

FEATURES :

- 2:1Wide Input Voltages Range
- 7PIN SIP Package
- High Efficiency up to 83%
- Regulated Output Types
- Internal SMD Construction
- No External Component Required
- Operating Temperature:-40°C TO +85°C
- Industry Standard Pinout

YUAN DEAN SCIENTIFIC



DC-DC Converter

12DZ-2W SERIES

2Watt 3KV Isolated

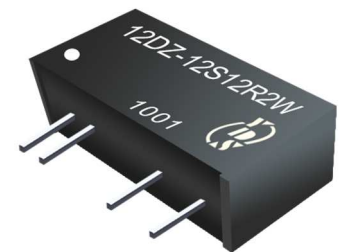
2 : 1 Input Voltage Range

Single Output

SIP7

Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

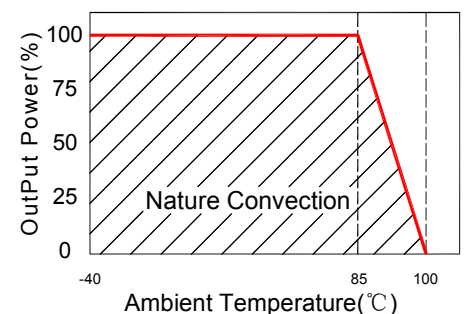
| Part Number | Input Voltage | Output Voltage | Output Current | Efficiency |
|---------------|---------------|----------------|----------------|------------|
| | Vdc | Vdc | mA | %TYP |
| 12DZ-05S05R2W | 4.5-9 | 5 | 400 | 70 |
| 12DZ-05S09R2W | 4.5-9 | 9 | 222 | 72 |
| 12DZ-05S12R2W | 4.5-9 | 12 | 167 | 75 |
| 12DZ-05S15R2W | 4.5-9 | 15 | 133 | 78 |
| 12DZ-05S24R2W | 4.5-9 | 24 | 84 | 80 |
| 12DZ-12S05R2W | 9-18 | 5 | 400 | 75 |
| 12DZ-12S09R2W | 9-18 | 9 | 222 | 78 |
| 12DZ-12S12R2W | 9-18 | 12 | 167 | 80 |
| 12DZ-12S15R2W | 9-18 | 15 | 133 | 80 |
| 12DZ-12S24R2W | 9-18 | 24 | 84 | 83 |
| 12DZ-24S05R2W | 18-36 | 5 | 400 | 76 |
| 12DZ-24S09R2W | 18-36 | 9 | 222 | 78 |
| 12DZ-24S12R2W | 18-36 | 12 | 167 | 80 |
| 12DZ-24S15R2W | 18-36 | 15 | 133 | 80 |
| 12DZ-24S24R2W | 18-36 | 24 | 84 | 83 |



Input Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|---------------|------------|-----|-----|-----|-------|
| Voltage Types | Vo, Io Nom | | | 2:1 | |
| Filter | Capacitor | | | | |

Temperature Derating Graph



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TEL : 886-6-3842899 FAX : 886-6-3843288
E-MAIL : ydsweb@yds.com.tw

Rev:1 2018/10/02

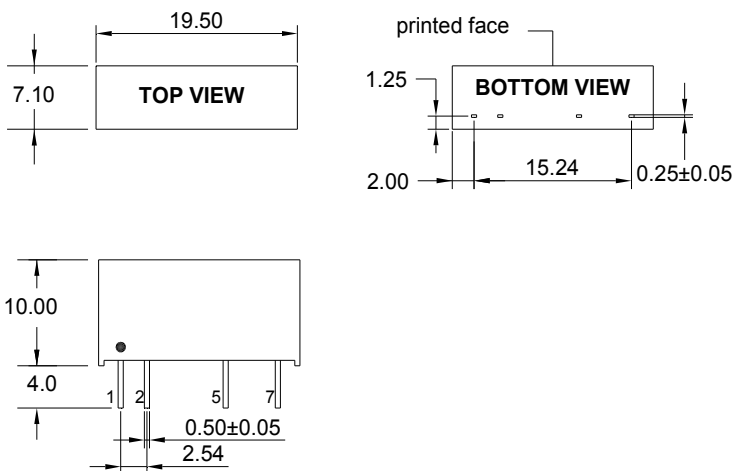
Output Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|---------------------------------|---------------------------------------|-----|------------|------|-------|
| Voltage Tolerance | 100% full load | | | ±5 | % |
| Short Circuit Protection | Continuous | | | | |
| Line Regulation | Regulated | | | ±0.5 | % |
| Load Regulation | Regulated | | | ±1.5 | % |
| Ripple & Noise | Output:5V,9V TYPES BW=DC To 20MHz | | | 100 | mVp-p |
| Ripple & Noise | Output:12-24V TYPES BW=DC To 20MHz | | 1% of Vout | | mVp-p |
| Transient response setting time | 50% load step change | | 350 | | us |

General Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|-----------------------|--------------------------|---------|---------------|-----|-------|
| Isolation Resistance | 500Vdc | 1000 | | | MΩ |
| Switching Frequency | Full load, nominal input | | 100 | | KHz |
| Operating Temperature | | -40 | | +85 | °C |
| Humidity | Non Condensing | | | 95 | % |
| Cooling | Free air Convection | | | | |
| Case material | DAP | | | | |
| MTBF | MIL-HDBK-217F @25°C | 1500000 | | | Hours |
| Weight | | | 2.7 | | g |
| Dimensions | | | 19.5x7.1x10.0 | | mm |

Markings and dimensions



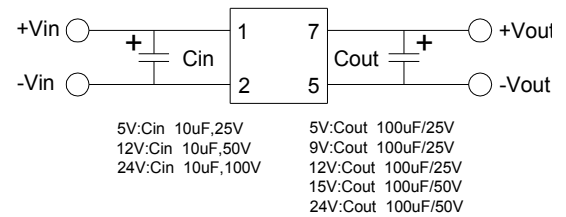
UNIT : mm Unless otherwise specified, all tolerances are ±0.25

Part Number

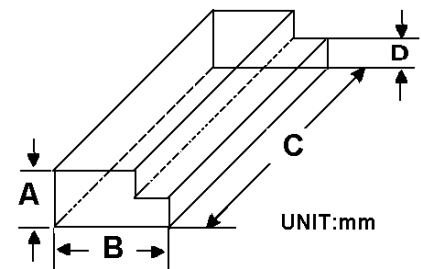
12DZ - 05 S 05 R 2W
A B C D E F

A:Series
B:Input Voltage
C:Single Output
D:Output Voltage
E:Regulated(R)
F:Output Power

Recommended Test Circuit



Packaging



| Size(mm) | | | |
|----------|------|-----|-----|
| A | B | C | D |
| 9.5 | 16.5 | 522 | 5.0 |

PIN Connection

| Pin | 1 | 2 | 5 | 7 |
|--------|------|------|-------|-------|
| Single | +Vin | -Vin | -Vout | +Vout |