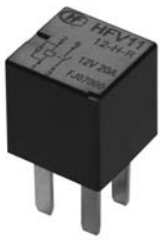
HFV11 AUTOMOTIVE RELAY



Features

- Miniaturized package: (15.6x15.2x16.4) mm
- Extended temperature range: -40˚C to 125˚C
- 1 Form A contact arrangement
- 2.8mm QC terminals available
- RoHS & ELV compliant

Typical Applications

Headlight control, Fuel pump control, Horn control,
A/C compressor clutch

CHARACTERISTICS

Contact arrangement	1A
Voltage drop (initial)	Typ.: 50mV (at 10A) Max.: 250mV (at 10A)
Max.continuous current 1)	20A (at 23˚C)
Max.switching current	Make (NO): 100A 2) Break (NO): 30A (at 14VDC)
Min. contact load	1A 6VDC
Electrical endurance	See "CONTACT DATA"
Mechanical endurance	1x10^6 OPS 300OPS/min
Initial insulation resistance	100MΩ (at 500VDC)
Dielectric strength 3)	between contacts: 500VAC between coil & contacts: 500VAC
Operate time	Typ.: 5ms Max.: 10ms (at nomi. vol.)
Release time	Typ.: 3ms Max.: 10ms 4)
Ambient temperature	-40˚C to 125˚C

Vibration resistance 5)	10Hz to 40Hz 1.27mm DA 40Hz to 70Hz 49m/s^2 70Hz to 100Hz 0.5mm DA 100Hz to 500Hz 98m/s^2
Shock resistance 5)	196m/s^2
Flammability 6)	UL94-HB or better (meets FMVSS 302)
Termination	2.8mm QC
Construction	Wash tight, Dust protected
Unit weight	Approx. 11g
Mechanical data	cover retention (pull & push): 200N min. terminal retention (pull & push): 100N min. terminal resistance to bending (front & side): 10N min. 7)

1) For NO contacts, measured when applying 100% rated votage on coil.
2) Inrush peak current under lamp load, at 14VDC.
3) 1min, leakage current less than 1mA.
4) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.
5) When energized, release time of NO contacts shall not exceed 100μs.
6) FMVSS: Federal Motor Vehicle Safety Standard.
7) Test point is at 2mm away from teminal end, and after removing testing force, the terminal transfiguration shall not exceed 0.5mm.

CONTACT DATA 2)

Load voltage	Load type		Load current A	On/Off ratio		Electrical endurance OPS	Contact material
			1A	On s	Off s		
			NO				
13.5VDC	Resistive	Make	20	2	2	1×10^5	$AgSnO_2$
		Break	20				
	Inductive	Make	40	2	2	1.5×10^5	$AgSnO_2$
		Break	20				
	Lamp	Make	100	2	2	1.5×10^5	$AgSnO_2$
		Break	20				

1) When applied in flasher, a special silver alloy ($AgSnO_2$) contact material should be used and the customer special code should be (170) as a suffix. Please heed the anode and cathode's request when wired, common terminal should connect with anode.
2) 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 diffrent from what mentioned aboved.

COIL DATA

at 23°C

Nominal voltage VDC	Pick-up voltage VDC	Drop-out voltage VDC	Coil resistance x(1±10%)Ω	Parallel resistance x(1±5%)Ω	Equivalent resistance Ω	Power consumption W
12	7.2	1.2	155	---	---	0.95
12	7.2	1.2	155	1000	135	1.1

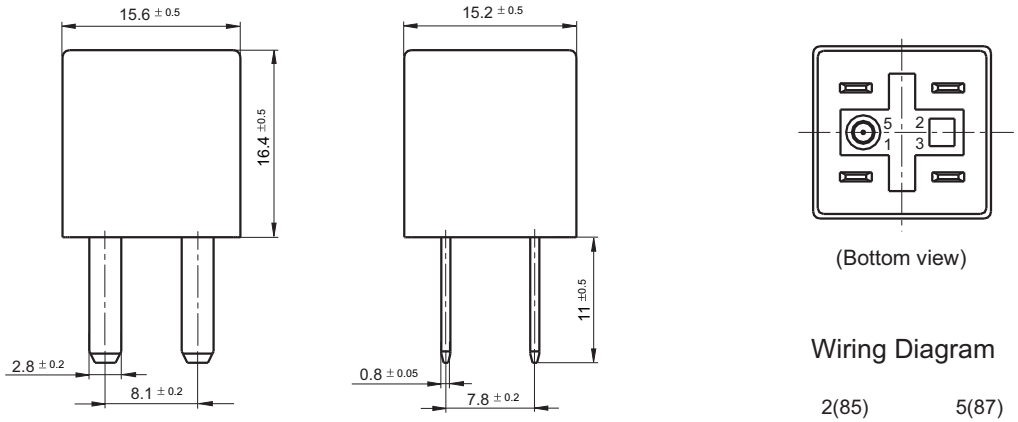
ORDERING INFORMATION

	HFV11 /	12	-H	S	R	(XXX)
Type						
Coil voltage	**12**: 12VDC					
Contact arrangement	**H**: Form A					
Construction	**S:** Wash tight	**Nil:** Dust protected				
Transient suppression resistor	**R:** With resistor	**Nil:** Without resistor				
Customer special code	e.g. (170) stands for flasher load					

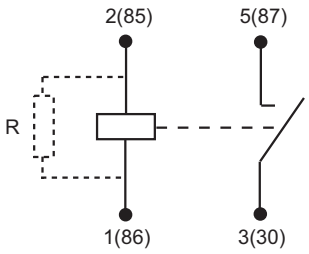
OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions



Wiring Diagram



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.