FHL30 Series High-temperature DC-DC Modules

Features:
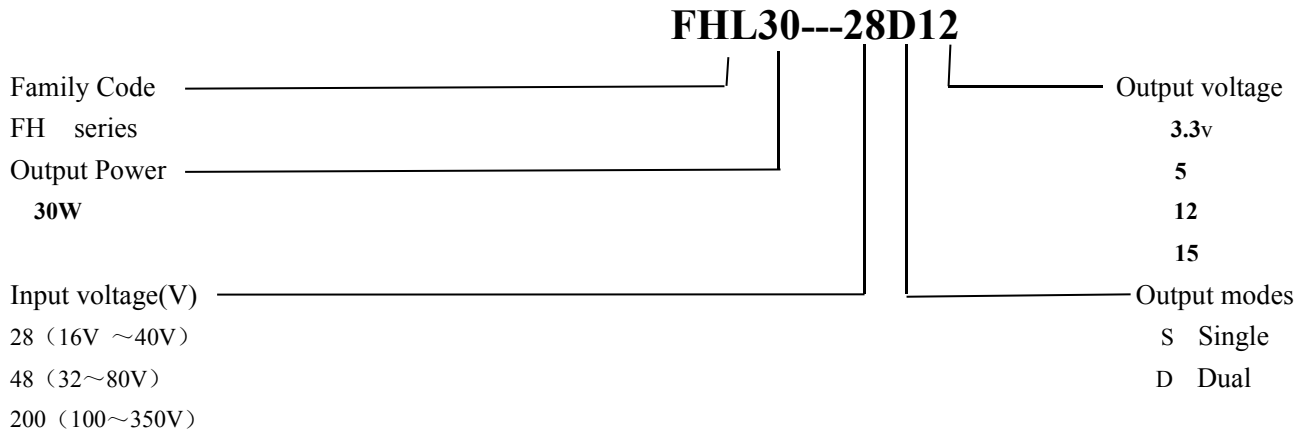
： high operating temperature (ambient temperature:-55℃～+175℃ and shell temperature: +185℃)

：Wide input range (16～40V, 32～80V， 100～350V)

：Output approach as many as two-way

: Adjustable output voltage (±30%)

：High operating frequency（400KHZ）

: Prohibition and synchronization function

：High conversion efficiency (typically 82％～85％)

：Sealed metal casting (impact and moist resistance and electromagnetic radiation protection)

：Integrated LC EMI filter

：Providing rated power without deduction under the temperature of 175℃ (shell)；providing 50% of rated power under the temperature of 204℃ (shell)

：Over-temperature protection under the temperature of 210℃

：Output short circuit and overload protection

: The modules with 16V ~ 40V input can endure the impact of the surge (80V, 50MS).

Description:

FHL30 Series 30W high temperature DC-DC power module is specially designed for electronic equipment operating under the harsh environment. With features of being resistant to high temperature,impact and humidity,it is a power supply system especially applicable to petroleum survey logging tool,petroleum drilling instrument,geophysical detecting instrument, vehicles, telecommunication, network infrastructures, enterprise and high-performance calculation. It has three optional input ranges: 16 ~ 40V, 32 ~ 80V and 100V ~ 350V and provides two-way fixed-voltage output. Within the entire operating temperature range and under the condition change of full-load and no-load, the output voltage fluctuation is less than 0.3V. The operating frequency of the FHL30 series is up to 400KHZ, which provides good wave filtration. Its output voltage ripple is less than 100MV in the conditions of no wave filtering conditions.

FHL30 series components completely pass the in-factory test in strict accordance with the enterprise standards and GJB, which includes 24 ~ 72-hour live aging and screening under the temperature of +175 ℃. All finished products have experienced 8-hour full-load operation under the temperature of +175 ℃ before delivery so as to fully expose the damage to the components during the production process and hence ensure the reliability of products.

Rules of product name：

FHL30---28D12

Family Code ———————
FH series

Output Power ———————
30W

Output voltage
3.3v
5
12
15

Input voltage(V) ———————
28（16V ～40V）
48（32～80V）
200（100～350V）

Output modes
S Single
D Dual

Main technical parameters：

（一）Operating temperature: -55 ℃～+175 ℃ Maximum shell temperature: +185 ℃

（二）Input voltage: 16V ～40V, 32～80V，100～350V

（三）Output voltage: ±5V，±12V，±15V，+3.3V，+5V，+12V，+15V

（四）Output ripple: 100mVp-p (typical 30mVp-p)

（五）Output power: 30W

（六）Output accuracy: less than 4%

（七）Load regulation: less than 4%

（八）Temperature Stability: less than ±2.5% (typical ±1%)

（九）Line regulation: ±0.1% (10% linear change)

（十）Earthquake resistance: 25G, 0～300Hz

（十一）Conversion efficiency: 82% ～ 85%

（十二）Static power consumption: maximum 0.5W

（十三）Isolation voltage between input and output or between the outputs: 1000V

Service Requirements:

As the modules have nearly 6W of power consumption under the condition of full-load operation and their sizes are small, good medium need to be added between the shell of the power supply and the radiator so as to ensure the temperature of the module case will be less than 204 ℃.

Outline Sketch Map：
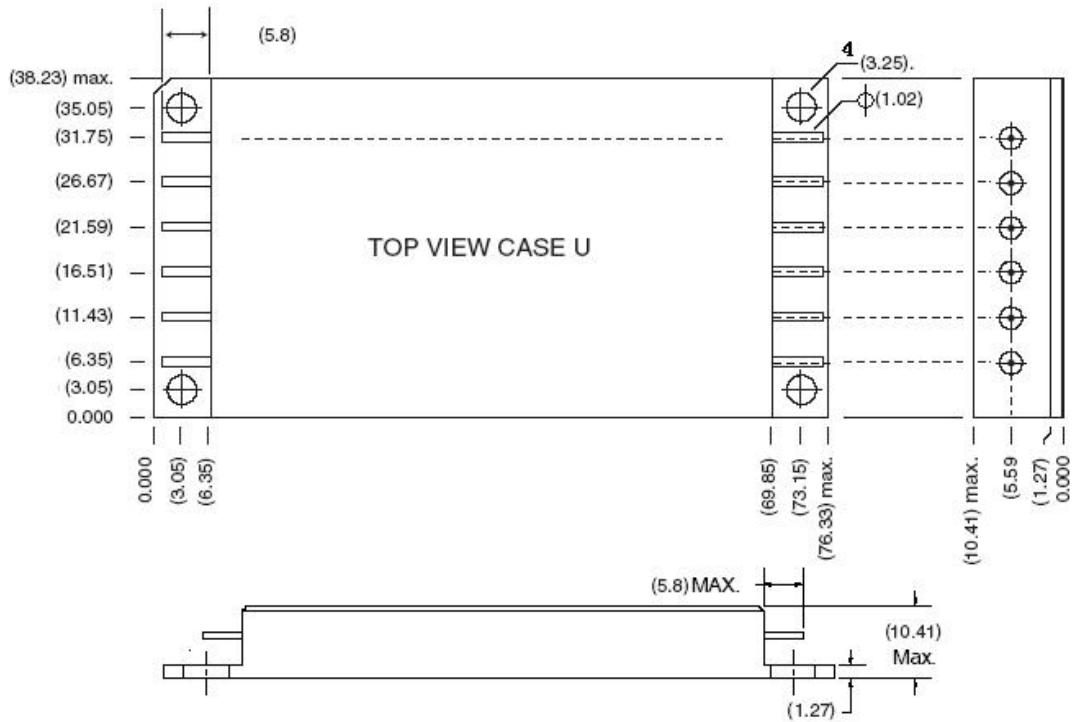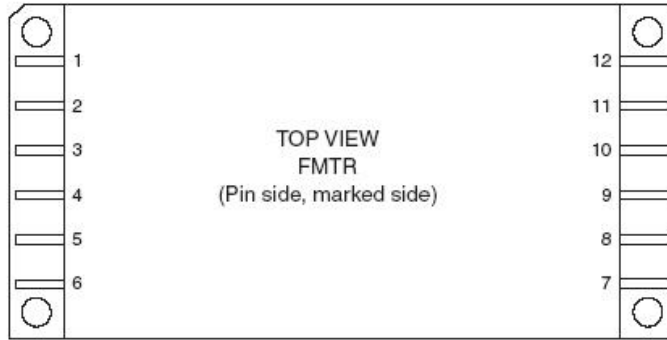
Definition of Pin：

Pin No.	Definition of single power supply	Definition of dual power supply
1	Positive input	Positive input
2	Negative input	Negative input
3	Joints of shells	Joints of shells
4	Prohibition	Prohibition
5	Synchronous output	Synchronous output
6	Synchronous input	Synchronous input
7	Positive output	Positive output
8	DAC	DAC
9	Induction return	Negative output
10	Positive induction	Blank
11	Conditioning	Conditioning
12	Blank	Blank