

HFV6-G

AUTOMOTIVE RELAY



Typical Applications

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

Features

- 35A switching capability
- Ambient temp.: range up to 125°C
- 1 Form A & 1 Form C contact arrangement
- Plastic sealed and dust protected types available
- RoHS & ELV compliant

CHARACTERISTICS

Contact arrangement	1A, 1C	Release time ^{3) 6)}	Typ.: 5ms Max.: 10ms
Voltage drop (initial) ¹⁾	Typ.: 50mV (at 10A) Max.: 250mV (at 10A)	Ambient temperature	-40°C to 125°C
Typ. switching current ⁵⁾	Inrush 150A, steady state 30A(NO) Inrush 40A, steady state 20A(NC)	Storage temperature	-40°C to 155°C
Max. switching voltage	16VDC	Vibration resistance ⁶⁾	5Hz to 17.3Hz 10mm DA 17.3Hz to 50Hz 58.9m/s ² 50Hz to 100Hz 29.4m/s ² 100Hz to 200Hz 19.4m/s ²
Min. contact load	1A 6VDC	Shock resistance ⁶⁾	196m/s ² (20g)
Electrical endurance	1×10 ⁵ OPS	Flammability ⁴⁾	UL94-HB or better (meets FMVSS 302)
Mechanical endurance	1 x 10 ⁷ OPS (300OPS/min)	Termination	QC
Initial insulation resistance	100MΩ (at 500VDC)	Construction	Plastic sealed, Dust protected
Dielectric strength ²⁾	500VAC	Unit weight	Approx. 22g
Operate time ⁶⁾	Typ.: 5ms (at nomi. vol.) Max.: 10ms (at nomi. vol.)	Mechanical data	cover retention (pull & push): 200N min. terminal retention (pull & push): 100N min. terminal resistance to bending (front & side): 10N min. ⁵⁾

- 1) Equivalent to the max. initial contact resistance is 50mΩ(at 1A 24VDC).
- 2) 1min, leakage current less than 1mA.
- 3) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.
- 4) FMVSS: Federal Motor Vehicle Safety Standard.
- 5) Test point is at 2mm away from terminal end, and after removing testing force, the terminal transfiguration shall not exceed 0.5mm.
- 6) Only for the 12VDC coil voltage type.

CONTACT DATA ⁴⁾

Load voltage	Load type		Load current A			On/Off ratio		Electrical endurance OPS	Contact material	Load wiring diagram ³⁾	Ambient temp.
			1C		1A	On s	Off s				
			NO	NC	NO						
Standard 13.5VDC	Resistive	Make	35	20	35	2	2	1×10 ⁵	AgSnO ₂	See diagram 1	See Ambient Temp. Curve
		Break	35	20	35						
	Inductive	Make ¹⁾	80	---	80	2	2	1×10 ⁵	AgSnO ₂	See diagram 2	
		Break	30	---	30						
	Lamp	Make	150 ²⁾	---	150 ²⁾	2	2	1×10 ⁵	AgSnO ₂	See diagram 3	
		Break	30	---	30						

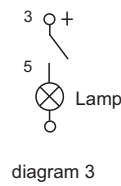
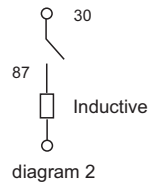
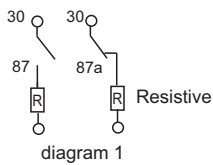


HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001 CERTIFIED

2010 Rev. 1.00

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



- 4) Loads mentioned in this chart is for relays with no parallel diode or Zener Diode. For those with parallel diode, Zener Diode or other components, please contact Hongfa for more technical supports.
Please also contact Hongfa if the actual application load is different from what mentioned above.

COIL DATA

at 23°C

	Nominal voltage VDC	Pick-up voltage VDC	Drop-out voltage VDC	Coil resistance x(1±10%)Ω	Parallel resistance ¹⁾ x(1±5%) Ω	Equivalent resistance x(1±10%)Ω	Power consumption W	Max. allowable overdrive voltage ²⁾ VDC	
								at 23°C	at 85°C
Standard	12	7.2	1.0	124	---	---	1.16	20	15
	12	7.2	1.0	124	680	104.9	1.37	20	15

1) The power consumption of parallel resistance is 0.5W.

2) Max. allowable overdrive voltage is stated with no load applied and minimum coil resistance.

ORDERING INFORMATION

HFV6-G /		12	Z	S	T	N	R	(XXX)
Type	HFV6-G:QC							
Coil voltage	12: 12VDC							
Contact arrangement	H: 1 Form A Z: 1 Form C							
Construction ¹⁾	S: Plastic sealed ²⁾ Nil: Dust protected							
Contact material	T: AgSnO ₂							
QC Coil Terminal width	N: 2.8 mm Nil: 1,2 QC terminal width 4.8 mm							
Transient suppression resistor ³⁾	R:With resistor Nil: Without resistor							

Customer special code

1) Dust protected version is recommended.

2) If water cleaning is required, please contact us for suggestion about suitable parts.

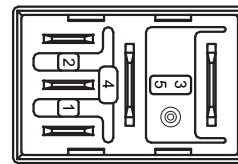
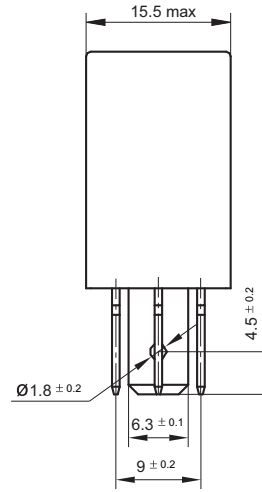
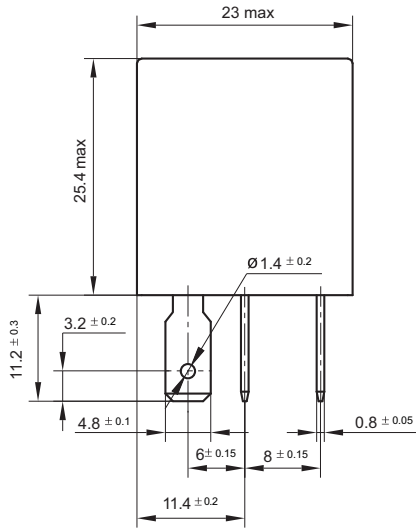
3) If parallel diode, Zener Diode or other components are required, please contact Hongfa for more technical supports.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

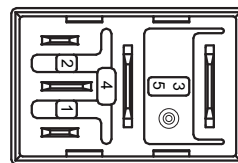
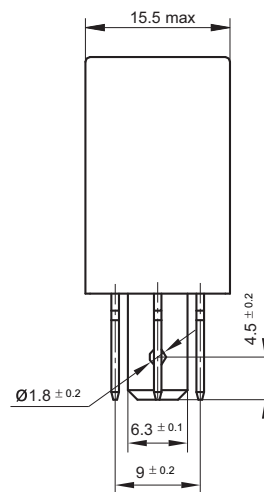
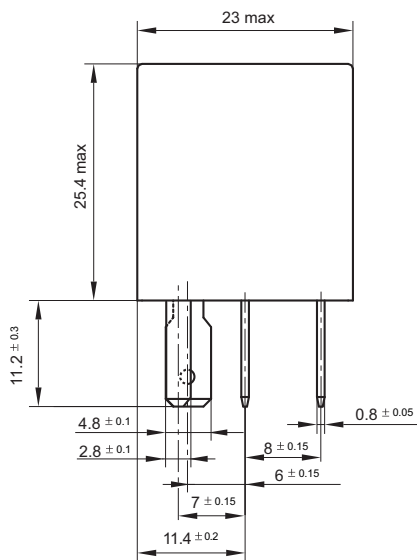
Outline Dimensions

HFV6-G (Standard, QC)



(Bottom view)

HFV6-G (N coil terminal)

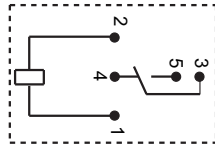


(Bottom view)

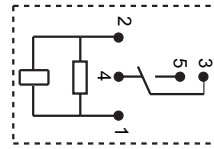
Remark: Terminal vertical deviation tolerance is 0.3mm.

Wiring Diagram

Without parallel resistor



With parallel resistor



CHARACTERISTIC CURVES

Ambient temperature curve of the electrical endurance test

Ambient temp. curve (one cycle)



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

Disclaimer

This datasheet is for the customers' reference. All the specifications are 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 Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.