

Features

- ★ Small Footprint, High Efficiency up to 86%
- ★ Isolation Voltage 1000 VDC
- ★ 7 PIN SIP Package
- ★ Temperature Range:-40°C to +85°C
- ★ UL94V-0 Inflaming retarding package
- ★ MTBF>1 million hours(25°C)

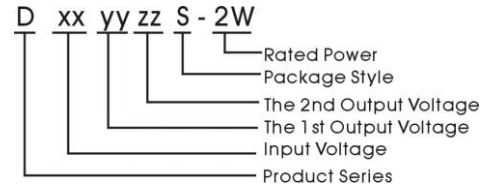


Applications

The D_S-2W Series are specially designed for application where a 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 where:

1. Where the voltage of the input power supply is fixed (voltage variation $\leq \pm 10\%$).
2. Where isolation is necessary between input and output. (isolation voltage ≤ 1000 VDC)
3. Where the regulation of the output voltage and the output ripple noise are not demanding.



Model Detail List Specification

| Model Number | Input Voltage range (nominal voltage) | Output Voltage | Output Current _(mA) | | Input Current Full load _(mA) | | Efficiency | Max. Capacitive Load _(μF) |
|--------------|---------------------------------------|----------------|--------------------------------|---------|---|-----|------------|--------------------------------------|
| | | | Min. | Max. | Max. | No. | | |
| D050505S-2W | 4.5~5.5VDC (5 VDC) | 5.0;5.0V | 20;20 | 200;200 | 250 | 32 | 80% | 200 |
| D050909S-2W | | 9.0;9.0V | 11;11 | 111;111 | 243 | | 82% | |
| D051212S-2W | | 12.0;12.0V | 8;8 | 83;83 | 242 | | 82% | |
| D051515S-2W | | 15.0;15.0V | 6;6 | 67;67 | 242 | | 83% | |
| D120505S-2W | 10.8~13.2VDC (12 VDC) | 5.0;5.0V | 20;20 | 200;200 | 104 | 28 | 80% | |
| D120909S-2W | | 9.0;9.0V | 11;11 | 111;111 | 100 | | 83% | |
| D121212S-2W | | 12.0;12.0V | 8;8 | 83;83 | 97 | | 85% | |
| D121515S-2W | | 15.0;15.0V | 6;6 | 67;67 | 100 | | 83% | |
| D240505S-2W | 21.6~26.4VDC (24 VDC) | 5.0;5.0V | 20;20 | 200;200 | 50 | 20 | 82% | |
| D240909S-2W | | 9.0;9.0V | 11;11 | 111;111 | 49 | | 84% | |
| D241212S-2W | | 12.0;12.0V | 8;8 | 83;83 | 48 | | 85% | |
| D241515S-2W | | 15.0;15.0V | 6;6 | 67;67 | 48 | | 86% | |

Environmental Specifications

| Item | Test Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|-----------------------------|---------------------|------|------|------|
| Storage Humidity | Non condensing | | | 95 | % |
| Temp. rise at full load | | | 25 | | °C |
| Operating Temperature | | -45 | | +85 | |
| Storage Temperature | Power derating (above 85°C) | -55 | | +125 | |
| Cooling | | Free air convection | | | |

Output Specifications

| Item | Test Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|-----------------------------|------------|------|------------|-------|
| Output Power | | 0.2 | | 2 | W |
| Line Voltage Regulation | For Vin change of $\pm 1\%$ | | | ± 1.5 | |
| Load regulation | 10% to 100% load | 5V output | 10 | | % |
| | | 12V output | 8 | | |
| | | 15V output | 6 | | |
| | | 24V output | 6 | | |
| Ripple | 20MHz Bandwidth | | 50 | | mVp-p |
| Noise | | | 75 | | |
| Temperature Drift | 100% full load | ± 0.03 | | ± 0.05 | %/°C |
| Input Filter | | C Filter | | | |

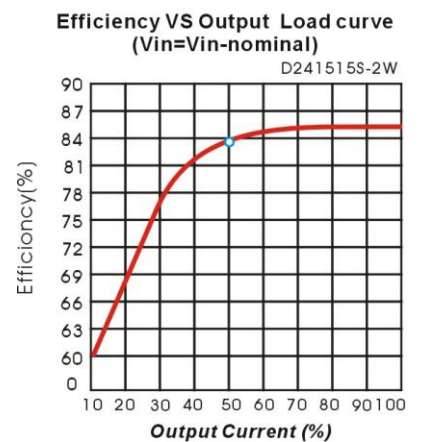
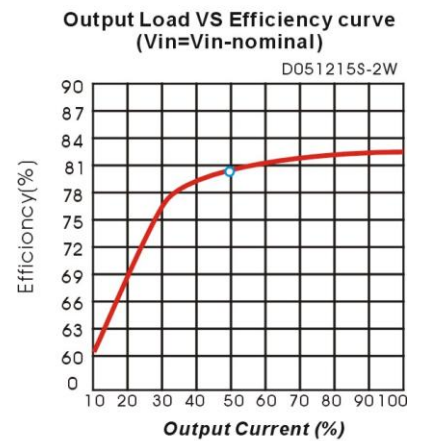
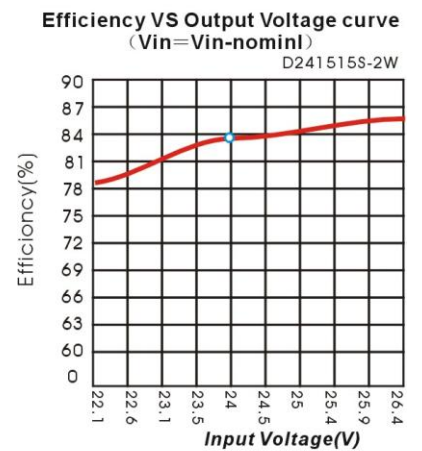
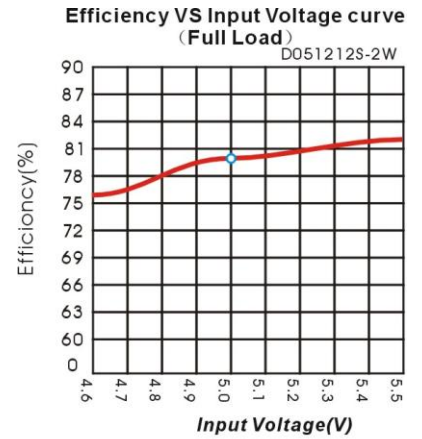
Common Specifications

| Item | Test Conditions | Min. | Typ. | Max. | Unit |
|----------------------|--|------|------|------|---------|
| Isolation Voltage | Tested for 1 minute and leakage current less than 1 mA | 1000 | | | VDC |
| Switching Frequency | Full load, nominal input | | 100 | | KHz |
| MTBF | MIL-HDBK-217F@25°C | 1000 | | | K hours |
| Isolation Resistance | Test at 500VDC | 1000 | | | MΩ |
| Weight | | | 2.8 | | g |

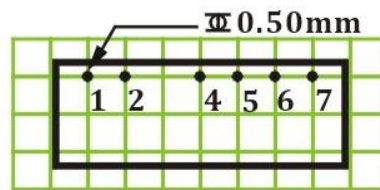
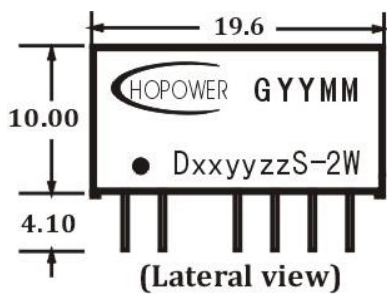
Input Specifications

| Item | Test Conditions | Min. | Typ. | Max. | Unit |
|--------------------------------------|---------------------------|------|------|------|------|
| Input Max. voltage | 5 VDC Input (4.5~5.5V) | | | 9 | VDC |
| | 12 VDC Input (10.8~13.2V) | | | 15 | |
| | 24 VDC Input (21.6~26.4V) | | | 28 | |
| Input surge voltage (1 sec. Max.) | 5 VDC Input (4.5~5.5V) | | | 9 | VDC |
| | 12 VDC Input (10.8~13.2V) | | | 18 | |
| | 24 VDC Input (21.6~26.4V) | | | 30 | |

Product typical Curve



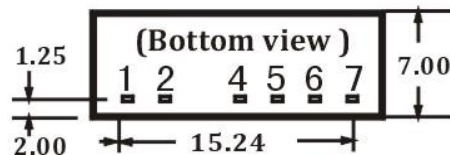
Mechanical Dimensions & Recommended Footprint



Note: Grid 2.54*2.54mm

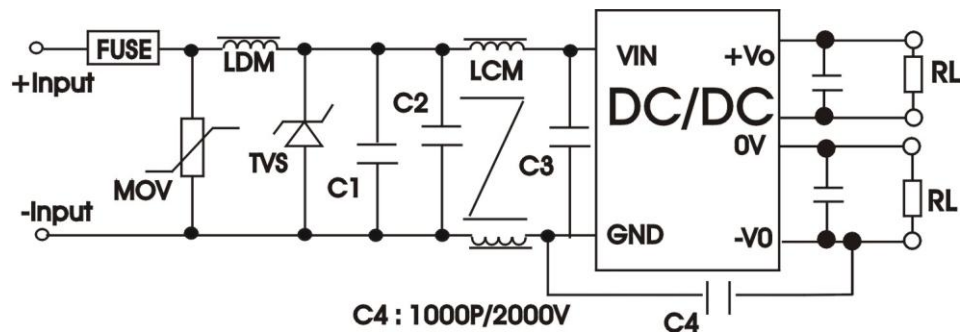
Unit: mm

General tolerances : 0.20mm

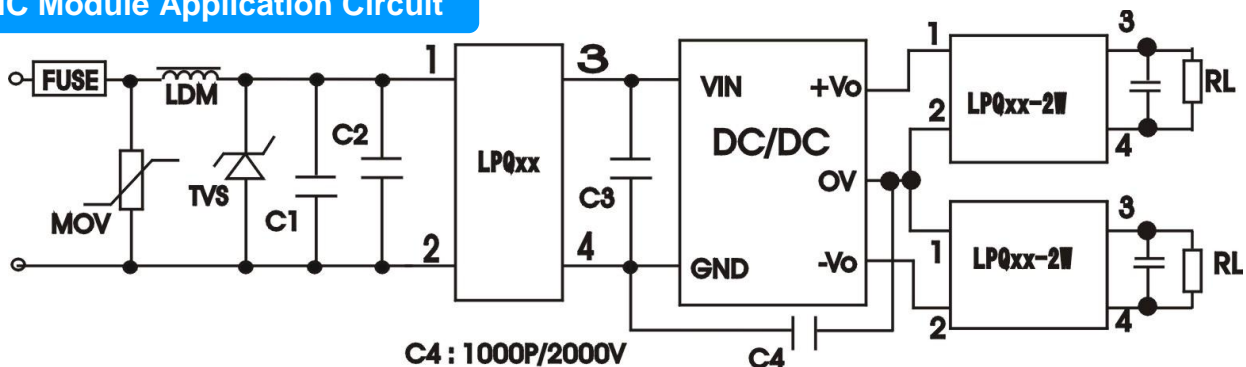


| Package | Vin | GND | 0V1 | +Vo1 | 0V2 | +Vo2 | NC |
|---------|-----|-----|-----|------|-----|------|----|
| DS | 1 | 2 | 4 | 5 | 6 | 7 | - |

EMC Recommended Circuit



EMC Module Application Circuit



Tolerance Envelope Curve & Temperature Derating Graph

