1W, DC/DC module power supply

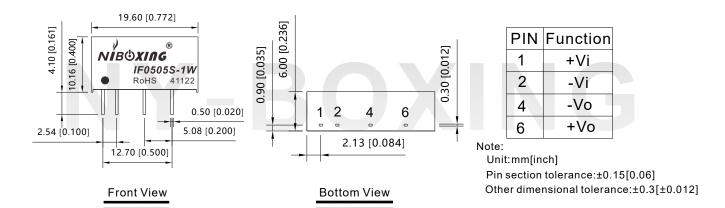


# **FEATURES**

- ★ Compact size, high power density
- ★ Operating temperature range: -40°C to +85°C
- ★ No-load input current as low as 5mA
- ★ I/O isolation test voltage 3000VDC
- ★ Low ripple & noise
- \* RoHS Compliant
- \* Industrial grade, high reliability

IFxxxxS-1W series are specially designed for applications where an isolated voltage is required in a distributed power supply system. They are suitable for: pure digital circuits, low frequency analog circuits, relay-driven circuits and data switching circuits.

# **Dimensions**



| Selection  | Guide                           |                        |                      |                       |                 |
|------------|---------------------------------|------------------------|----------------------|-----------------------|-----------------|
| Part No.   | Input Voltage                   | Nominal Output Voltage | Efficiency (%)(Typ.) | <b>Output Current</b> | Max. Capacitive |
| Part No.   | (VDC)                           | and Current            | @ Full Load          | (mA)(Min.)            | Load(µF)        |
| IF0303S-1W |                                 | 3.3V/300mA             | 81%                  | 30mA                  | 10uF            |
| IF0305S-1W | - 2.97~3.63V<br>- (Typ: 3.3VDC) | 5V/200mA               | 81%                  | 20mA                  | 10uF            |
| IF0312S-1W |                                 | 12V/83mA               | 82%                  | 9mA                   | 4.7uF           |
| IF0315S-1W |                                 | 15V/67mA               | 78%                  | 7mA                   | 2.2uF           |
| IF0324S-1W |                                 | 24V/42mA               | 82%                  | 4mA                   | 1uF             |
| IF0503S-1W | _                               | 3.3V/300mA             | 81%                  | 30mA                  | 10uF            |
| IF0505S-1W | 4.5~5.5V<br>- (Typ: 5VDC)       | 5V/200mA               | 81%                  | 20mA                  | 10uF            |
| IF0512S-1W |                                 | 12V/83mA               | 82%                  | 9mA                   | 4.7uF           |
| IF0515S-1W |                                 | 15V/67mA               | 78%                  | 7mA                   | 2.2uF           |
| IF0524S-1W | -                               | 24V/42mA               | 82%                  | 4mA                   | 1uF             |



| IF1203S-1W | - 10.8~13.2V -<br>- (Typ: 12VDC) -<br> | 3.3V/300mA | 81% | 30mA | 10uF  |
|------------|--|------------|-----|------|-------|
| IF1205S-1W |  | 5V/200mA   | 83% | 20mA | 10uF  |
| IF1212S-1W |  | 12V/83mA   | 79% | 9mA  | 4.7uF |
| IF1215S-1W |  | 15V/67mA   | 80% | 7mA  | 2.2uF |
| IF1224S-1W |  | 24V/42mA   | 81% | 4mA  | 1uF   |
| IF1503S-1W |  | 3.3V/300mA | 81% | 30mA | 10uF  |
| IF1505S-1W | 12 5 16 5)/                            | 5V/200mA   | 79% | 20mA | 10uF  |
| IF1512S-1W | - 13.5~16.5V -<br>- (Typ: 15VDC) -<br> | 12V/83mA   | 83% | 9mA  | 4.7uF |
| IF1515S-1W |  | 15V/67mA   | 82% | 7mA  | 2.2uF |
| IF1524S-1W |  | 24V/42mA   | 79% | 4mA  | 1uF   |
| IF2403S-1W | - 21.6~26.4V -<br>- (Typ: 24VDC) -     | 3.3V/300mA | 81% | 30mA | 10uF  |
| IF2405S-1W |  | 5V/200mA   | 80% | 20mA | 10uF  |
| IF2412S-1W |  | 12V/83mA   | 81% | 9mA  | 4.7uF |
| IF2415S-1W |  | 15V/67mA   | 82% | 7mA  | 2.2uF |
| IF2424S-1W | <del>-</del>                           | 24V/42mA   | 80% | 4mA  | 1uF   |
|            |  |            |     |      |       |

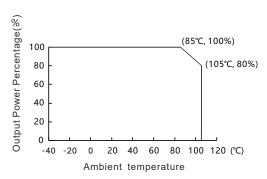
| Output Specifications         |   |     |       |           |
|-------------------------------|---|-----|-------|-----------|
| Item                          | <b>Operating Conditions</b>             | Min | Тур   | Max       |
| Output Power                  |   |     |       |           |
| Output Voltage Accuracy       | 100% load                               |     | ±1%   |           |
| Line Regulation               | Input voltage change: ±1%               |     | ±1.5% |           |
| Load Regulation               | 10%~100% Load                           |     | ±1%   |           |
| Ripple & Noise*               | 20MHz bandwidth<br>(peak-to-peak value) |     | 75mV  |           |
| Temperature Drift Coefficient | 100% load                               |     |       | ±0.03%/°C |

Note: \*Ripple and noise tested with "parallel cable" method, please see DC-DC Converter Application Notes for specific operation methods.

| Item                  | Operating Conditions        | Min                | Тур                      | Max   |
|-----------------------|-----------------------------|--------------------|--------------------------|-------|
| Insulation Voltage    | Input-Output, Test for 1min |                    | 3000VDC                  |       |
| Operating Temperature | 9                           | -40°C              |                          | +85℃  |
| Storage Temperature   |                             | -40℃               |                          | +125℃ |
| Storage Humidity      |                             |                    |                          | 95%RH |
| Working Frequency     |                             |                    | 100KHz                   |       |
| MTBF                  | MIL-HDBK-217F, 25°C         |                    | 3500,000h                |       |
| Casing Material       | Black flame-reta            | rdant and heat-res | sistant plastic (UL94-V( | 0)    |

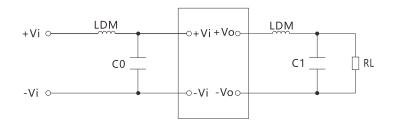
### Product Characteristic Curve

#### Temperature Derating Curve



### Design Reference

# 1 Typical application



#### Note

a. Ceramic capacitor or electrolytic capacitor is recommended for external capacitor of product input or output. Tantalum capacitors are not recommended, otherwise there is a certain failure risk.

b. The product does not support output and joint power or hot plug

| Input Voltage  | 3.3V  | 5V    | 12V   | 15V   | 24V |
|----------------|-------|-------|-------|-------|-----|
| C0             | 4.7µF | 4.7µF | 2.2µF | 2.2µF | 1µF |
|                |       |       |       |       |     |
| Output Voltage | 3.3V  | 5V    | 12V   | 15V   | 24V |
| C1             | 10μF  | 10μF  | 4.7µF | 2.2µF | 1µF |

6.8µH

# Safety precautions

LDM

- 1.If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
- 2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75% with nominal input voltage and rated output load;
- 3. All index testing methods in this datasheet are based on our Company's corporate standards;
- 4. We can provide product customization service, please contact our technicians directly for specific information;
- 5. For more product information, please visit our official website www.gzny-boxing.com or email us (sales@gzny-boxing.com).

NYBOXING GUANGZHOU ELECTRONIC&TECHNOLOGY CO.,LTD