC 70℃ 10A 125VAC 70℃ 10A 120VAC 70℃ 1A 120VAC 105℃ 15LRA/2.5FLA 120VAC 105℃ 4A 120VAC 105℃
		1 Form C	NC:3A 277VAC/30VDC 70℃
VDE	$AgSnO_2$	1 Form A	5A 277VAC 70℃
		1 Form C	NC:3A 277VAC 70℃
CQC	$AgSnO_2$	1 Form A	5A 277VAC /30VDC 85℃
		1 Form C	NC:3A 277VAC/30VDC 85℃

Notes: 1)All values unspecified are at room temperature.
2)Only typical loads are listed above.Other load specificationgs can be avaliable upon request.

ORDERING INFORMATION

JT33F 012 -H S L T F (XXX)

Type	
Coil voltage	3, 5, 6, 9, 12, 18, 24, 48VDC
Contact arrangement	**H**:1 Form A **Z:**1 Form C
Construction [1)2)]	**S**:Plastic sealed **Nil**:Flux proofed
Contact power	**L:**Sensitive(Only for 1 Form A) **Nil:**Standard
Contact material	**T:**$AgSnO_2$
Insulation standard	**F:**Class F
Special code [3)]	**XXX**:Customer special requirement **Nil:**Standrad

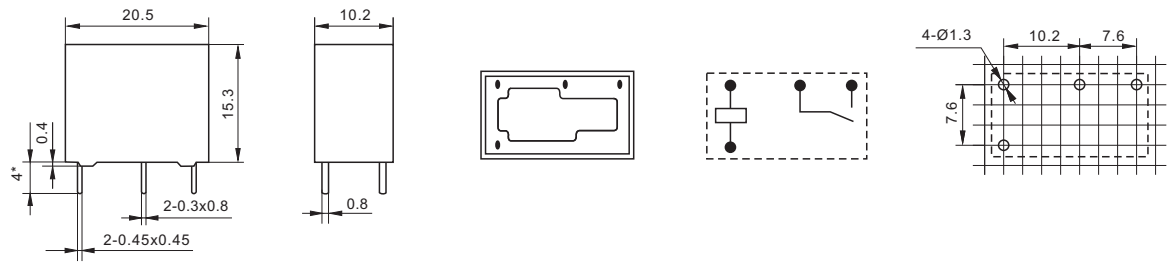
Notes: 1) We recommend flux proofed types for a clean environment(free from contaminations like H_2S,SO_2,NO_2,dust,etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H_2S, SO_2,NO_2,dust,etc.).
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by JINTIAN. e.g.(335) stands for product in accordance to IEC 60335-1(GWT).

OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT

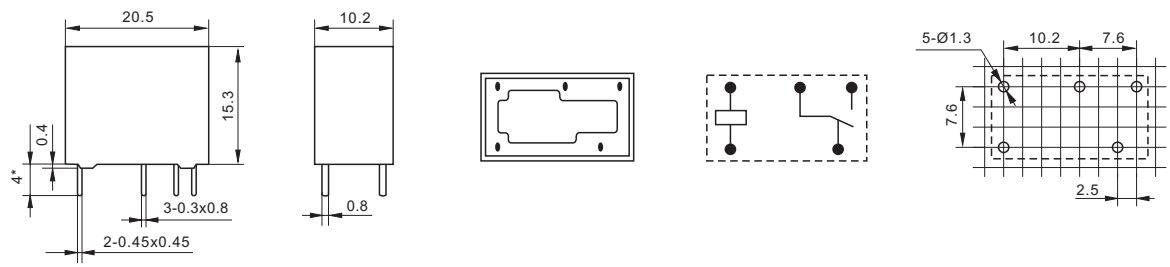
Unit: mm

Outline Dimensions | Wiring Diagram (Bottom view) | PCB Layout (Bottom view)

1 Form A



1 Form C



Remark:1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual producet.

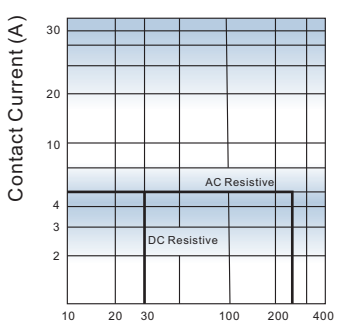
2) In case of no tolerance shown in outline dimension:outline dimension ⩽1mm,tolerance should be ±0.2mm;outline dimension＞1mm and⩽5mm,tolerance should be±0.3mm;outline dimension＞5mm,tolerance should be±0.4mm.

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

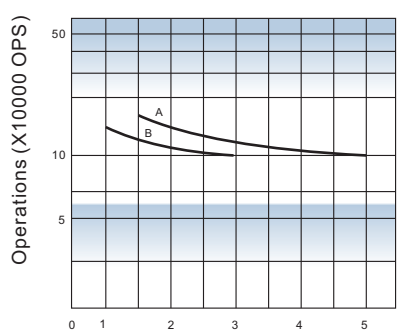
4) The width of the gridding is 2.54mm.

CHARACTERISTIC CURVES

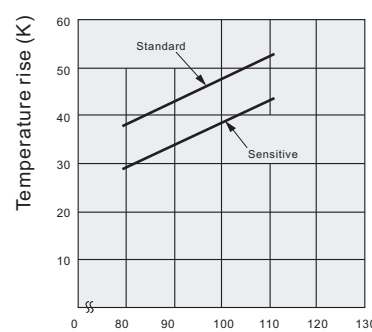
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



Notes:

1. Curve A: NO contact
   Curve B: NC contact
2. **Test conditions:**
   Curve A: NO, Resistive load, Room temp., flux proofed, 277VAC/30VDC, 1s on 9s off
   Curve B: NC, Resistive load, Room temp., flux proofed, 277VAC/30VDC, 1s on 9s off

Test conditions:
Standard: 5A at 70°C
Sensitive: 5A at 70°C
Mounting distance: 10mm

Disclaimer

The specification is for reference only. See to “Terminology and Guidelines”for more information. Specifications subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query,please contact JINTIAN for the technical service. However, it is the user’s responsibility to determine which product should be used only.