



## DC → DC POWER MODULE

## F SERIES

F Series FxxxxS-xW 3KVDC Isolation 0.1W~2W Unregulated single output SIP7 PIN

### Input Volt.

3.3, 5, 9, 12, 15, 24 VDC

### Output Volt.

3.3, 5, 9, 12, 15, 24 VDC

Other specifications required, please inquire us for details.



### Technical Parameters

All the parameters below are tested at TA=25° C, nominal input voltage, rated output current.

#### Input Parameters

Volt. Range

+/- 10 %

Filter

Ceramic-capacitor

#### Isolation Parameters

Rated Isolation Volt.

3000 VDC

Leak current

<1 m A

Resistance

10<sup>9</sup> Ohm

Capacitor

60 pF TYP.

#### Output Parameters

Volt. Precision

+/- 5 %, max.

( 20 MHz BW) Ripple&Noise

150mV p-p, max.

Continuous short-circuit time

Immediately (<1s)

Linear volt. Calibration

+/- 1,2 % / 1,0 % of Vin

Load volt. Calibration

+/- 8 %, load = 20 ~ 100 %

Temperature index

+/- 0,02 % / °C

#### General Parameters

Efficiency

55% to 85 %

Switching Frequency

60~125 KHz, type.

#### Environmental Parameters

Operating Temp. (environmental)

- 40° C to + 85° C

Storage Temp.

- 55 °C to + 125 °C

Reducing rated value

See temperature derating graph below

Humidity

≤ 90 %, Non-compression

Colling method

Natural Free-air

#### Dimension

SIP Package size

1W : 19.6 x6.0 x10.0 mm

2W : 19.6 x7.0 x10.0 mm

0.77 x 0.24 x 0.39 inch

0.77 x 0.28 x 0.39 inch

2.0 g~3.5 g

#### Weight

#### External Package Material

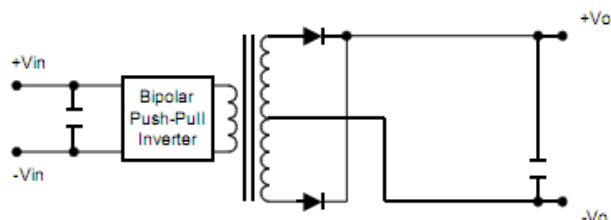
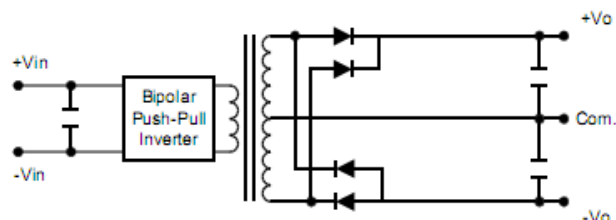
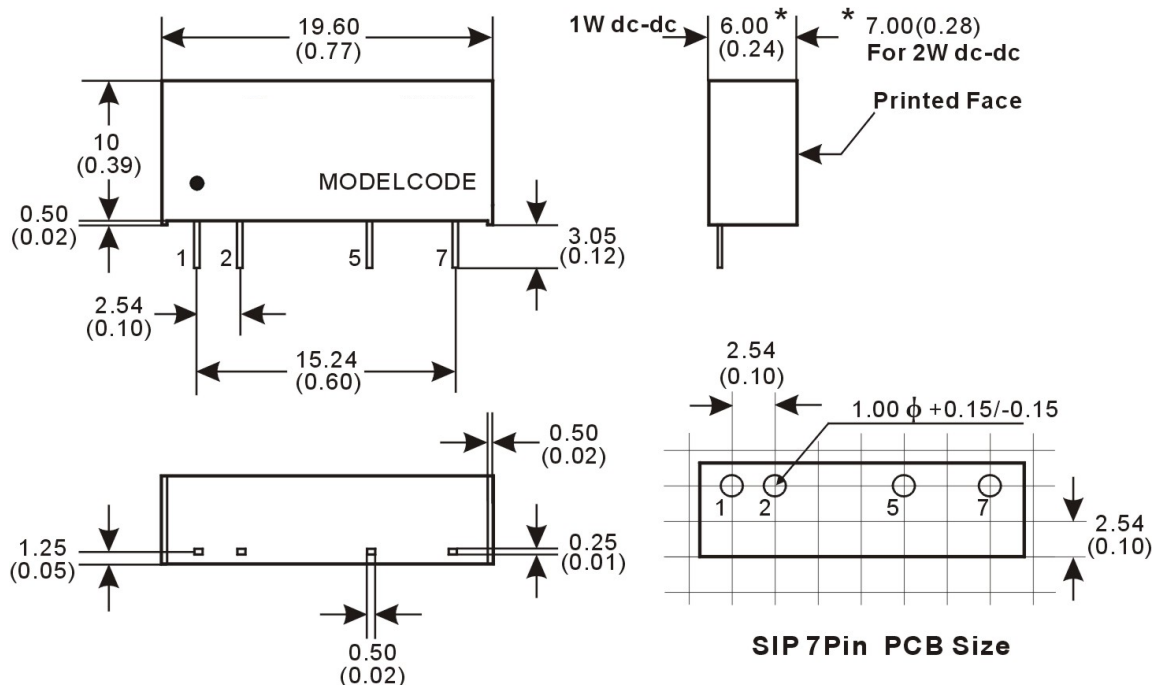
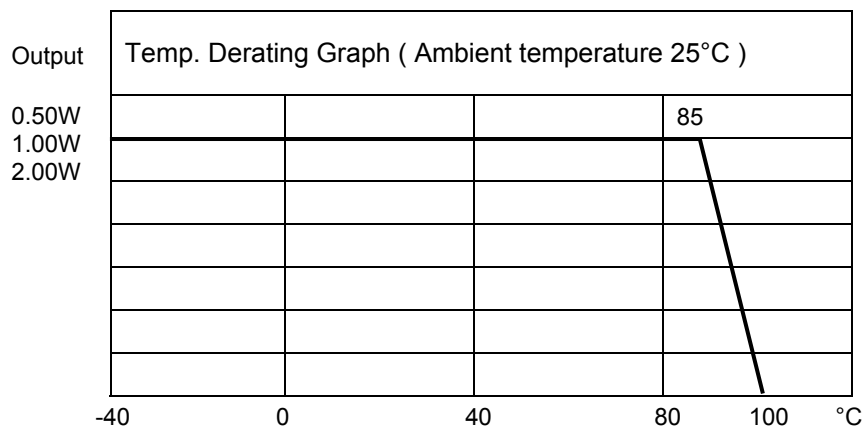
Non-conductive flame-retardant black plastics

**Typical Product List:** (The parameters below are collected at 8 hours full-load aging test.)

| Model No. | Input Volt.<br>Vin(VDC) | Input<br>Current<br>Empty load<br>(mA) | Input<br>Current<br>Full load<br>(mA) | Output<br>Volt.<br>Vout(VDC) | Output<br>Current<br>(max.mA) | Efficiency<br>Full load<br>(%TYPE) |
|-----------|-------------------------|----------------------------------------|---------------------------------------|------------------------------|-------------------------------|------------------------------------|
| F0503S-W1 | 5                       | 5                                      | 34                                    | 3.3                          | 30                            | 59                                 |
| F0505S-W1 | 5                       | 4                                      | 33                                    | 5                            | 20                            | 60                                 |
| F0512S-W1 | 5                       | 8                                      | 32                                    | 12                           | 8                             | 60                                 |
| F1205S-W1 | 12                      | 5                                      | 14                                    | 5                            | 20                            | 61                                 |
| F1212S-W1 | 12                      | 5                                      | 14                                    | 12                           | 8                             | 60                                 |
| F1215S-W1 | 12                      | 5                                      | 13                                    | 15                           | 7                             | 62                                 |
| F2405S-W1 | 24                      | 5                                      | 7                                     | 5                            | 20                            | 60                                 |
| F2412S-W1 | 24                      | 5                                      | 7                                     | 12                           | 8                             | 61                                 |

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| Model No.  | Input Volt.<br>Vin(VDC) | Input<br>Current<br>Empty load<br>(mA) | Input<br>Current<br>Full load<br>(mA) | Output<br>Volt.<br>Vout(VDC) | Output<br>Current<br>(max.mA) | Efficiency<br>Full load<br>(%TYPE) |
|------------|-------------------------|----------------------------------------|---------------------------------------|------------------------------|-------------------------------|------------------------------------|
| F0505S-W25 | 5                       | 7                                      | 81                                    | 5                            | 50                            | 62                                 |
| F1205S-W25 | 12                      | 6                                      | 34                                    | 5                            | 50                            | 62                                 |
| F1212S-W25 | 12                      | 5                                      | 35                                    | 12                           | 21                            | 61                                 |
| F1215S-W25 | 12                      | 7                                      | 32                                    | 15                           | 17                            | 62                                 |
| F2405S-W25 | 24                      | 5                                      | 17                                    | 5                            | 50                            | 62                                 |
| F2412S-W25 | 24                      | 4                                      | 16                                    | 12                           | 21                            | 63                                 |
| F2415S-W25 | 24                      | 4                                      | 15                                    | 15                           | 17                            | 65                                 |
| F0503S-W5  | 5                       | 16                                     | 167                                   | 3.3                          | 150                           | 60                                 |
| F0505S-W5  | 5                       | 12                                     | 159                                   | 5                            | 100                           | 63                                 |
| F0512S-W5  | 5                       | 18                                     | 154                                   | 12                           | 42                            | 65                                 |
| F1205S-W5  | 12                      | 11                                     | 67                                    | 5                            | 100                           | 62                                 |
| F1212S-W5  | 12                      | 10                                     | 66                                    | 12                           | 42                            | 63                                 |
| F1215S-W5  | 12                      | 10                                     | 63                                    | 15                           | 34                            | 66                                 |
| F2405S-W5  | 24                      | 6                                      | 33                                    | 5                            | 100                           | 63                                 |
| F2412S-W5  | 24                      | 7                                      | 32                                    | 12                           | 42                            | 65                                 |
| F2415S-W5  | 24                      | 8                                      | 27                                    | 15                           | 34                            | 66                                 |
| F0503S-W75 | 5                       | 22                                     | 246                                   | 3.3                          | 227                           | 61                                 |
| F0505S-W75 | 5                       | 22                                     | 238                                   | 5                            | 150                           | 63                                 |
| F0512S-W75 | 5                       | 14                                     | 242                                   | 12                           | 63                            | 62                                 |
| F0515S-W75 | 5                       | 14                                     | 238                                   | 15                           | 50                            | 63                                 |
| F1205S-W75 | 12                      | 15                                     | 100                                   | 5                            | 150                           | 62                                 |
| F1212S-W75 | 12                      | 12                                     | 97                                    | 12                           | 63                            | 64                                 |
| F1215S-W75 | 12                      | 10                                     | 96                                    | 15                           | 50                            | 65                                 |
| F1512S-W75 | 15                      | 7                                      | 79                                    | 12                           | 63                            | 63                                 |
| F1515S-W75 | 15                      | 7                                      | 77                                    | 15                           | 50                            | 64                                 |
| F0505S-1W  | 5                       | 27                                     | 263                                   | 5                            | 200                           | 76                                 |
| F0512S-1W  | 5                       | 26                                     | 256                                   | 12                           | 84                            | 78                                 |
| F0524S-1W  | 5                       | 26                                     | 256                                   | 24                           | 42                            | 78                                 |
| F1212S-1W  | 12                      | 12                                     | 107                                   | 12                           | 84                            | 78                                 |
| F1215S-1W  | 12                      | 11                                     | 104                                   | 15                           | 67                            | 80                                 |
| F2405S-1W  | 24                      | 8                                      | 54                                    | 5                            | 200                           | 77                                 |
| F2409S-1W  | 24                      | 8                                      | 54                                    | 9                            | 111                           | 77                                 |
| F2412S-1W  | 24                      | 8                                      | 54                                    | 12                           | 84                            | 77                                 |
| F2415S-1W  | 24                      | 7                                      | 55                                    | 15                           | 67                            | 76                                 |
| F0503S-2W  | 5                       | 60                                     | 571                                   | 3.3                          | 606                           | 70                                 |
| F0505S-2W  | 5                       | 42                                     | 513                                   | 5                            | 400                           | 78                                 |
| F0512S-2W  | 5                       | 26                                     | 500                                   | 12                           | 167                           | 80                                 |
| F1205S-2W  | 12                      | 22                                     | 222                                   | 5                            | 400                           | 75                                 |
| F1212S-2W  | 12                      | 20                                     | 208                                   | 12                           | 167                           | 80                                 |
| F1215S-2W  | 12                      | 18                                     | 214                                   | 15                           | 133                           | 78                                 |
| F2405S-2W  | 24                      | 8                                      | 111                                   | 5                            | 400                           | 75                                 |
| F2412S-2W  | 24                      | 8                                      | 101                                   | 12                           | 167                           | 82                                 |

**Functional Block Diagram:****Single Output****Dual Output****External Dimension & PCB Installation:****Temperature Derating Graph and PIN Definition**

| Pin | Function |      |          |
|-----|----------|------|----------|
| 1   | +        | Vin  | Input +  |
| 2   | -        | Vin  | Input -  |
| 3   |          |      |          |
| 4   |          |      |          |
| 5   | -        | Vout | Output - |
| 6   |          |      |          |
| 7   | +        | Vout | Output + |

\* Note: the product design and specification are subject to change without notice.