

**FEATURES :**

- 7PIN SIP Package
- High Efficiency up to 85%
- Unregulated Output Types
- Internal SMD Construction
- No External Component Required
- Industry Standard Pinout
- Operating Temperature:-40°C TO +85°C

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

| Part Number    | Output Voltage | Output Current | Efficiency |
|----------------|----------------|----------------|------------|
|                | Vdc            | mA             | %TYP       |
| 12D-XXS05N2WNL | 5              | 400            | 70         |
| 12D-XXS09N2WNL | 9              | 222            | 75         |
| 12D-XXS12N2WNL | 12             | 167            | 80         |
| 12D-XXS15N2WNL | 15             | 133            | 80         |
| 12D-XXS24N2WNL | 24             | 84             | 85         |
| 12D-XXD05N2WNL | ±5             | ±200           | 70         |
| 12D-XXD09N2WNL | ±9             | ±111           | 75         |
| 12D-XXD12N2WNL | ±12            | ±84            | 80         |
| 12D-XXD15N2WNL | ±15            | ±67            | 80         |
| 12D-XXD24N2WNL | ±24            | ±42            | 85         |

**Note :**

- 1."XX" Is Input Voltage : 05=5Vdc,09=9Vdc,12=12Vdc,15=15Vdc,24=24Vdc.
2. The input voltage increases, there will be an increase in efficiency.

**Input Specifications**

| Parameters        | Conditions | Min | Typ | Max | Units |
|-------------------|------------|-----|-----|-----|-------|
| Voltage Tolerance | Vo,Io Nom  |     |     | ±5  | %     |
| Filter            | Capacitor  |     |     |     |       |

**Output Specifications**

| Parameters                      | Conditions                          | Min | Typ | Max | Units |
|---------------------------------|-------------------------------------|-----|-----|-----|-------|
| Voltage Tolerance               | 100% full load                      |     |     | ±5  | %     |
| Short Circuit Protection        | Short Term                          |     |     | 1   | Sec   |
| Line Regulation                 | For 1.0% OF Vin                     |     | 1.2 |     | %     |
| Load Regulation                 | 5V<br>(10% To 100% F.L)             |     |     | 15  | %     |
| Load Regulation                 | 9V,12V,15V,24V<br>(10% To 100% F.L) |     |     | 10  | %     |
| Ripple & Noise                  | BW=DC To 20MHZ                      |     |     | 100 | mVp-p |
| Transient response setting time | 50% load step change                |     | 350 |     | us    |



DC-DC Converter

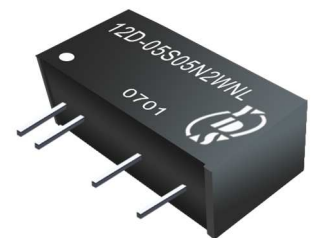
12D-2W SERIES

2Watt

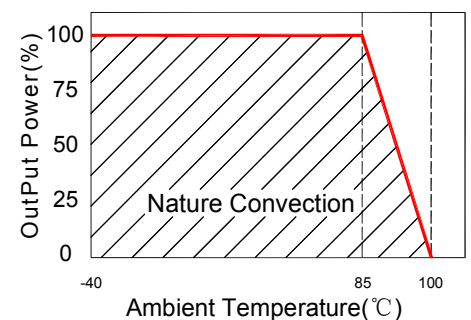
3KV Isolated

Single & Dual Output

SIP7



**Temperature Derating Graph**



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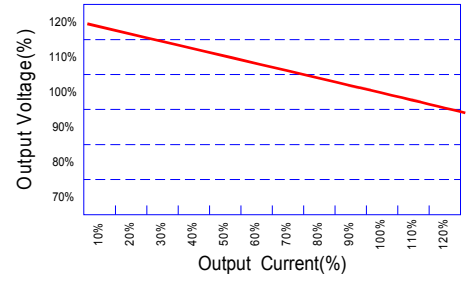
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E-MAIL : ydsweb@yds.com.tw

Rev:1 2018/10/01

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      | 3500000        |     |     | Hours |
| Weight                |                          |                | 2.7 |     | g     |
| Dimensions            |                          | 19.5x7.10x10.0 |     |     | mm    |

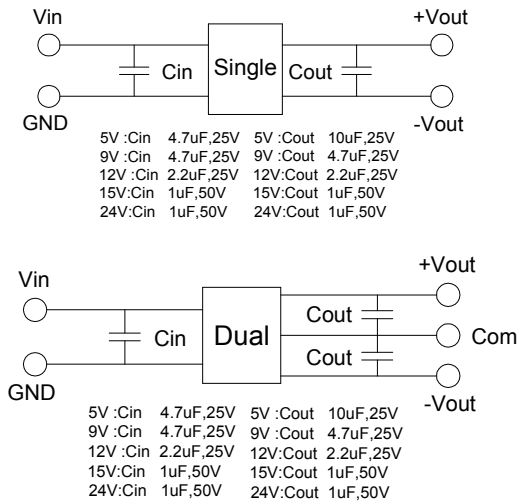
Tolerance Envelope Graph



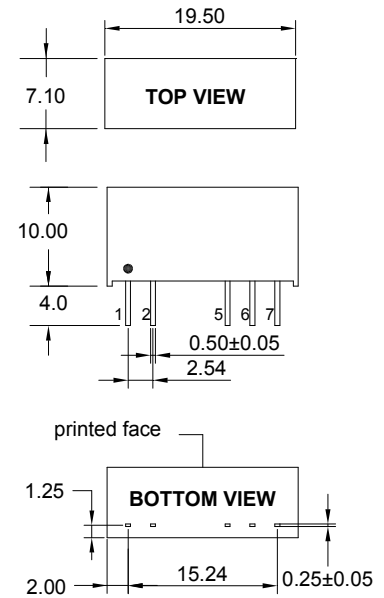
Part Number

12D - 05 S 05 N 2W NL  
 A B C D E F G  
 A:Series  
 B:Input Voltage  
 C:Single(S) Dual(D)  
 D:Output Voltage  
 E:Unregulated(N)  
 F:Output Power  
 G:RoHS Version

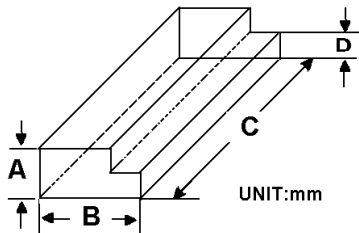
Recommended Test Circuit



Markings and dimensions



Packaging



| Size (mm) |       |     |      |
|-----------|-------|-----|------|
| A         | B     | C   | D    |
| 9.50      | 16.50 | 522 | 5.00 |

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

PIN Connection

| PIN    | 1    | 2    | 5     | 6      | 7     |
|--------|------|------|-------|--------|-------|
| Single | +Vin | -Vin | -Vout | No Pin | +Vout |
| Dual   | +Vin | -Vin | -Vout | Common | +Vout |

