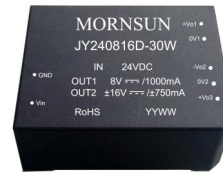


JY240816D-30W

30W, FIXED INPUT, 15000VDC DUAL ISOLATED & UNREGULATED, TRIPLE OUTPUT DC-DC CONVERTER



RoHS

FEATURES

- Operating Temperature: -40°C~+85°C
- 15000VDC Isolation Voltage
- No External Component Required
- Internal SMD construction
- RoHS Compliance

APPLICATIONS

The JY240816D-30W series are specially designed for applications where two group of polar power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

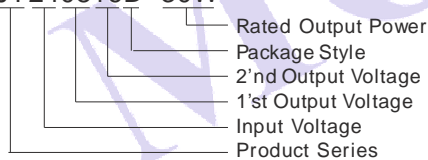
These products apply to:

- 1) Where the voltage of the input power supply is fixed (voltage variation $\leq \pm 5\%$);
- 2) Where isolation is necessary between input and output (isolation voltage $\leq 15000\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are not demanding.

Such as: purely digital circuits, ordinary low frequency analog circuits, and IGBT power device driving circuits.

MODEL SELECTION

JY240816D -30W



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PRODUCT PROGRAM

| Part Number | Input | | Output | | | Efficiency (%) (Typ.) |
|---------------|---------------|-----------|---|--------------------------------|------------------------------|-----------------------|
| | Voltage (VDC) | | Vo1/Vo2&Vo3 (VDC) | Io1/Io2&Io3 (mA) | | |
| | Nominal | Range | | Max | Min | |
| JY240816D-30W | 24 | 22.8~25.2 | Vo1: 6.5-9.5 Vo2&Vo3: $\pm(14.0-18.5)$ | Io1:1000 Io2&Io3: ± 750 | Io1:100 Io2&Io3: ± 75 | 88 |

ISOLATION SPECIFICATIONS

| Item | Test conditions | Min | Typ | Max | Units |
|---------------------------------|---|-------|-----|-----|-------|
| Isolation voltage (Vin/Vout) | Tested for 1 minute and 1 mA max Input to Output | 10000 | | | VAC |
| Isolation voltage (Vin/Vout) | Tested for 1 minute and 1 mA max Input to Output | 15000 | | | VDC |
| Isolation voltage (Vo1/Vo2&Vo3) | Tested for 1 minute and 1 mA max Output to Output | 3000 | | | VDC |

OUTPUT SPECIFICATIONS

| Item | Test conditions | Min. | Typ. | Max. | Units |
|---------------------|---|------|------|------------|-------|
| Output power | | 3 | | 30 | W |
| Load regulation | 10% to 100% load (8V output) | | | 20 | % |
| | 10% to 100% load ($\pm 16\text{V}$ output) | | | 20 | |
| Temperature drift | 100% full load | | | ± 0.03 | %/°C |
| Ripple & Noise* | 20MHz Bandwidth | | 100 | 200 | mVp-p |
| Switching frequency | Full load, nominal input | | 200 | | kHz |

*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

COMMON SPECIFICATIONS

| Item | Test conditions | Min | Typ | Max | Units |
|----------------------------|--------------------------------|---------------------------|-----|-----|---------|
| Storage humidity | | 20 | | 95 | % |
| Operating Temperature | | -40 | | 85 | °C |
| Storage Temperature | | -55 | | 100 | |
| Lead temperature | 1.5mm from case for 10 seconds | | | 300 | |
| Temp. rise at full load | | | 40 | | |
| Short circuit protection* | | | | 15 | S |
| Electrical fast transients | 4000V | Voltage change rate < 20% | | | |
| RF field susceptibility | 27-300 MHz, 3W/5cm | | | | |
| Cooling | | Free air convection | | | |
| Case material | | Plastic (UL94-V0) | | | |
| Weight | | | 100 | | g |
| MTBF | | 100 | | | K hours |

*Short circuit input current is about 1000mA, if longer than 15 seconds, the temperature will be too high and the module will damage.

APPLICATION NOTE

① Recommended testing and application circuit

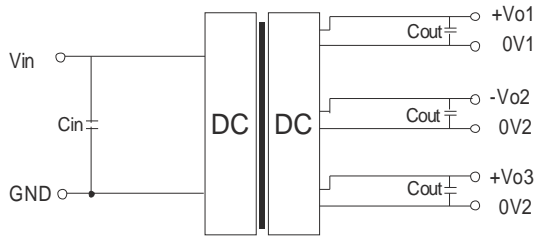
If you want to further decrease the ripple & noise, a filter capacitor can be connected to the input and output ends of the DC/DC converter, see (Figure 1).

However, the capacitance of the output filter capacitor must be proper. If the capacitance is too big, a startup problem might arise. For every channel of output, provided the safe and reliable operation is ensured, the recommended capacitance of its filter capacitor sees (Table 1).

Recommended capacitance (Table 1)

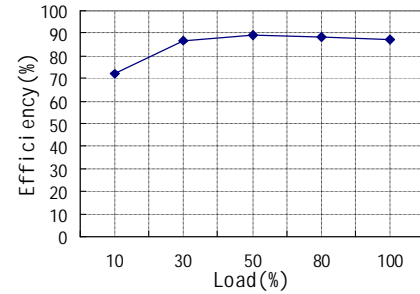
| Vin(VDC) | Cin(μ F) | Vout(VDC) | Cout(μ F) |
|----------|---------------|-----------|----------------|
| 24 | 100 | 8 | 100 |
| -- | -- | ± 16 | ± 100 |

Recommended circuit (Figure 1)

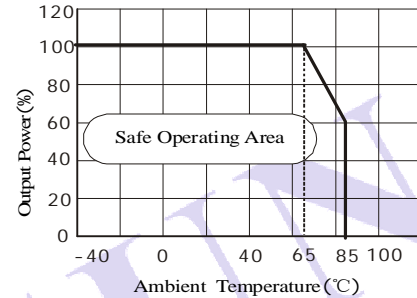


TYPICAL CHARACTERISTICS

Load VS Efficiency curve

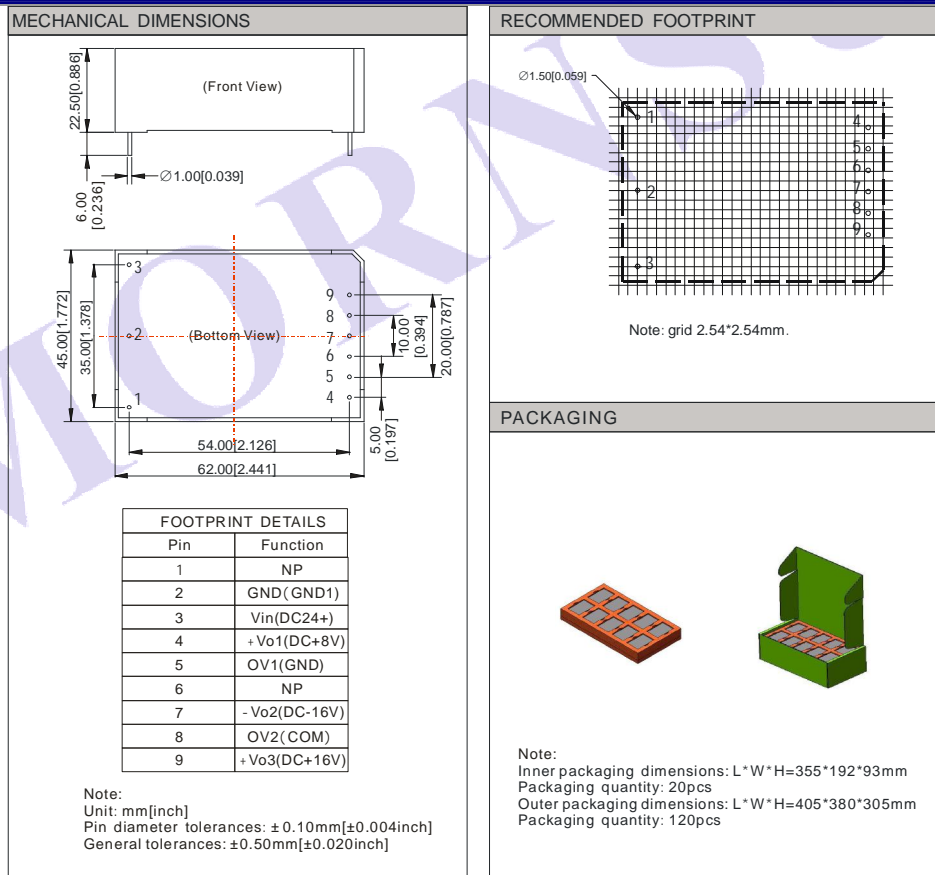


Temperature Derating Graph



② No parallel connection or plug and play.

OUTLINE DIMENSIONS & PIN CONNECTIONS & PACKAGING



Note:

1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
2. All specifications measured at $T_a=25^\circ\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
3. Only typical models listed, other models may be different, please contact our technical person for more details.
4. In this datasheet, all the test methods of indications are based on corporate standards.