

Features

- RoHS compliant
- Efficiency up to 80%
- 1.6kVDC Isolation
- Single output
- Industry standard required
- Wide temperature performance | 1 Watt load, -40°C to 85°C



Model Selection Guide

| Order Code | Vin(V) | | Output | | Max capacitive Load | Efficiency(%) (Typ) |
|------------|---------|-----------|--------|--------|---------------------|---------------------|
| | Nominal | Range | Vo(V) | Io(mA) | | |
| B0303M-1W | 3.3 | 3.0-3.6 | 3.3 | 303 | 220 | 72 |
| B0305M-1W | | | 5 | 200 | 220 | 74 |
| B0505M-1W | 5 | 4.5-5.5 | 5 | 200 | 220 | 70 |
| B0509M-1W | | | 9 | 111 | 150 | 77 |
| B0512M-1W | | | 12 | 83 | 100 | 79 |
| B0515M-1W | | | 15 | 67 | 100 | 81 |
| B1205M-1W | 12 | 10.8-13.2 | 5 | 200 | 220 | 71 |
| B1209M-1W | | | 9 | 111 | 150 | 78 |
| B1212M-1W | | | 12 | 83 | 100 | 78 |
| B1215M-1W | | | 15 | 67 | 100 | 80 |

*All the specifications typical at Ta=+25°C 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 | | | |

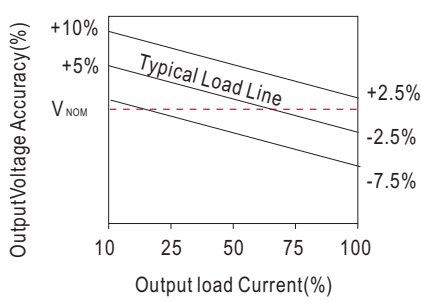
Output Characteristics

| 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 |

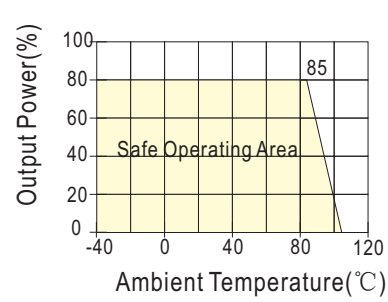
General Characteristics

| Parameter | Condition | Min | Typ | Max | Units |
|-----------------------|---------------------|-----|------|------|---------|
| Operating Temperature | All output types | -40 | -- | +85 | °C |
| Storage | | -55 | -- | +125 | °C |
| Storage humidity | | -- | -- | +95 | % |
| Cooling | Free air convection | -- | -- | -- | |
| Isolation voltage | 1mA≤1minute | -- | 1600 | -- | VDC |
| Isolation resistance | 500VDC | -- | 1600 | -- | MΩ |
| Switching Frequency | | -- | 100 | 110 | KHz |
| MTBF | 3.5×10 ⁶ | | | | K hours |

Tolerance Envelopes Curve

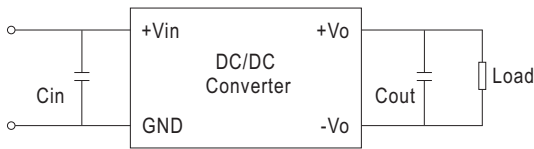


Temperature Derating Graph Curve



Input/Output Ripple Reduction

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



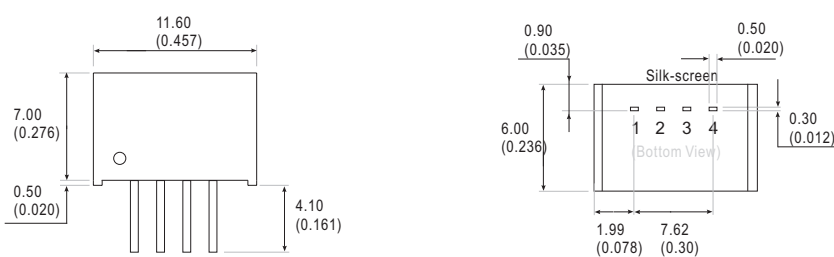
External Capacitor Table

| Parameter | 5 | 12 | 15 | 24 | |
|-----------|-----|-----|-----|----|------|
| 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



Note: Unit:mm(inch)

| Pin | 1 | 2 | 3 | 4 |
|----------|-----|-----|-----|-----|
| Function | GND | Vin | -Vo | +Vo |