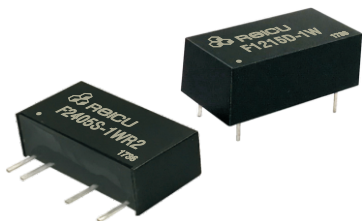


Features

- RoHS compliant
- Efficiency up to 80%
- 3kVDC Isolation
- Single output
- Short circuit protection( Suffix “R2” only SIP,optional)
- Industry standard required
- Wide temperature performance at full 1 Watt load,-40℃ to 85℃



Model Selection Guide

| Order Code      | Vin(V)  |           | Output |        | Max capacitive Load | Efficiency(%) (Typ) |
|-----------------|---------|-----------|--------|--------|---------------------|---------------------|
|                 | Nominal | Range     | Vo(V)  | Io(mA) |                     |                     |
| F0303S/D-1W(R2) | 3.3     | 3.0-3.6   | 3.3    | 303    | 220                 | 72                  |
| F0305S/D-1W(R2) |         |           | 5      | 200    | 220                 | 74                  |
| F0505S/D-1W(R2) |         |           | 5      | 200    | 220                 | 72                  |
| F0509S/D-1W(R2) | 5       | 4.5-5.5   | 9      | 111    | 150                 | 77                  |
| F0512S/D-1W(R2) |         |           | 12     | 83     | 100                 | 78                  |
| F0515S/D-1W(R2) |         |           | 15     | 67     | 100                 | 78                  |
| F0524S/D-1W(R2) |         |           | 24     | 42     | 68                  | 77                  |
| F1205S/D-1W(R2) |         |           | 5      | 200    | 220                 | 71                  |
| F1209S/D-1W(R2) | 12      | 10.8-13.2 | 9      | 111    | 150                 | 76                  |
| F1212S/D-1W(R2) |         |           | 12     | 83     | 100                 | 78                  |
| F1215S/D-1W(R2) |         |           | 15     | 67     | 100                 | 80                  |
| F1224S/D-1W(R2) |         |           | 24     | 42     | 68                  | 80                  |
| F2405S/D-1W(R2) |         |           | 5      | 200    | 220                 | 72                  |
| F2409S/D-1W(R2) | 24      | 21.6-26.4 | 9      | 111    | 150                 | 76                  |
| F2412S/D-1W(R2) |         |           | 12     | 83     | 100                 | 78                  |
| F2415S/D-1W(R2) |         |           | 15     | 67     | 100                 | 80                  |
| F2424S/D-1W(R2) |         |           | 24     | 42     | 68                  | 81                  |

\*All the specifications typical at Ta=+25℃ resistive load, nominal input voltage and rated output current unless otherwise noted.

Input Characteristics

| Parameter                         | Condition         | Min                | Typ | Max | Units |
|-----------------------------------|-------------------|--------------------|-----|-----|-------|
| Input Surge Voltage (1 sec. Max.) | 3.3V Input Models | -0.7               | --  | 6   | VDC   |
|                                   | 5V Input Models   | -0.7               | --  | 9   |       |
|                                   | 12V Input Models  | -0.7               | --  | 18  |       |
|                                   | 24V Input Models  | -0.7               | --  | 30  |       |
| Input Filter                      | All Models        | Internal Capacitor |     |     |       |

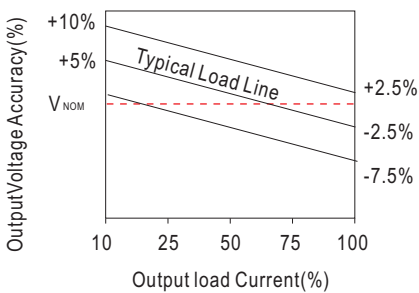
Output Characteristics

| Parameter                | Condition               | Min                           | Typ | Max  | Units |
|--------------------------|-------------------------|-------------------------------|-----|------|-------|
| Line regulation          | Vin change 1%           | ±1.2                          | --  | ±1.5 | %     |
| Switching frequency      | Full load,nominal input | --                            | 100 | --   | KHz   |
| Load regulation          | 10%~100% load           | 6.5                           | --  | 15   | %     |
| Ripple and noise         | BW=DC to 20MHz          | --                            | 75  | ≤100 | mVp-p |
| Short circuit Protection | Suffix “R2”             | Continuous,Automatic Recovery |     |      |       |

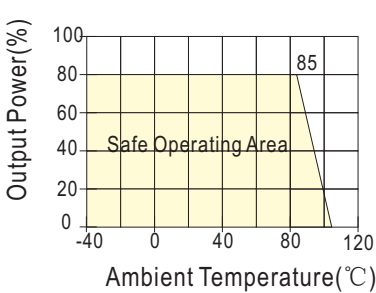
General Characteristics

| Parameter             | Condition           | Min  | Typ  | Max  | Units   |
|-----------------------|---------------------|------|------|------|---------|
| Operating Temperature | All output types    | -40  | --   | +85  | ℃       |
| Storage               |                     | -55  | --   | +125 | ℃       |
| Storage humidity      |                     | --   | --   | +95  | %       |
| Cooling               | Free air convection | --   | --   | --   |         |
| Isolation voltage     | 1mA≤1minute         | --   | 3000 | --   | VDC     |
| Isolation resistance  | 500VDC              | 1000 | --   | --   | MΩ      |
| Switching Frequency   |                     | --   | 100  | --   | KHz     |
| MTBF                  | 3.5×10 <sup>6</sup> |      |      |      | K hours |

Tolerance Envelopes Curve

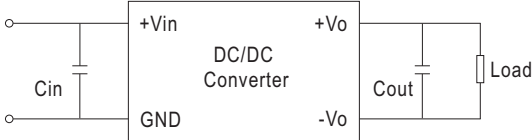


Temperature Derating Graph Curve



Input/Output Ripple Reduction

Reduce output ripple, it is recommended to use capacitors at the input/output.



External Capacitor Table

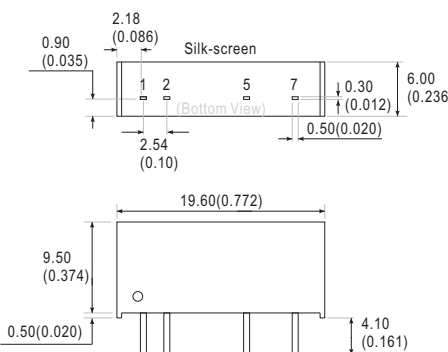
|           |     |     |     |    |      |
|-----------|-----|-----|-----|----|------|
| Vin(VDC)  | 5   | 12  | 15  | 24 |      |
| Cin(uF)   | 4.7 | 2.2 | 2.2 | 1  |      |
| Vout(VDC) | 5   | 9   | 12  | 15 | 24   |
| Cout(uF)  | 10  | 4.7 | 2.2 | 1  | 0.47 |

Note

- 1.To ensure this module can operate efficiently and reliably, During operation, the minimum output load is not less than 10% of the full load.
- 2.Other input and output voltage may be available, please
- 3.Specifications subject to change without notice

Mechanical Dimension & Pin Connections

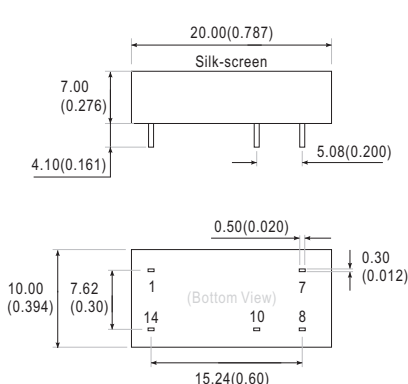
F\*\*\*\*S-1W



| Pin      | 1   | 2   | 5   | 7   |
|----------|-----|-----|-----|-----|
| Function | Vin | GND | -Vo | +Vo |

Note:  
Unit:mm(inch)

F\*\*\*\*D-1W



| Pin      | 1   | 7  | 8   | 10  | 14  |
|----------|-----|----|-----|-----|-----|
| Function | GND | NC | +Vo | -Vo | Vin |