

# C12DZ SERIES 1Watt 3KV Isolated SIP7 DC-DC Converter 2 : 1 Input Voltage Range



## FEATURES :

- 2:1Wide Input Voltages Range
- 7PIN SIP Package
- High Efficiency up to 80%
- Regulated Output Types
- Internal SMD Construction
- No External Component Required
- Operating Temperature: -40°C to +85°C
- Industry Standard Pinout

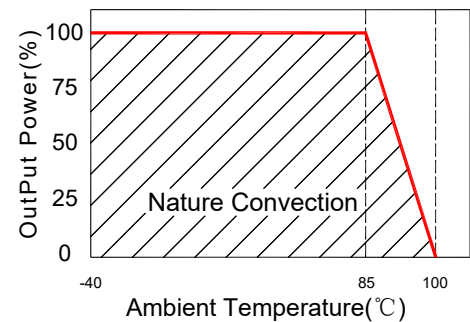


Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

| Part Number  | Input Voltage | Output Voltage | Output Current | Efficiency |
|--------------|---------------|----------------|----------------|------------|
|              | Vdc           | Vdc            | mA             | %TYP       |
| C12DZ-05S05R | 4.5-9         | 5              | 200            | 65         |
| C12DZ-05S09R | 4.5-9         | 9              | 112            | 70         |
| C12DZ-05S12R | 4.5-9         | 12             | 84             | 70         |
| C12DZ-05S15R | 4.5-9         | 15             | 67             | 70         |
| C12DZ-05S24R | 4.5-9         | 24             | 42             | 75         |
| C12DZ-12S05R | 9-18          | 5              | 200            | 70         |
| C12DZ-12S09R | 9-18          | 9              | 112            | 72         |
| C12DZ-12S12R | 9-18          | 12             | 84             | 73         |
| C12DZ-12S15R | 9-18          | 15             | 67             | 75         |
| C12DZ-12S24R | 9-18          | 24             | 42             | 80         |
| C12DZ-24S05R | 18-36         | 5              | 200            | 75         |
| C12DZ-24S09R | 18-36         | 9              | 112            | 75         |
| C12DZ-24S12R | 18-36         | 12             | 84             | 78         |
| C12DZ-24S15R | 18-36         | 15             | 67             | 78         |
| C12DZ-24S24R | 18-36         | 24             | 42             | 80         |



## Temperature Derating Graph



## Input Specifications

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

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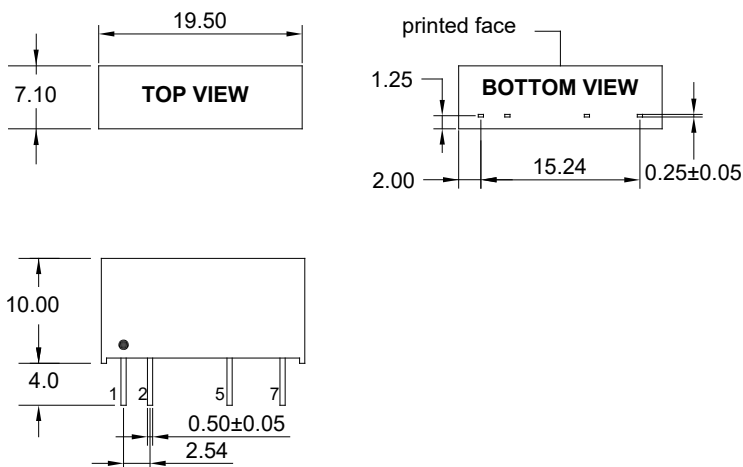
## Output Specifications

| 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<br>BW=DC To 20MHz  |     |     | 100        | mVp-p |
| Ripple & Noise                  | Output:12-24V TYPES<br>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,<br>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



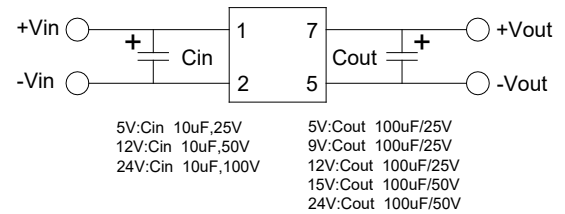
UNIT : mm Unless otherwise specified, all tolerances are ±0.25

## Part Number

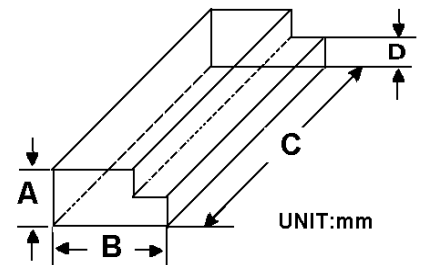
C12DZ - 05 S 05 R  
A B C D E

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

## 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 |