

FEATURES:

- Fixed voltage input, isolated non regulated dual output
- Working temperature range -40 °C to+85 °C
- Small SMD package, international standard pin method
- Isolation voltage 3000Vdc
- Typical efficiency up to 85%
- 3 year warranty



MODEL LIST

| Model | Input voltage (Vdc) | Output voltage (Vdc) | Output current (mA) | Efficiency (%) | Maximum capacity load |
|------------|---------------------|----------------------|---------------------|----------------|-----------------------|
| DTM1-0310F | 3.3(3.0-3.6) | 3.3 | 303 | 81 | 1000uF |
| DTM1-0311F | 3.3(3.0-3.6) | 5 | 200 | 82 | 1000uF |
| DTM1-0313F | 3.3(3.0-3.6) | 12 | 83 | 83 | 1000uF |
| DTM1-0510F | 5(4.5-5.5) | 3.3 | 303 | 80 | 1000uF |
| DTM1-0511F | 5(4.5-5.5) | 5 | 200 | 85 | 1000uF |
| DTM1-0512F | 5(4.5-5.5) | 9 | 111 | 85 | 1000uF |
| DTM1-0513F | 5(4.5-5.5) | 12 | 83 | 84 | 1000uF |
| DTM1-0514F | 5(4.5-5.5) | 15 | 67 | 85 | 1000uF |
| DTM1-0515F | 5(4.5-5.5) | 24 | 42 | 83 | 1000uF |
| DTM1-1210F | 12(10.8-13.2) | 3.3 | 303 | 81 | 2200uF |
| DTM1-1211F | 12(10.8-13.2) | 5 | 200 | 84 | 2200uF |
| DTM1-1212F | 12(10.8-13.2) | 9 | 111 | 85 | 2200uF |
| DTM1-1213F | 12(10.8-13.2) | 12 | 83 | 85 | 1000uF |
| DTM1-1214F | 12(10.8-13.2) | 15 | 67 | 85 | 1000uF |
| DTM1-1215F | 12(10.8-13.2) | 24 | 42 | 84 | 2200uF |
| DTM1-1511F | 15(13.5-16.5) | 5 | 200 | 84 | 2200uF |
| DTM1-1513F | 15(13.5-16.5) | 12 | 83 | 88 | 2200uF |
| DTM1-1514F | 15(13.5-16.5) | 15 | 67 | 84 | 1000uF |
| DTM1-1515F | 15(13.5-16.5) | 24 | 42 | 86 | 2200uF |
| DTM1-2410F | 24(21.6-26.4) | 3.3 | 303 | 82 | 3300uF |
| DTM1-2411F | 24(21.6-26.4) | 5 | 200 | 84 | 2200uF |
| DTM1-2412F | 24(21.6-26.4) | 9 | 111 | 86 | 1000uF |
| DTM1-2413F | 24(21.6-26.4) | 12 | 83 | 84 | 2200uF |
| DTM1-2414F | 24(21.6-26.4) | 15 | 67 | 84 | 2200uF |
| DTM1-2415F | 24(21.6-26.4) | 24 | 42 | 87 | 2200uF |

PRODUCT PARAMETERS

| | | |
|-----------------------------|-----------------------------|-----------------|
| Line regulation | --- | 1.5% max. |
| Load regulation | 10%~ 100% full load | 15%max. |
| Isolation voltage | Leakage current < 1mA/1min. | 3000Vdc min. |
| Isolation resistance | Test at 500vDc | 1000mΩ min. |
| Switching frequency | --- | 250KHz typ. |
| Ripple and noise | Band width 20MHz | 100mVp-p max. |
| Temperature coefficient | Rated load | +0.03%/°C max. |
| Operating temperature range | --- | -40°C to +85°C |
| Storage temperature range | --- | -55°C to +125°C |
| Short circuit protection | --- | 1S |
| MTBF | --- | 3500KHrs |
| Weight | --- | 1.2g |

1. Other input and output models may be available on request;
2. Above models are default to metal case.
3. Both positive and negative outputs have the same capacitive load.
4. Ripple noise is generated by connecting a 12 # twisted pair cable, setting the oscilloscope bandwidth to 20MHz, using a 100M bandwidth probe, and parallel connecting a 0.1uF polypropylene capacitor and a 4.7uF high-frequency low resistance electrolytic capacitor at the probe end. The oscilloscope uses Sample sampling mode for sampling.

SIZE&PIN DEFINITION

Top view

Side view

Layout recommendation

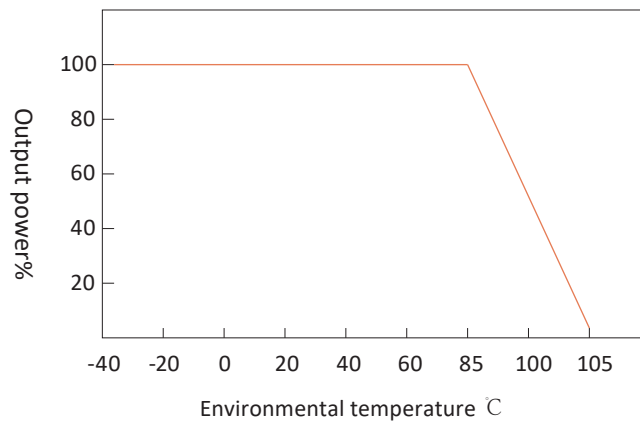
Grid distance 2.54 * 2.54mm
Terminal section tolerance: ±0.10mm(±0.004inch)
Unmarked tolerances: ±0.25mm(±0.010inch)

Pin Definition

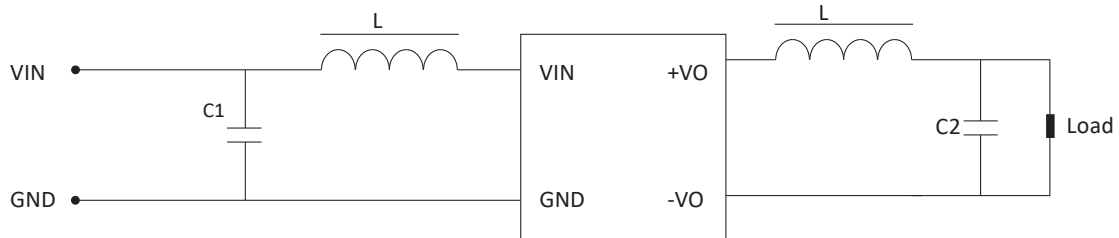
| Pin | Definition |
|-------|------------|
| 1 | GND |
| 2 | VIN |
| 4 | 0V |
| 5 | +Vo |
| 8 | NC |
| 3.6.7 | No Pin |

Attention: NC cannot be connected to any external circuit

TEMPERATURE REDUCTION CURVE



LC FILTERING CIRCUIT



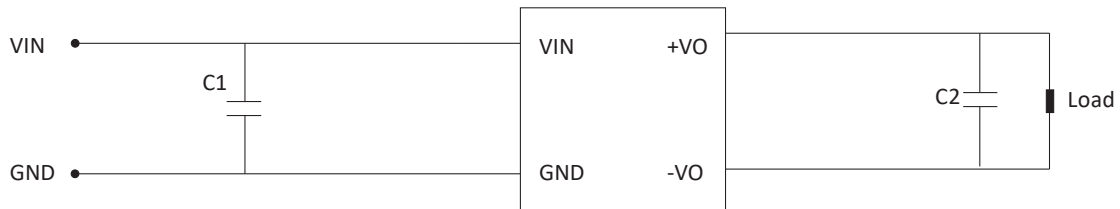
Try to avoid no-load use: When the load power consumption is less than 10% of the output rated power of the module, it is recommended to connect a dummy load outside the output end or select a module with smaller rated power, the dummy load (resistance) can be calculated according to 10% of the rated power of the module, the resistance value $R=U^2 / (10\% \times 1W)$;

The output external capacitor should not be too large: the capacity of the output external capacitor C2 should not be too large, otherwise it is easy to cause overcurrent or poor start when the module is started, which should be selected according to the capacitor external table;

The input of this series does not support parallel use of hot swap and output

For occasions with high ripple noise requirements, an external LC filter circuit should be connected, and the resonant frequency of the LC filter is much smaller than the switching frequency of the DC/DC module to prevent mutual interference, resulting in increased output ripple or module damage, as shown in the figure above:

RECOMMENDED BASIC APPLICATION CIRCUITS



| Input voltage | C1 | output voltage | C2 |
|---------------|-------|----------------|-------|
| 3.3VDC | 4.7uF | 3.3VDC | 10uF |
| 5VDC | 4.7uF | 5VDC | 4.7uF |
| 12VDC | 2.2uF | 12VDC | 2.2uF |
| 15/24VDC | 1uF | 15/24VDC | 1uF |