

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
- SAFETY MEETS UL60950-1, EN60950-1, & IEC60950-1
- CE MARKED
- COMPLIANT TO RoHS II & REACH

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 5)	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	500VDC 10 ⁹ ohms, min.
Isolation capacitance	80pF
Switching frequency	90kHz
Design meet safety standard	IEC60950-1, UL60950-1, & EN60950-1
Case material	Non-conductive black plastic
Potting material	Epoxy (UL94 V-0)
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 1.137 x 10 ⁶ hrs MIL-HDBK-217F 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 ~ +125°C
Thermal shock	MIL-STD-810F
Vibration	MIL-STD-810F
Relative humidity	5% to 95% RH

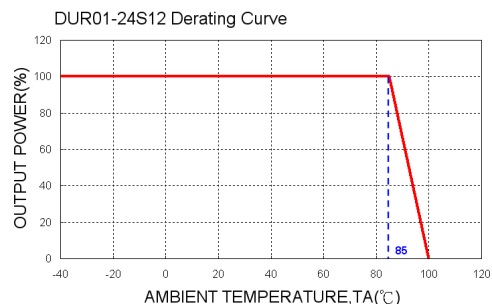
1WATTS DC-DC CONVERTER

Model Number	Input Range	Output Voltage	Output Current		Output ⁽³⁾ Ripple & Noise	No load ⁽²⁾ Input Current	Eff ⁽³⁾ (%)	Capacitor Load max ⁽⁴⁾
			Min. load	Full load				
DUR01-33S33	3.0 – 3.6 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	42mA	68	150μF
DUR01-33S05	3.0 – 3.6 VDC	5 VDC	20mA	200mA	100mVp-p	38mA	70	100μF
DUR01-33S09	3.0 – 3.6 VDC	9 VDC	11.1mA	111mA	100mVp-p	45mA	71	22μF
DUR01-33S12	3.0 – 3.6 VDC	12 VDC	8.4mA	84mA	100mVp-p	45mA	72	47μF
DUR01-33S15	3.0 – 3.6 VDC	15 VDC	6.6mA	66mA	100mVp-p	45mA	75	33μF
DUR01-05S33	4.5 – 5.5 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	25mA	68	150μF
DUR01-05S05	4.5 – 5.5 VDC	5 VDC	20mA	200mA	100mVp-p	25mA	70	100μF
DUR01-05S09	4.5 – 5.5 VDC	9 VDC	11.1mA	111mA	100mVp-p	25mA	74	22μF
DUR01-05S12	4.5 – 5.5 VDC	12 VDC	8.4mA	84mA	100mVp-p	25mA	78	47μF
DUR01-05S15	4.5 – 5.5 VDC	15 VDC	6.6mA	66mA	100mVp-p	24mA	80	33μF
DUR01-09S09	8.1 – 9.9 VDC	9 VDC	11.1mA	111mA	100mVp-p	20mA	74	22μF
DUR01-12S33	10.8 – 13.2 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	14mA	68	150μF
DUR01-12S05	10.8 – 13.2 VDC	5 VDC	20mA	200mA	100mVp-p	10mA	70	100μF
DUR01-12S09	10.8 – 13.2 VDC	9 VDC	11.1mA	111mA	100mVp-p	13mA	74	22μF
DUR01-12S12	10.8 – 13.2 VDC	12 VDC	8.4mA	84mA	100mVp-p	14mA	78	47μF
DUR01-12S15	10.8 – 13.2 VDC	15 VDC	6.6mA	66mA	100mVp-p	13mA	80	33μF
DUR01-15S33	13.5 – 16.5 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	9mA	68	150μF
DUR01-15S05	13.5 – 16.5 VDC	5 VDC	20mA	200mA	100mVp-p	9mA	70	100μF
DUR01-15S09	13.5 – 16.5 VDC	9 VDC	11.1mA	111mA	100mVp-p	9mA	74	22μF
DUR01-15S12	13.5 – 16.5 VDC	12 VDC	8.4mA	84mA	100mVp-p	8mA	78	47μF
DUR01-15S15	13.5 – 16.5 VDC	15 VDC	6.6mA	66mA	100mVp-p	9mA	80	33μF
DUR01-24S33	21.6 – 26.4 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	6mA	70	150μF
DUR01-24S05	21.6 – 26.4 VDC	5 VDC	20mA	200mA	100mVp-p	6mA	70	100μF
DUR01-24S09	21.6 – 26.4 VDC	9 VDC	11.1mA	111mA	100mVp-p	6mA	74	22μF
DUR01-24S12	21.6 – 26.4 VDC	12 VDC	8.4mA	84mA	100mVp-p	5mA	78	47μF
DUR01-24S15	21.6 – 26.4 VDC	15 VDC	6.6mA	66mA	100mVp-p	6mA	80	33μF

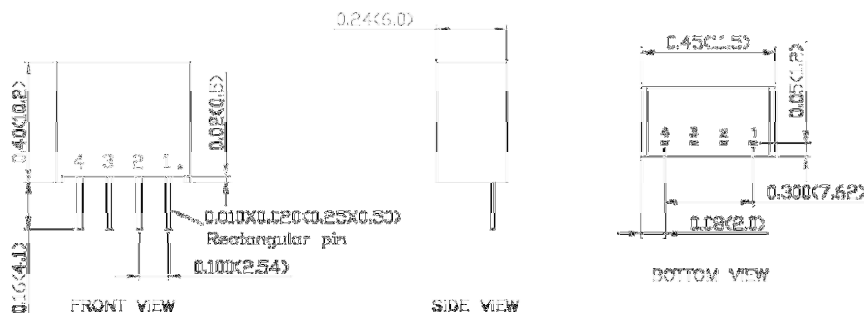
Note

1. 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).
2. Typical value at nominal input voltage and no load.
3. Typical value at nominal input voltage and full load.
4. Test by minimum Vin and constant resistive load.
5. 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.

CAUTION: This power module is not internally fused. An input line fuse must always be used.



MECHANICAL DRAWING :



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

1. All dimensions in Inch (mm)
Tolerance: X.XX $\pm$ 0.02 (X.X $\pm$ 0.5)
X.XXX $\pm$ 0.01 (X.XX $\pm$ 0.25)
2. Pin pitch tolerance $\pm$ 0.014 (0.35)
3. Pin dimension tolerance $\pm$ 0.004 (0.1)

