JTV6 SUBMINIATURE HIGH POWER RELAY

Features

- 30A switching capability
- Ambient temp. range up to 125℃
- 1 Form A &1 Form C contact arrangement
- Plastic sealed and dust protected types available
- ROHS&ELV compliant

Typical Applications

Lighting control,Headlight control,Electromagnet control
Air-conditioning,Heaters(seat,front/rear windows),
Fan motor control,Fuel pump control,Wiper motors control

CHARACTERISTICS

Contact arrangement	1H,1Z
Voltage drop(initial)	NO:Typ.:15mV,Max:250mV(at 10A) NC:Typ.:25mV,Max:250mV(at 10A)
Max.continuous current[1)10)]	30A(Resistive)
Max.switching current[10)]	30A(Resistive)
Max.switching voltage	27VDC(Resistive)
Min.contact load	1A 6VDC
Electrical endurance	See"CONTACT DATA"
Mechanical endurance	1 x10^{7}ops(300ops/min)
Initial insulation resistance	100MΩ(at 500VDC)
Dielectric strength[3)]	500VAC
Operate time[10)]	Typ:5ms (at nomi.vol.) Max.:10ms (at nomi.vol.)
Release time[10)]	Typ.:2ms Max.:10ms
Ambient tenperature	-40℃ to 125℃
Vibration resistance[6)]	10Hz to 60Hz 0.35mm DA 60Hz to 500Hz 49m/s^2
Shock resistance[5)10)]	196m/s^2
Flammability[6)]	UL94-HB or better(meets FMVSS 302)

Termination	QC[7)]
Construction	Plastic sealed,Dust protected
Unit weight	Approx.22g
Mechanical data[8)]	cover retention (pull&push):200N min terminal retention(pull&push):100N min terminal resistance to bending (front&side):10N min.[9)]

Notes: 1) For NO contacts,measured when applying 100% rated votage on coil.For NC contacts,measured when applying zero votage on coil.
2) See “Load limit curve” for details.
3) 1min.leakage current less than 1 mA.
4) The value is measured when voltage drops suddenly from nominal voltage to 0VDC and coil is not paralleled with suppression circuit.
5) When energized,opening time of NO contacts shall not exceed 100 μs,when non-energized,opening time of NC contacts shall not exceed 100 μs,meantime, NO contacts shall not be closed.
6) FMVSS:Federal Motor Vehicle Safety Standard.
7) Do NOT knock on relays with hard objects such an rubber rod and rubber hammer during mounting,which might lead to relay damage.
8) Only valid for QC version.
9) Test point is at 2mm away from teminal end,and after removing testing force,the terminal transfiguration shall not exceed 0.5mm.
10) Only for the 12VDC coil voltage type.

CONTACT DATA[5)]

Load voltage	Load type		Load current A 1C NO	1C NC	1A NO	On/Off ratio On s	Off s	Electrical endurance OPS	Contact meterial	Load wiring diagram[4)]	Ambient temp.
13.5VDC	Resistive	Make	20	10	30	2	2	1 x 10^5	$AgSnO_2$	see diagram 1 or diagram 4	See Ambient Temp. Curve
		Break	20	10	30						
	Inductive	Make[1)]	40	20	40	2	2	1 x 10^5	$AgSnO_2$	see diagram 2 or diagram 5	
		Break	20	10	20						
	Lamp[1)]	Make	100[2)]	---	100[2)]	2	2	1 x 10^5	$AgSnO_2$	see diagram 3	
		Break	20	---	20						
27VDC	Resistive	Make	20	10	20	2	2	1 x 10^5	$AgSnO_2$	see diagram 1 or diagram 4	
		Break	20	10	20						
	Inductive	Make[1)]	38	28	38	2	2	1 x 10^5	$AgSnO_2$	see diagram 2 or diagram 5	
		Break	15	6	15						
	Lamp	Make	70[2)]	---	70[2)]	2	2	1 x 10^5	$AgSnO_2$	see diagram 3	
		Break	7	---	7						

1) Corresponds to the peak inrush current on intial actuation.
2) Corresponds to the peak inrush current on intial actuation (cold filament).
3) The load wiring diagrams are listed below:

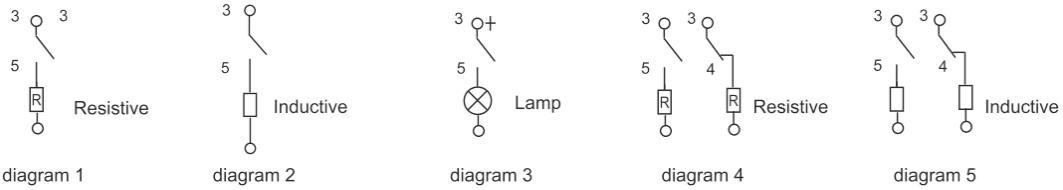


diagram 1 diagram 2 diagram 3 diagram 4 diagram 5

4) The load in the table excludes flasher.When applied in flasher,please connect by the polarity request according diagram 3, a special silver alloy contact material should be used and the customer special code should be (170) as a suffix.
5) Loads mentioned in this chart is for relays with no parellel diode or Zener Diode.For those with parallel diode,Zener Diode or other components,please contact JINTIAN for more technical supports.
Please also contact JINTIAN if the actual application load is different from what mentioned aboved.

COIL DATA

at 23℃

	Nominal Voltage VDC	Pick-up Voltage VDC max.	Dorp-out Voltage VDC min.	Coil Resistance x(1±10%)Ω	Parallel Resistance x(1±5%)Ω	Equivalent resistance Ω	Power consumption W	Max.allowable overdrive Voltage[1] VDC	
								at 23℃	at 85℃
Weather-proof cover	12	7.2	1.2	90	---	---	1.6	20	15
	12	7.2	1.2	90	680	79.5	1.8	20	15
	24	14.4	2.4	360	---	---	1.6	40	30
	24	14.4	2.4	360	2700	317.6	1.9	40	30
Others	12	7.2	1.2	124	---	---	1.2	25	19
	12	7.2	1.2	124	680	104.9	1.4	20	15
	24	14.4	2.4	441	---	---	1.3	47	35
	24	14.4	2.4	441	1800	354.2	1.6	33	25

1) Max.allowable overdrive voltage is stated with no load applied,illustrated with dust cover version.
2) Illustrated with the type with parallel resistor(680Ω,12V),(2700Ω,24V).

ORDERING INFORMATION

JTV6 / 012 - Z S L -T R (XXX)

Type	**JTV6:**QC	**JTV6-K:**Grip&QC
Coil voltage	**012:**12VDC	**024:**24VDC
Contact arrangement	**H**:1Form A	**Z**:1Form C
Construction[1]	**S**:Plastic sealed	**Nil**:Dust protected
Coil power	**L**:Sensitive	**Nil:**Standard
Contact material	**T**:$AgSnO_2$	
Contact material	**R**:Parallel transient supression resistors **D**:Parallel transient supression diode,with anode connected to terminal#2 **D1**:Parallel transient supression diode,with anode connected to terminal#1 **Nill**:Without parallel components	
Special code[3]	**XXX**:Customer special requirement	**Nil:**Standrad

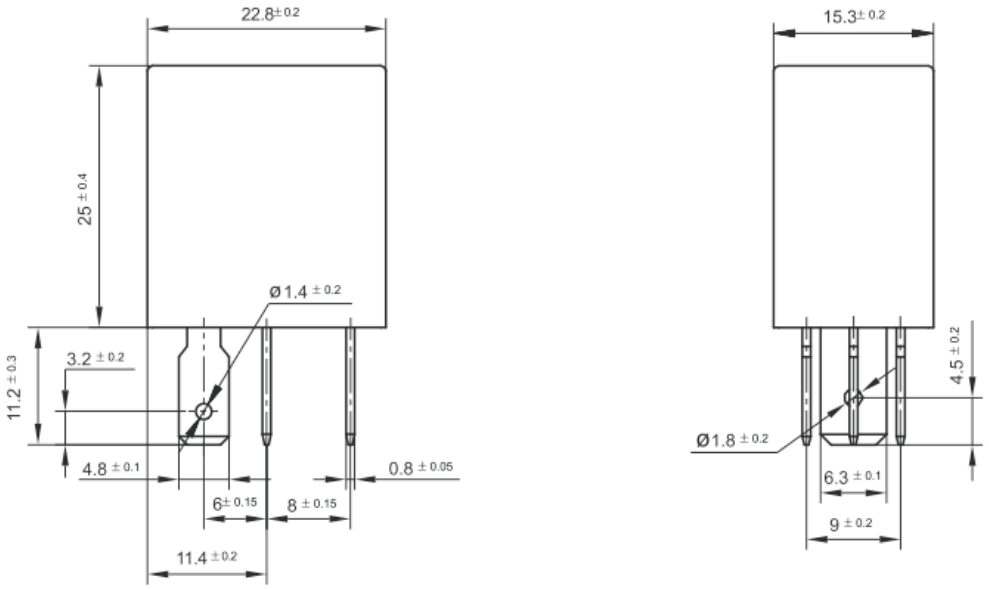
Notes:1) Dust protected version is recommended.
2) If parallel diode,Zener Diode or other components are required,please contact Jintian for more technical supports.
3) The customer special requirement express as special code after evaluating by Jintian.e.g.(335)stand for product in accordance to IEC 60335-1(GWT).

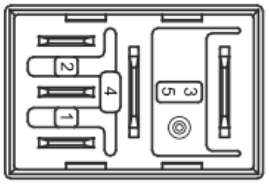
OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

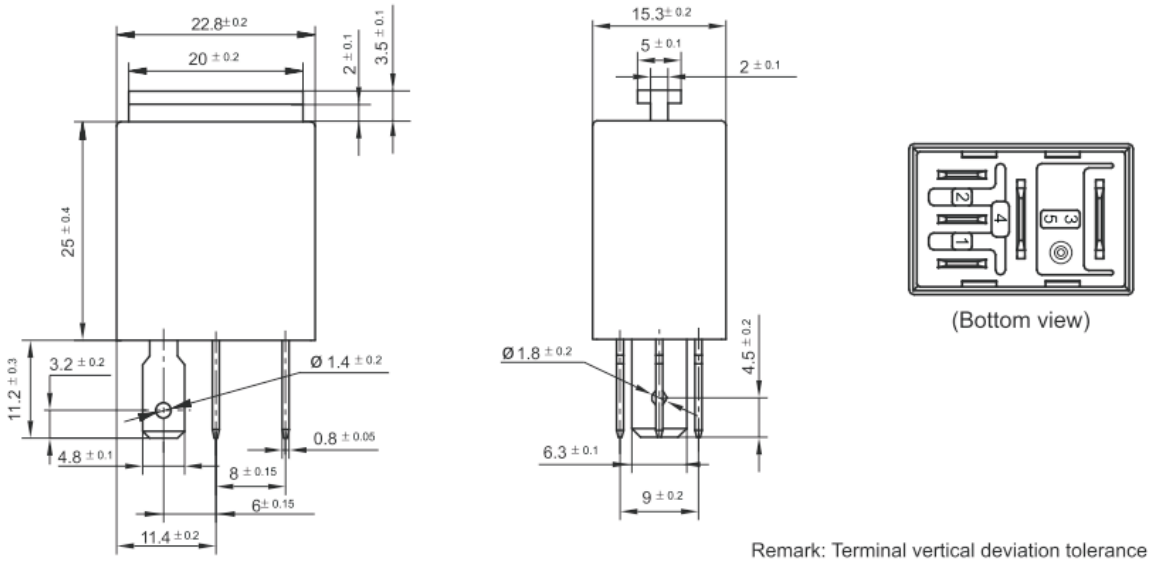
JTV6/□□□Z□□-□□(XXX)





(Bottom view)

JTV6-K/□□□Z□□-□□(XXX)



(Bottom view)

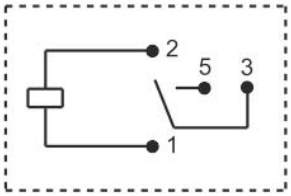
Remark: Terminal vertical deviation tolerance is 0.3mm.

OUTLINE DIMENSIONS,WIRING DIAGRAM AND PC BOARD LAYOUT

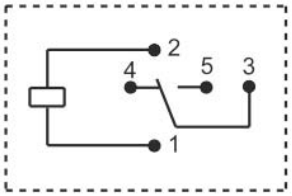
Unit: mm

Wiring Diagram

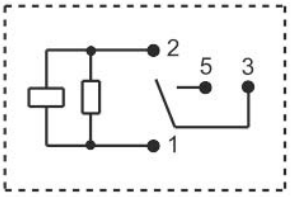
JTV6/□□□H□□-□(XXX)



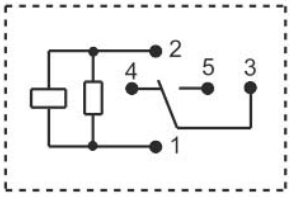
JTV6/□□□Z□□-□(XXX)



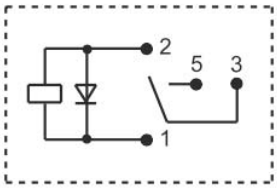
JTV6/□□□H□□-□R(XXX)



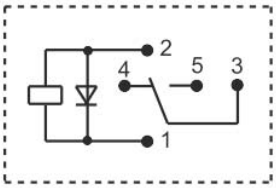
JTV6/□□□Z□□-□R(XXX)



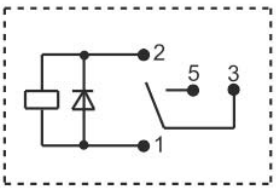
JTV6/□□□H□□-□D(XXX)



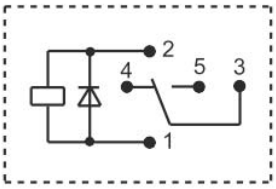
JTV6/□□□Z□□-□D(XXX)



JTV6/□□□H□□-□D1(XXX)

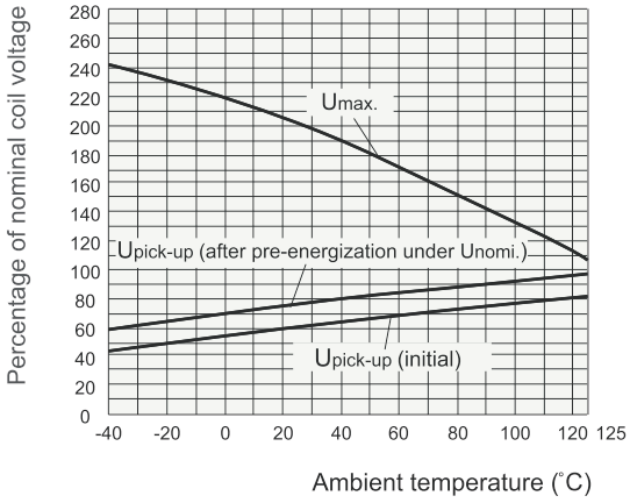


JTV6/□□□Z□□-□D1(XXX)



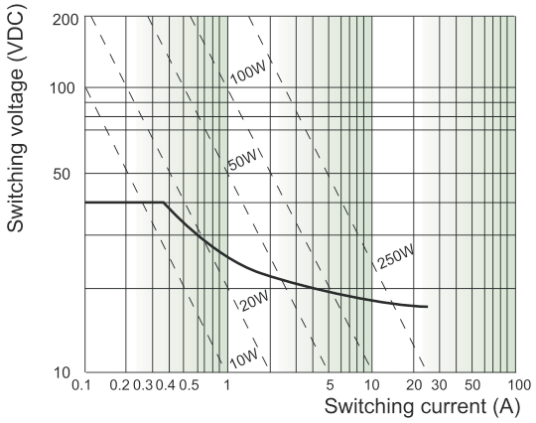
CHARACTERISTIC CURVES

1.Coil operaying voltage range



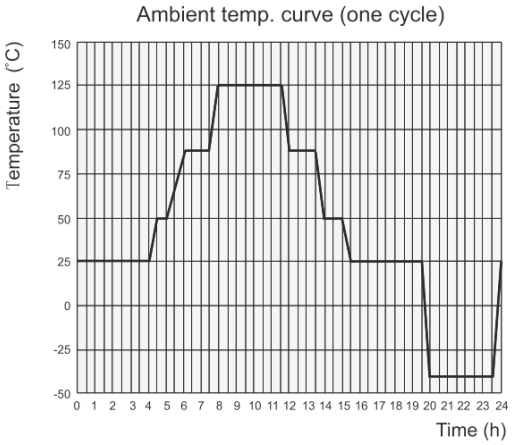
1) The operating voltage is connected with coilpre-energiced time and voltage.After pre-energized,the operating voltage will increase.
3) The maximum allowable coil temperature is 180℃. For the coil temperature rise which is measured by resistance is average value,we recommend the coil temperature should be below 170℃ under the different application ambient, different coil voltage and different load etc.
4) If the actual operating coil voltage is out of the specified range,please contact JINTIAN for futher details.

2.Load limit curve



1) The load and electrical endurance tests are made according to “CONTACT DATA”parameters’ table. If actual load voltage,current,operate frequency is different from “CONTACT DATA”table,please arrange corresponding tests for confirmation.

3.Ambient temperature curve of the electrical endurance test



1) The minimum temperature is -40℃.
2) The maximum temperature is 125℃.

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.