

DESCRIPTION

- The series of DC-DC switching power supplies in a package of 31.8x20.3x10.2 mm are capable of delivering 3 watts. They are designed for industry control application, tele-communication application, medical requirement application, no minimum load required.

FEATURES

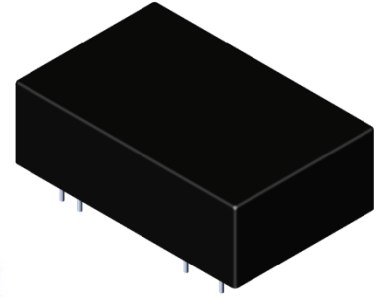
- 2:1 Wide input range voltage
- 3W DIP 24 package
- Efficiency up to 81.5%
- 2kVdc isolation
- Continuous short circuit protection and UVLO function protect (option)
- UL94V-0 package material
- EN60950 safety approved
- EMI class A without external circuit

WATTAGE

Wattage: 3W

DIMENSION

Dimension: 31.8 (L) x 20.3 (W) x 10.2 (H)mm



SAFETY STANDARD APPROVAL

Meet UL/EN60950-1

ENVIRONMENTAL SPECIFICATION

Operating temperature: -40°C to +105°C

Storage temperature: -55°C to +125°C

SELECTION GUIDE

| Part number | Input voltage | Output voltage | Output current @ full load | Input current @ no load (typ.) | Efficiency (2) (typ.) | Capacitive load (3) (max.) |
|-------------|---------------|----------------|----------------------------|--------------------------------|-----------------------|----------------------------|
| D03-DF2-PP | 4.5-9VDC | 05VDC | 600mA | 85mA | 76% | 6800uF |
| D03-DF2-AP | 18-36VDC | 05VDC | 600mA | 16mA | 81.5% | 6800uF |

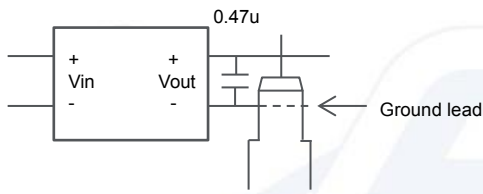
- The efficiency is test by nominal input and max. full load @25°C.
- The capacitive load is test by minimum input and constant resistive load.
- Special input and output voltage combinations available by request, please check with our sales.

SPECIFICATION

| | Parameter | Conditions | Min. | Typ. | Max. | Unit | |
|---------------------------|--------------------------|-------------------------------|-----------------------------------|--|------------|------|-------|
| Input | Input filter | | | Pi type | | | |
| | Voltage range | | | 2:1 | | | |
| | Under voltage lockout | 5Vin ON | | | 3.2 | | VDC |
| | | 5Vin OFF | | | 3.0 | | VDC |
| | | 24Vin ON | | | 16.5 | | VDC |
| 24Vin OFF | | | | 15.6 | | VDC | |
| Output | Voltage accuracy | | | ±2 | | % | |
| | Line regulation | LL to HL at full load | | | ±0.3 | % | |
| | Load regulation | 0~100% full load | | | ±0.6 | % | |
| | Minimum load | | | | 0 | % | |
| | Ripple& noise (20MHz) | Lo=Full load | | | | 50 | mVp-p |
| | Operating frequency | Vin= nominal Volt @ full load | 120 | | | | KHz |
| Environment | Operating temperature | Natural convection | -40 | | 105 | °C | |
| | Storage temperature | | -55 | | 125 | °C | |
| | Max case temperature | | | 105 | | °C | |
| | MTBF (MIL-HDBK-217F) | 25°C | 2429 | | | | Khrs |
| Function | Isolation voltage | 1 sec. | 2 | | | KVDC | |
| | Isolation capacitance | | | | 2200 | pF | |
| | Isolation resistance | | 1 | | | GΩ | |
| | Over load protection | | 120 | 155 | | % | |
| | UVLO | | | Optional | | | |
| | Short circuit protection | | | Continuous | | | |
| | Safety approvals | | | Meet UL/EN60950-1 | | | |
| | Weight | | | 13 | | | g |
| | Case material | | | Non conductive black plastic (UL94V-0) | | | |
| | Potting material | | | Epoxy (UL94V-0) | | | |
| | Cooling method | | | Free air convection | | | |
| | EMI | EMI | EN55032 | | Class B | | |
| | | ESD | EN61000-4-2, Air±8kV, Contact±6kV | | Criteria A | | |
| Fast transient | | EN61000-4-4, ±2kV | | Criteria A | | | |
| Surge | | EN61000-4-5, ±1kV | | Criteria A | | | |
| EMI electrical conduction | | | | Class A/B | | | |
| EMI electrical radiation | | | Class A/B | | | | |

- All specifications valid at nominal input voltage, full load and 25°C after warm-up time unless otherwise stated.
- The product information and specifications are subject to change without prior notice.

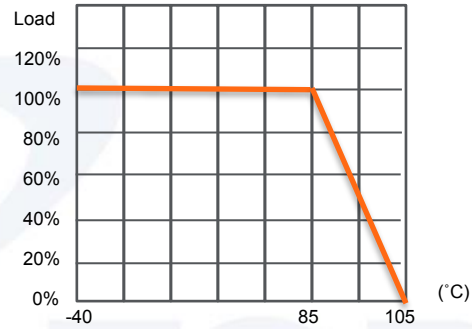
RIPPLE & NOISE



Measured with 20MHz bandwidth and 0.47uF ceramic capacitor.

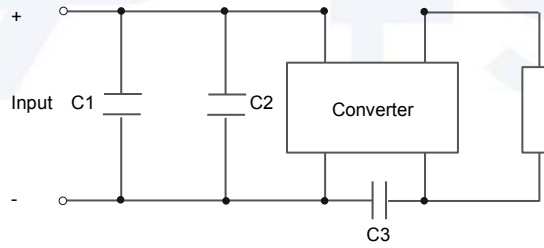
DERATING CURVE

Ambient temperature natural convection (Nominal Vin)



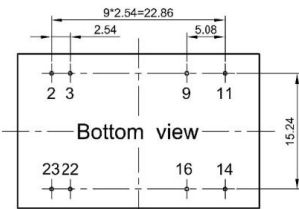
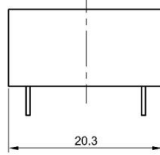
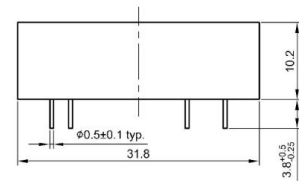
EMI SUGGESTION CIRCUIT

EN55032 Class B



| Vin | Vout | C1 | C2 | C3 |
|-----|------|-----------|-----------|------------|
| 05V | 05V | 22uF/50V | 22uF/50V | DEL |
| 24V | 05V | 22uF/100V | 22uF/100V | 1000PF/3KV |

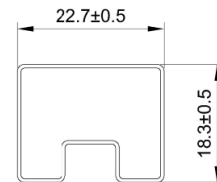
MECHANICAL SPECIFICATION



Projection : Third angle projection
Unit : mm
Tolerance : $\pm 0.25\text{mm}$

PACKAGE

| Pin | Function |
|-------|----------|
| 2,3 | -Vin |
| 9 | NC |
| 11 | NC |
| 14 | +Vout |
| 16 | -Vout |
| 22,23 | +Vin |



UNIT:mm
1 Tube = 15 pcs
Length:520±2mm