# HFS60-C/12 AUTOMOTIVE SOLID STATE RELAY

## 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: 1.5x10$^6$ times or more
- Extended temp. range up to 125℃
- 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℃ ~ 150℃ |
| Operating temperature | -40℃ ~ 125℃ |
| 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 | ≤1000μs(@1Ω load impedance) |
| Turn-off time | ≤3600μs(@1Ω load impedance) |
| Input impedance(T86), $R_{in}$ | 2047Ω≥Rin ≥1675Ω(1842Ω typ.) |
| Output drop voltage | 42mV max.(@$I_{LOAD}$=14A, $V_{INPUT}$=14V) |
| Quiescent current | ≤13μA |

| | |
|---|---|
| Input current | 4.8mA(min.)，8.5mA (typ.), 10.8 mA(max.) |
| Terminal retention force (push/pull) | ≥120N |
| Housing retention pull force | ≥200N |
| Terminal bending force | ≥10N |
| IP code | IP6K7 |
| Electrical endurance | ≥1.5x10$^6$ times (1 s On,1 s Off) |
| Continuous load | 35A at 25℃, 26A at 85℃, 21.5A at 125℃ |
| Weight | 33x(1±3.5%)g |

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

## ORDERING INFORMATION

HFS60-C / 12 DC -12 DC (XXX)

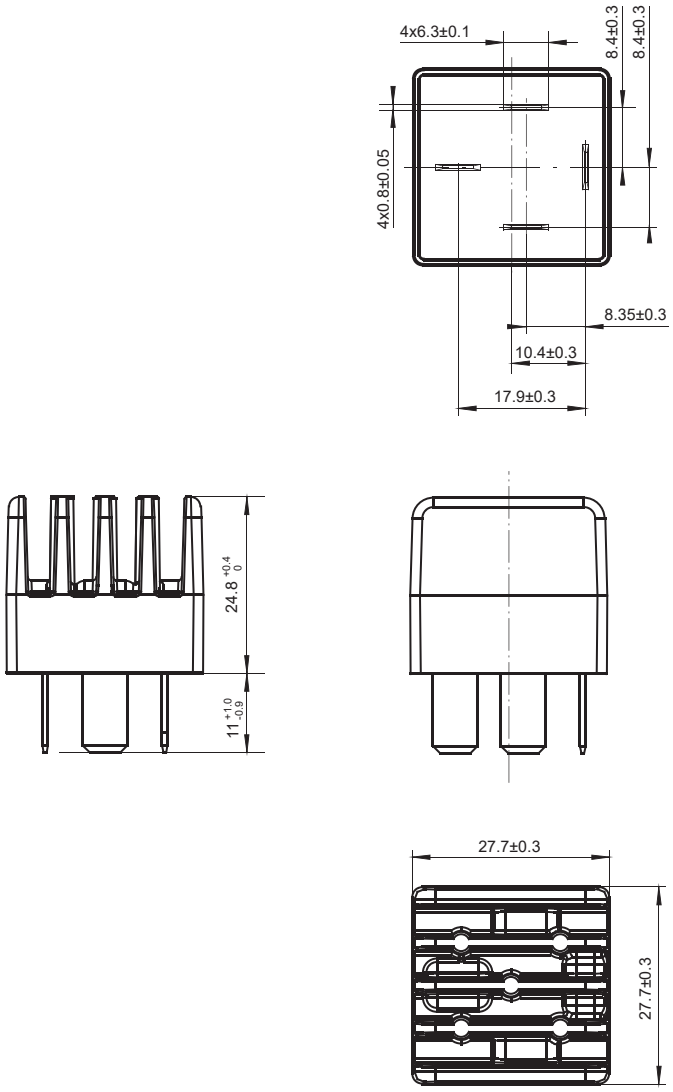
| | |
|---|---|
| **Type** | |
| **Input rated voltage** | **12:** 12VDC |
| **Voltage type** | **DC:** Direct Current |
| **Output rated voltage** | **12:** 12VDC |
| **Voltage type** | **DC:** Direct Current |
| **Special code(1)** | **XXX:** Customer special requirement **Nil:** Standard |

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

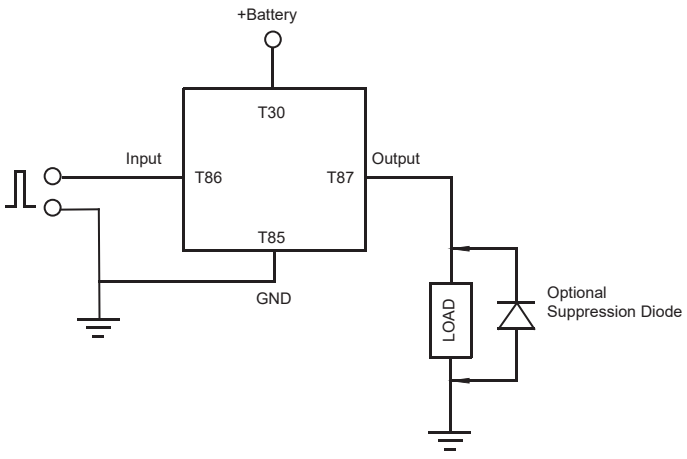
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND TERMINAL FUNCTION DEFINITION

Unit: mm

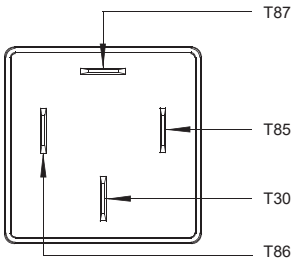
### Outline Dimensions




### Wiring Diagram



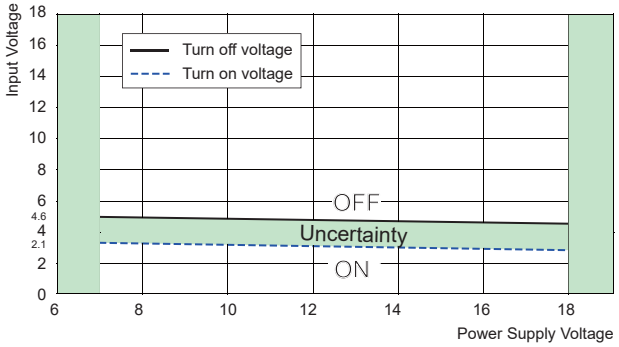
Terminal Function Definition




| 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 (+) |

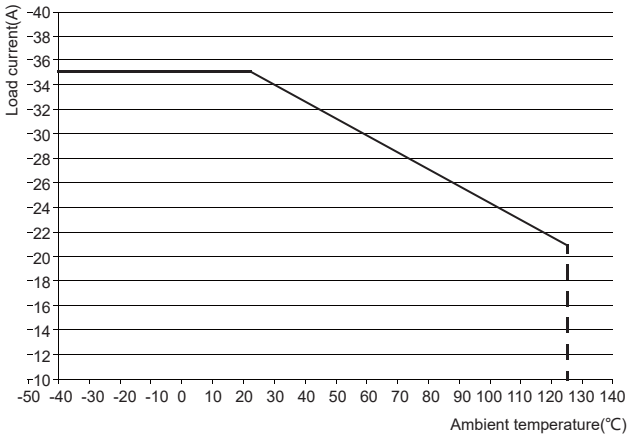
## CHARACTERISTIC CURVES

Operating voltage range




Note:
The curve is based on the load impedance is 1 Ω.
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 担 responsibility to determine which product should be used only.