



### 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:  $9 \times 10^5$  times or more
- Extended temp. range up to 125 °C
- Low quiescent current: typ. 20  $\mu$ A, max. 100  $\mu$ A
- Pulse width modulation (PWM)
- Embedded protection functions
- Ingress protection: IP6K7
- RoHS & ELV compliant

RoHS compliant

## CHARACTERISTICS

Contact type	Normally Open	Quiescent current	20 $\mu$ A (typ.), 100 $\mu$ A (max.)
Storage temperature	-40°C ~ 150°C	Input current	3mA (min.), 8mA (typ.), 12mA (max.)
Operating temperature	-40°C ~ 125°C	Terminal retention force (push/pull)	$\geq 120$ N
Operating voltage range	7V ~ 18V	Housing retention pull force	$\geq 200$ N
Turn-on voltage range (Terminal 86)	0V ~ 8V	Terminal bending force	$\geq 10$ N
Turn-off voltage range (Terminal 86)	12.5V ~ 18V	IP code	IP6K7
Turn-on time	400 $\mu$ s max. (@1 $\Omega$ resistive load, 125°C ambient temperature)	Electrical endurance	$\geq 9 \times 10^5$ times (0.6s On, 3s Off) Inductive load: 100A (<100ms)/20A
Turn-off time	115 $\mu$ s max. (@1 $\Omega$ resistive load, 125°C ambient temperature)	Continuous load	30A @ 23°C, 18A @ 100°C, 14A @ 125°C
Input impedance(T86), $R_{in}$	$2000\Omega \geq R_{in} \geq 1600\Omega$	Weight	33x(1 $\pm$ 3.5%)g
Output drop voltage	0.112V max. (@ $I_{LOAD}=14$ A, $V_{INPUT}=0$ V)	Note : All the parameters are tested at 23°C, 14V unless other specified.	

## ORDERING INFORMATION

Type	HFS60-A /	12	DC	-12	DC	(XXX)
Input rated voltage	12: 12VDC					
Voltage type	DC: Direct Current					
Output rated voltage	12: 12VDC					
Voltage type	DC: 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.

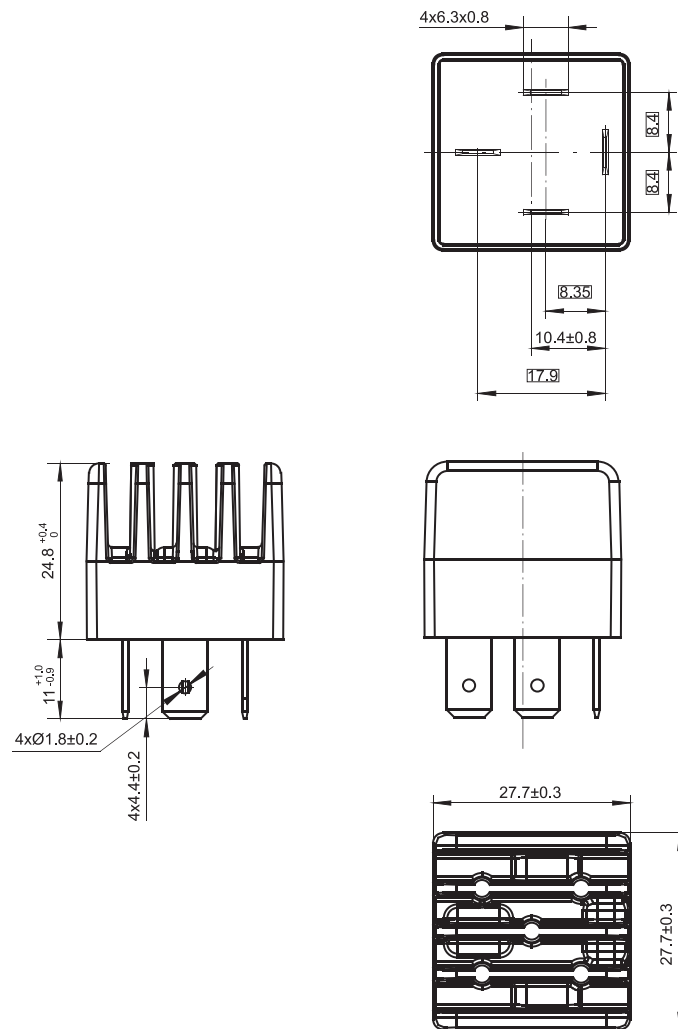


HONGFA RELAY

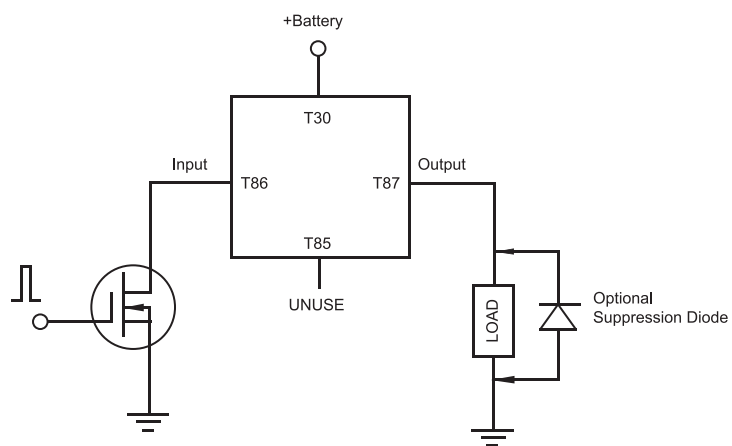
ISO9001、IATF16949、ISO14001、OHSAS18001、IECQ QC 080000 CERTIFIED

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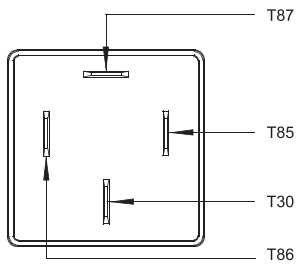
## Outline Dimensions



## Wiring Diagram



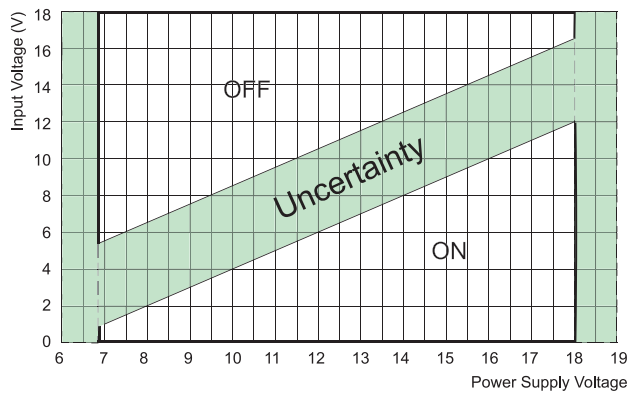
## Terminal Function Definition



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

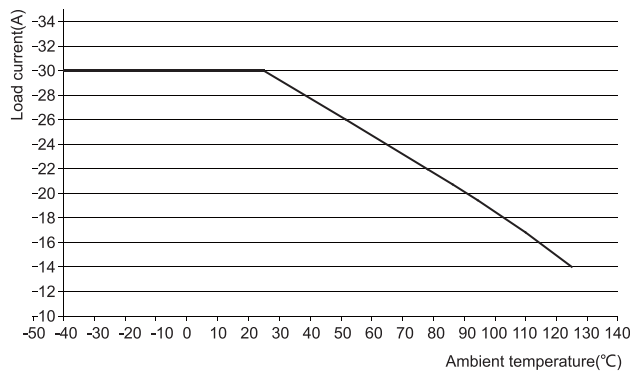
## CHARACTERISTIC CURVES

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:  
Load current characteristic is measured in still air,  
according to DIN EN 60512-3.

### 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.