



### Typical Applications

Suitable for applications with high current loads, such as vacuum pump control, heating system, main switch for power distribution, start-stop power supply switch.

### Features

- No noise
- High electrical endurance:  $1.5 \times 10^6$  times or more
- Extended temp. range up to 125°C
- Low quiescent current: typ. 13μA
- Pulse width modulation (PWM)
- Embedded protection functions
- Ingress protection: IP6K7
- RoHS & ELV compliant

RoHS compliant

## CHARACTERISTICS

Contact type	Normally Open
Storage temperature	-40°C ~ 150°C
Operating temperature	-40°C ~ 125°C
Operating voltage range	7V ~ 18V
Turn-on voltage range (Terminal 86)	4.6V ~ 18V
Turn-off voltage range (Terminal 86)	0V ~ 2.6V
Turn-on time	$\leq 1000\mu\text{s}$ (@1Ω load impedance)
Turn-off time	$\leq 3600\mu\text{s}$ (@1Ω load impedance)
Input impedance(T86), $R_{in}$	$2047\Omega \geq R_{in} \geq 1675\Omega$ (1842Ω typ.)
Output drop voltage	42mV max. (@ $I_{LOAD}=14\text{A}$ , $V_{INPUT}=14\text{V}$ )
Quiescent current	$\leq 13\mu\text{A}$

Input current	4.8mA(min.), 8.5mA (typ.), 10.8 mA(max.)
Terminal retention force (push/pull)	$\geq 120\text{N}$
Housing retention pull force	$\geq 200\text{N}$
Terminal bending force	$\geq 10\text{N}$
IP code	IP6K7
Electrical endurance	$\geq 1.5 \times 10^6$ times (1 s On, 1 s Off)
Continuous load	35A at 25°C, 26A at 85°C, 21.5A at 125°C
Weight	33x(1±3.5%)g

Note : All the parameters are tested at 23°C, 14V unless other specified.

## ORDERING INFORMATION

Type	HFS60-C /	12	D	-12	D	(XXX)
Input rated voltage	12: 12VDC					
Voltage type	D: Direct Current					
Output rated voltage	12: 12VDC					
Voltage type	D: Direct Current					
Special code(1)	XXX: Customer special requirement Nil: Standard					

Note: 1) The customer special requirement expresses as special code after evaluated by Hongfa.

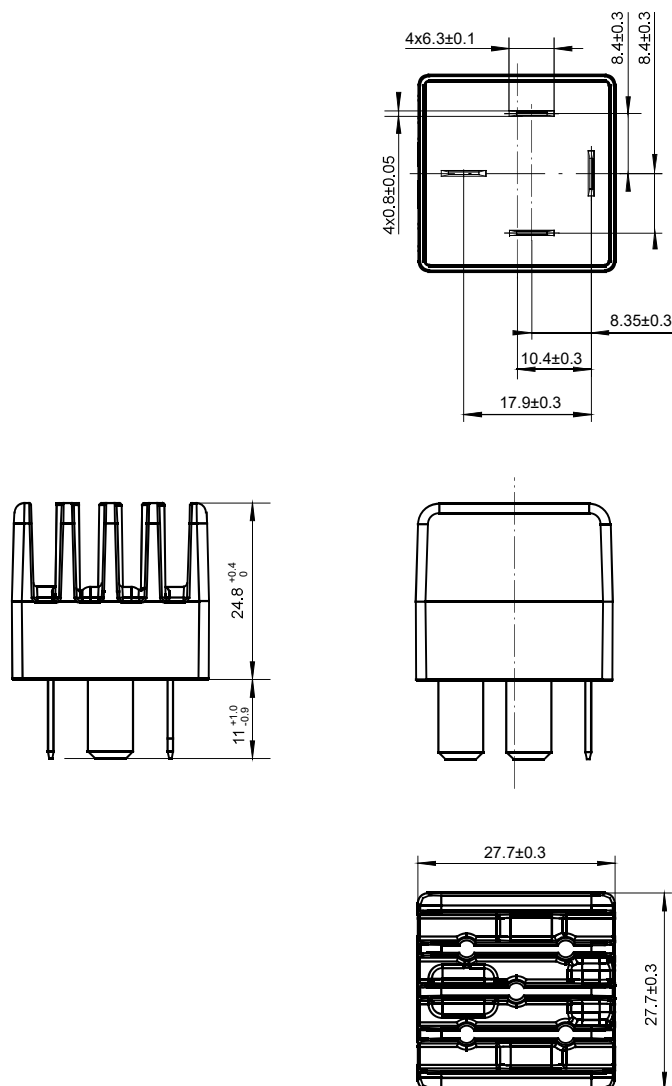


HONGFA RELAY

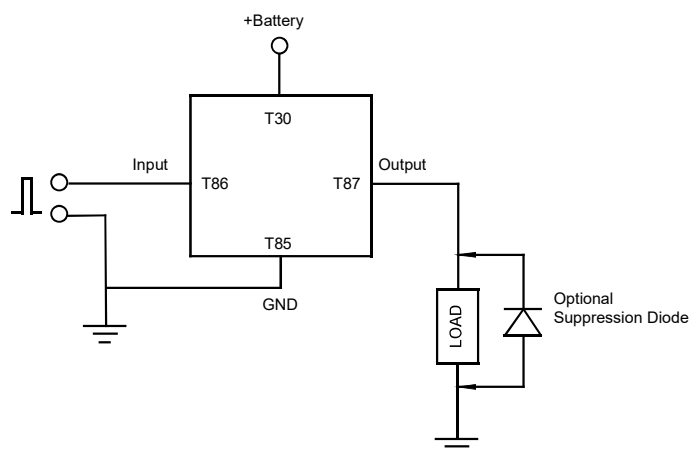
ISO9001, IATF16949, ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

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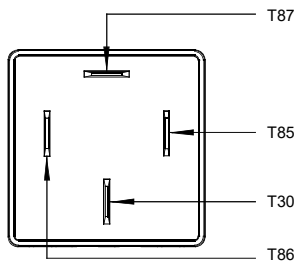
## Outline Dimensions



## Wiring Diagram



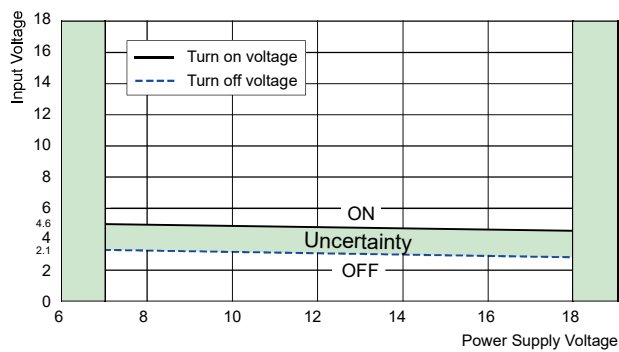
## Terminal Function Definition



No.	Symbol	Terminal Size	Function
1	86	6.3mm	Control signal (high active)
2	85	6.3mm	GND
3	87	6.3mm	Load (+)
4	30	6.3mm	Battery (+)

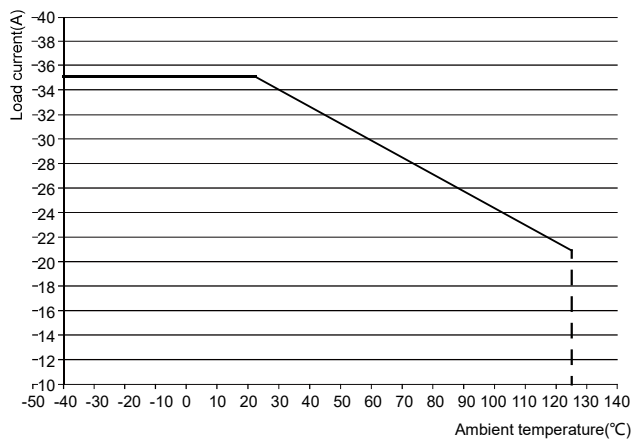
## CHARACTERISTIC CURVES

Operating voltage range



Note:  
The curve is based on the load impedance is 1  $\Omega$ .  
Input voltage range may vary under different load.

Load limit curve



Note:  
The current derating curve is measured according to IEC 60512-5-2.

### 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.

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