

FEATURES :

- 7PIN SIP Package
- No-load input current as low as 5mA
- High Efficiency up to 85%
- Unregulated Output Types
- 1.5KVDC & 3 KVDC Isolation
- Industry Standard Pinout
- Operating Temperature: -40°C TO +105 °C
- Design refer to IEC62368, UL62368, EN62368

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

| Part Number | Output Voltage | Output Current | Efficiency | Capacitive Load(μF) |
|-----------------|----------------|----------------|------------|---------------------|
| | Vdc | mA | %TYP | Max |
| 12DC-05S03N(H3) | 3.3 | 303 | 74 | 2400 |
| 12DC-05S05N(H3) | 5 | 200 | 82 | 2400 |
| 12DC-05S09N(H3) | 9 | 112 | 83 | 1000 |
| 12DC-05S12N(H3) | 12 | 84 | 83 | 560 |
| 12DC-05S15N(H3) | 15 | 67 | 83 | 560 |
| 12DC-05S24N(H3) | 24 | 42 | 85 | 220 |
| 12DC-05D03N(H3) | ±3.3 | ±150 | 74 | ±1200 |
| 12DC-05D05N(H3) | ±5 | ±100 | 82 | ±1200 |
| 12DC-05D09N(H3) | ±9 | ±56 | 83 | ±470 |
| 12DC-05D12N(H3) | ±12 | ±42 | 83 | ±220 |
| 12DC-05D15N(H3) | ±15 | ±34 | 83 | ±220 |
| 12DC-05D24N(H3) | ±24 | ±21 | 85 | ±100 |

Note :

No suffix is standard isolation (1.5KVDC) e.g. 12DC-05S05N , *add suffix "H3" for 3KVDC isolation, e.g. 12DC-05S05NH3, 12DC-05S12NH3

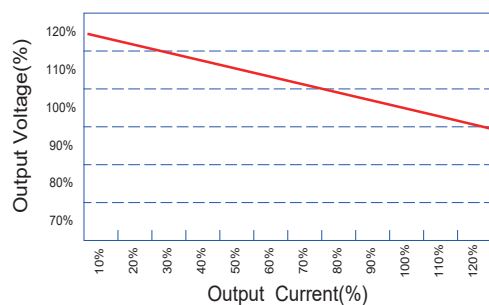
Input Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|-------------------|------------|-----|-----|-----|-------|
| Voltage Tolerance | Vo,lo Nom | 4.5 | 5 | 5.5 | Vdc |
| Filter | Capacitor | | | | |

Electromagnetic Compatibility (EMC)

| | | |
|-----|-----|--|
| EMI | CE | CISPR32/EN55032 CLASS B (see Fig. 1 for recommended) |
| | RE | CISPR32/EN55032 CLASS B (see Fig. 1 for recommended) |
| EMS | ESD | IEC/EN61000-4-2 Air ±8kV , Contact ±4kV perf. Criteria B |

Tolerance Envelope Graph



YUAN DEAN SCIENTIFIC



DC-DC Converter

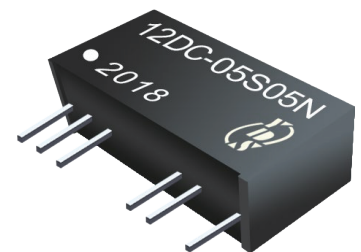
12DC SERIES

1Watt

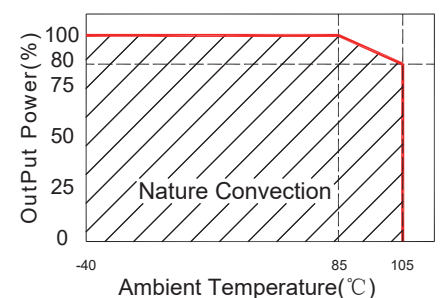
1.5KVDC & 3KV Isolated

Single & Dual Output

SIP7



Temperature Derating Graph



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TEL : 886-6-3842899 FAX : 886-6-3843288
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Rev:o 2020/6/15

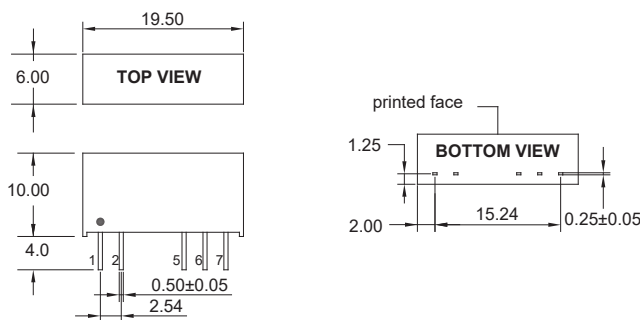
Output Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|--------------------------|-----------------------------|-----|-----|-------|-------|
| Voltage Tolerance | 100% full load | | | ±5 | % |
| Short Circuit Protection | without suffix | | | 1 Sec | |
| Line Regulation | For 1.0% OF Vin | | 1.2 | | % |
| Load Regulation | 3.3V (10% To 100% F.L) | | 15 | 20 | % |
| | 5V (10% To 100% F.L) | | 10 | 15 | % |
| | 9V (10% To 100% F.L) | | 8 | 10 | % |
| | 12V (10% To 100% F.L) | | 7 | 10 | % |
| | 15V (10% To 100% F.L) | | 6 | 10 | % |
| Ripple & Noise | 24V (10% To 100% F.L) | | 5 | 10 | % |
| | BW=DC To 20MHz @Other Vo | | 30 | 75 | mVp-p |
| | BW=DC To 20MHz @24V Vo | | 50 | 100 | mVp-p |

General Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|-----------------------|------------------------------|---------|---------------|------|-------|
| Isolation Resistance | 500Vdc | 1000 | | | MΩ |
| Isolation Capacitance | Input-output, 100KHz/0.1V | | 20 | | pF |
| Switching Frequency | Full load, nominal input | | 350 | | KHz |
| Operating Temperature | | -40 | | +105 | °C |
| Storage Temperature | | -55 | | +125 | °C |
| Humidity | Non Condensing | | | 95 | % |
| Cooling | Free air Convection | | | | |
| Case material | DAP | | | | |
| MTBF | MIL-HDBK-217F @25°C | 3500000 | | | Hours |
| Weight | | | 2.1 | | g |
| Dimensions | | | 19.5x6.0x10.0 | | mm |

Markings and dimensions



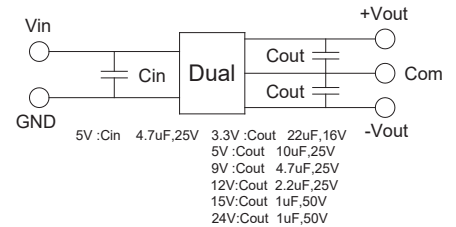
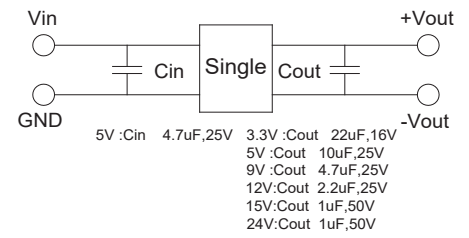
Unit:mm Unless otherwise specified, all tolerances are ±0.25

Part Number

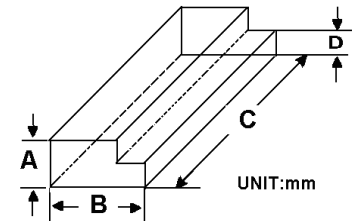
12DC - 05 S 05 N H3
A B C D E F

A:Series
B:Input Voltage
C:Single(S)Dual(D)
D:Output Voltage
E:Unregulated(N)
F:Isolation Voltage

Recommended Test Circuit



Packaging



| Size (mm) | | | |
|-----------|------|------|-----|
| A | B | C | D |
| 9.5 | 16.5 | 52.2 | 5.0 |

PIN Connection

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



EMC (CLASS B) Compliance Circuit

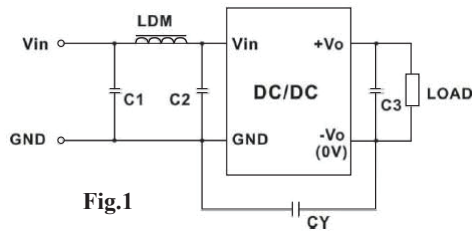


Fig.1

EMC recommended circuit value table

| Input voltage 5VDC | Output voltage (VDC) | 3.3/5/9 | 12/15/24 |
|--------------------|----------------------|---------------------------------------|-----------|
| | EMC | C1/C2 | 4.7uF/25V |
| CY | | - | 1nF/4KVDC |
| C3 | | Refer To The Recommended Test Circuit | |
| LDM | | 6.8uH | 6.8uH |