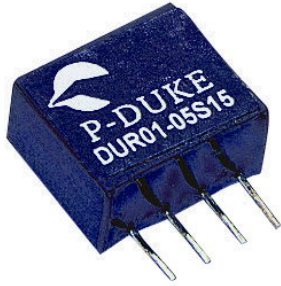




DURO1-SERIES



APPLICATIONS

Wireless Network
Telecom/Datacom
Industry Control System
Measurement Equipment
Semiconductor Equipment

FEATURES

- 1 WATT UNREGULATED OUTPUT POWER
- OUTPUT CURRENT UP TO 303mA
- 4 PIN SINGLE-IN-LINE PACKAGE (SIP)
- HIGH EFFICIENCY FOR LOW POWER APPLICATION
- INPUT RANGE FROM 3.0VDC TO 3.6VDC, 4.5VDC TO 5.5VDC, 10.8VDC TO 13.2VDC, 13.5VDC TO 16.5VDC AND 21.6VDC TO 26.4VDC
- UL 94-V0 NON-CONDUCTED CASE
- INTERNAL INPUT & OUTPUT FILTER
- INPUT / OUTPUT ISOLATION UP TO 1KVDC
- CE MARK MEETS 2006/95/EC, 93/68/EEC AND 2004/108/EC
- DESIGN MEETS UL60950-1, EN60950-1 AND IEC60950-1
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

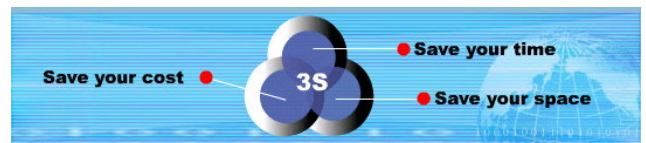
DESCRIPTION

The DUR01 series are the standard building blocks for on-board distributed power systems. They are ideally suited to provide single supply on primarily digital boards with added benefit of galvanic isolation to reduce switching noise. All of the rated power may be drawn from a single pin provided the total load does not exceed 1 watt.

TECHNICAL SPECIFICATION All specifications are typical at nominal input, full load and 25°C otherwise noted

| OUTPUT SPECIFICATIONS | | |
|-----------------------------------|---|--|
| Output power | | 1 Watt, max. |
| Voltage accuracy | Full load and nominal Vin | ± 5% |
| Minimum load (Note 6) | | 10% of FL. |
| Line regulation | LL to HL at Full Load | 3.3V & 5V output 1.3%/1% of Vin others 1.2%/1% of Vin |
| Load regulation | 10% to 100% FL | 3.3V & 5V output ± 15% others ± 10% |
| Ripple and noise | 20MHz bandwidth | See table |
| Temperature coefficient | | ±0.1% / °C, max. |
| Short circuit protection (Note 7) | | 1 Sec. |
| GENERAL SPECIFICATIONS | | |
| Efficiency | | See table |
| Isolation voltage | | 1000VDC, min. |
| Isolation resistance | | 10 ⁹ ohms, min. |
| Isolation capacitance | | 80pF, typ. |
| Switching frequency | | 90KHz, typ. |
| Design meet safety standard | | IEC60950-1, UL60950-1, EN60950-1 |
| Case material | | Non-conductive black plastic |
| Potting material | | Epoxy (UL94-V0) |
| Dimensions | | 0.45 X 0.24 X 0.40 Inch (11.5 X 6.0 X 10.2 mm) |
| Weight | | 1.5g (0.053oz) |
| MTBF (Note 1) | BELLCORE TR-NWT-000332 MIL-HDBK-217F | 1.137 x 10 ⁹ hrs 9.850 x 10 ⁵ hrs |

| INPUT SPECIFICATIONS | | |
|-------------------------------|--------------------|------------------------------|
| Input voltage range | 3.3V nominal input | 3.0 – 3.6VDC |
| | 5V nominal input | 4.5 – 5.5VDC |
| | 12V nominal input | 10.8 – 13.2VDC |
| | 15V nominal input | 13.5 – 16.5VDC |
| | 24V nominal input | 21.6 – 26.4VDC |
| Input filter | | Capacitor |
| ENVIRONMENTAL SPECIFICATIONS | | |
| Operating ambient temperature | | -40°C ~ +85°C (Non-derating) |
| Storage temperature range | | -55°C ~ +105°C |
| Thermal shock | | MIL-STD-810F |
| Vibration | | MIL-STD-810F |
| Relative humidity | | 5% to 95% RH |

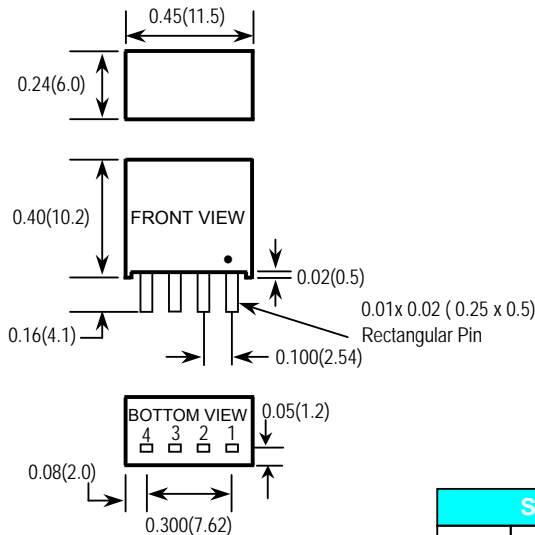
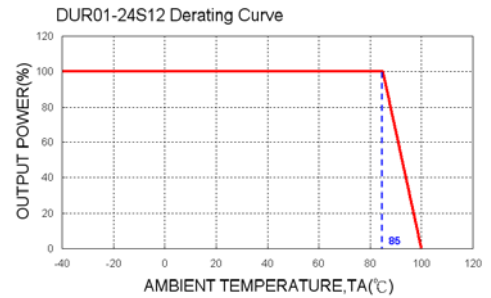




1 WATTS DC-DC CONVERTER

| Model Number | Input Range | Output Voltage | Output Current | | Output (4) Ripple & Noise | Input Current | | Eff (4) (%) | Capacitor Load max(5) |
|--------------|-----------------|----------------|----------------|-----------|------------------------------|---------------|---------------|----------------|-----------------------|
| | | | Min. load | Full load | | No load (3) | Full load (2) | | |
| DUR01-33S33 | 3.0 – 3.6 VDC | 3.3 VDC | 30.3mA | 303mA | 100mVp-p | 42mA | 473mA | 68 | 150µF |
| DUR01-33S05 | 3.0 – 3.6 VDC | 5 VDC | 20mA | 200mA | 100mVp-p | 38mA | 451mA | 70 | 100µF |
| DUR01-33S12 | 3.0 – 3.6 VDC | 12 VDC | 8.4mA | 84mA | 100mVp-p | 45mA | 449mA | 72 | 47µF |
| DUR01-33S15 | 3.0 – 3.6 VDC | 15 VDC | 6.6mA | 66mA | 100mVp-p | 45mA | 423mA | 75 | 33µF |
| DUR01-05S33 | 4.5 – 5.5 VDC | 3.3 VDC | 30.3mA | 303mA | 100mVp-p | 25mA | 312mA | 68 | 150µF |
| DUR01-05S05 | 4.5 – 5.5 VDC | 5 VDC | 20mA | 200mA | 100mVp-p | 25mA | 303mA | 70 | 100µF |
| DUR01-05S12 | 4.5 – 5.5 VDC | 12 VDC | 8.4mA | 84mA | 100mVp-p | 25mA | 272mA | 78 | 47µF |
| DUR01-05S15 | 4.5 – 5.5 VDC | 15 VDC | 6.6mA | 66mA | 100mVp-p | 24mA | 262mA | 80 | 33µF |
| DUR01-12S33 | 10.8 – 13.2 VDC | 3.3 VDC | 30.3mA | 303mA | 100mVp-p | 14mA | 131mA | 68 | 150µF |
| DUR01-12S05 | 10.8 – 13.2 VDC | 5 VDC | 20mA | 200mA | 100mVp-p | 10mA | 126mA | 70 | 100µF |
| DUR01-12S12 | 10.8 – 13.2 VDC | 12 VDC | 8.4mA | 84mA | 100mVp-p | 14mA | 113mA | 78 | 47µF |
| DUR01-12S15 | 10.8 – 13.2 VDC | 15 VDC | 6.6mA | 66mA | 100mVp-p | 13mA | 109mA | 80 | 33µF |
| DUR01-15S33 | 13.5 – 16.5 VDC | 3.3 VDC | 30.3mA | 303mA | 100mVp-p | 9mA | 105mA | 68 | 150µF |
| DUR01-15S05 | 13.5 – 16.5 VDC | 5 VDC | 20mA | 200mA | 100mVp-p | 9mA | 101mA | 70 | 100µF |
| DUR01-15S12 | 13.5 – 16.5 VDC | 12 VDC | 8.4mA | 84mA | 100mVp-p | 8mA | 91mA | 78 | 47µF |
| DUR01-15S15 | 13.5 – 16.5 VDC | 15 VDC | 6.6mA | 66mA | 100mVp-p | 9mA | 87mA | 80 | 33µF |
| DUR01-24S33 | 21.6 – 26.4 VDC | 3.3 VDC | 30.3mA | 303mA | 100mVp-p | 6mA | 64mA | 70 | 150µF |
| DUR01-24S05 | 21.6 – 26.4 VDC | 5 VDC | 20mA | 200mA | 100mVp-p | 6mA | 63mA | 70 | 100µF |
| DUR01-24S12 | 21.6 – 26.4 VDC | 12 VDC | 8.4mA | 84mA | 100mVp-p | 5mA | 57mA | 78 | 47µF |
| DUR01-24S15 | 21.6 – 26.4 VDC | 15 VDC | 6.6mA | 66mA | 100mVp-p | 6mA | 54mA | 80 | 33µF |

- Note**
- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
 - Maximum value at nominal input voltage and full load of standard type.
 - Typical value at nominal input voltage and no load.
 - Typical value at nominal input voltage and full load.
 - Test by minimum Vin and constant resistive load.
 - The output requires a minimum loading on the output to maintain specified regulation.
Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
 - Internal fuse is not included, so we suggest to use an input line fuse.



- All dimensions in Inches (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
- Pin pitch tolerance ±0.01(0.25)
- Pin dimension tolerance ±0.004 (0.1)

| STANDARD | |
|----------|----------|
| PIN | SINGLE |
| 1 | - INPUT |
| 2 | + INPUT |
| 3 | - OUTPUT |
| 4 | + OUTPUT |

