

# HFV6V

## AUTOMOTIVE RELAY



### Typical Applications

Lighting control, Heaters (front/rear windows),  
Front/rear fog lamp control

### Features

- Noise level  $\leq 50\text{dB (A)}$
- 30A switching capability
- Ambient temp. range up to 125°C
- 1 Form A contact arrangement
- RoHS & ELV compliant

## CHARACTERISTICS

Contact arrangement	1A
Voltage drop(initial)	NO:Typ.50mV;250mV max.(at 10A)
Max.continuous current <sup>1)</sup>	NO:20A (at 23°C);15A (at 85°C); 8A(at 125°C)
Max. switching current	NO: 100A (Lamp, surge current, 13.5VDC) NO: 30A (Resistive, 13.5VDC)
Min. contact load	1A 12VDC
Electrical endurance	See "CONTACT DATA"
Mechanical endurance	1 x 10 <sup>6</sup> OPS (300OPS/min)
Initial insulation resistance	100MΩ (at 500VDC)
Dielectric strength <sup>2)</sup>	500VAC
Operate time	Max.: 10ms (at nomi. vol.)
Release time <sup>3)</sup>	Max.: 10ms
Ambient temperature	-40°C to 125°C
Vibration resistance	10Hz to 60Hz 0.35mm DA 60Hz to 500Hz 49m/s <sup>2</sup>
Shock resistance <sup>4)</sup>	196m/s <sup>2</sup>

Flammability <sup>5)</sup>	UL94-HB or better (meets FMVSS 302)
Termination	QC <sup>7)</sup>
Construction	Dust protected
Unit weight	Approx. 15g
Mechanical data	cover retention (pull & push): 200N min. terminal retention (pull & push): 100N min. terminal resistance to bending (front & side): 10N min. <sup>6)</sup>

- 1) For NO contacts, measured when applying 100% rated voltage on coil.
- 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) When energized, opening time of NO contacts shall not exceed 100μs, when non-energized, NO contacts shall not be closed.
- 5) FMVSS: Federal Motor Vehicle Safety Standard.
- 6) Test point is at 2mm away from terminal end, and after removing testing force, the terminal transfiguration shall not exceed 0.5mm.
- 7) Do NOT knock on relays with hard objects such as rubber rod and rubber hammer during mounting, which might lead to relay damage.

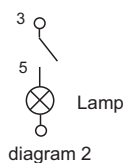
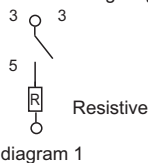
## CONTACT DATA

at 23°C

Load voltage	Load type		Load current A	On/Off ratio		Electrical endurance OPS	Contact material	Load wiring diagram <sup>2)</sup>
			1A	On s	Off s			
13.5VDC	Resistive	Make	20	2	2	1×10 <sup>5</sup>	AgSnO <sub>2</sub>	See diagram 1
		Break	20	2	2			
	Inductive	Make	40 <sup>1)</sup>	2	2	1×10 <sup>5</sup>	AgSnO <sub>2</sub>	See diagram 2
		Break	10	2	2			

1) Corresponds to the peak inrush current on initial actuation (cold filament).

2) The load wiring diagrams are listed below:



3) Please also contact Hongfa if the actual application load is different from what mentioned above.



HONGFA RELAY

ISO9001, IATF16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2025 Rev. 1.00

## COIL DATA

at 23°C

Nominal voltage VDC	Pick-up voltage VDC max.	Drop-out voltage VDC min.	Coil resistance $\times(1\pm10\%)$	Parallel resistance $\times(1\pm5\%) \Omega$	Equivalent resistance $\times(1\pm10\%) \Omega$	Power consumption W	Max. allowable overdrive voltage <sup>1)</sup> VDC	
							at 23°C	at 85°C
12	7.2	1.2	254	—	—	0.567	20	16
12	7.2	1.2	254	1200	209.6	0.687	20	16

1) Max. allowable overdrive voltage is stated with no load applied.

## ORDERING INFORMATION

Type	HFV6V / 12 -H T -R (XXX)
Coil voltage	012: 12VDC
Contact arrangement	H: 1 Form A
Contact material	T: AgSnO <sub>2</sub>
Parallel coil components	R: Parallel transient suppression resistors Nil: Without parallel components
Special code <sup>1)</sup>	XXX: Customer special requirement Nil: Standard

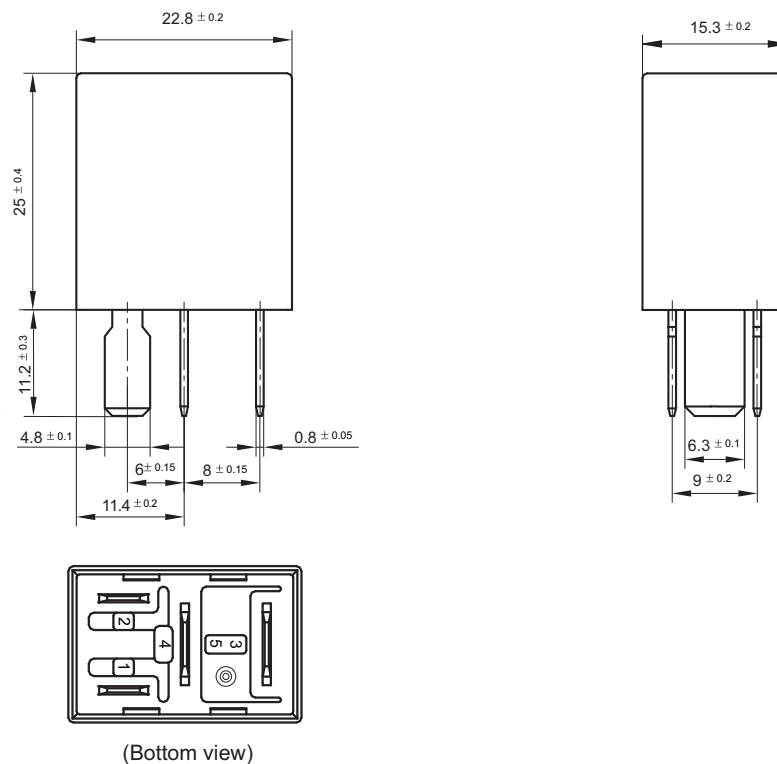
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa. e.g. (170) stands for flasher load. The performance parameters of products with characteristic numbers shall be subject to the specific specifications provided by Hongfa.

## OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

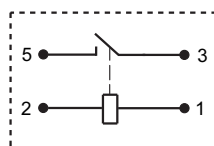
### Outline Dimensions

HFV6V/12-HT(XXX)

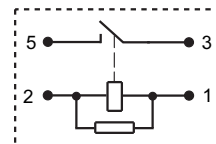


## Wiring Diagram

HFV6V/12-HT(XXX)



HFV6V/12-HT-R(XXX)



## Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. In case there is specific criterion (such as mission profile, technical specification, PPAP etc.) checked and agreed by and between customer and Hongfa, this specific criterion should be taken as standard regarding any requirement on Hongfa product.

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.