

### 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 others
		1.3%/1% of Vin 1.2%/1% of Vin
Load regulation	10% to 100% FL	3.3V & 5V output others
		± 15% ± 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 <sup>9</sup> 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 MIL-HDBK-217F	1.137 x 10 <sup>9</sup> hrs 9.850 x 10 <sup>5</sup> 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	

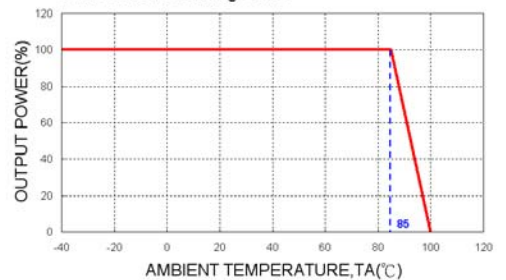
Model Number	Input Range	Output Voltage	Output Current		Output <sup>(3)</sup> Ripple & Noise	No load <sup>(2)</sup> Input Current	Eff <sup>(3)</sup> (%)	Capacitor Load max <sup>(4)</sup>
			Min. load	Full load				
DUR01-33S33	3.0 – 3.6 VDC	3.3 VDC	30.3mA	303mA	100mVp-p	42mA	68	150µF
DUR01-33S05	3.0 – 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**

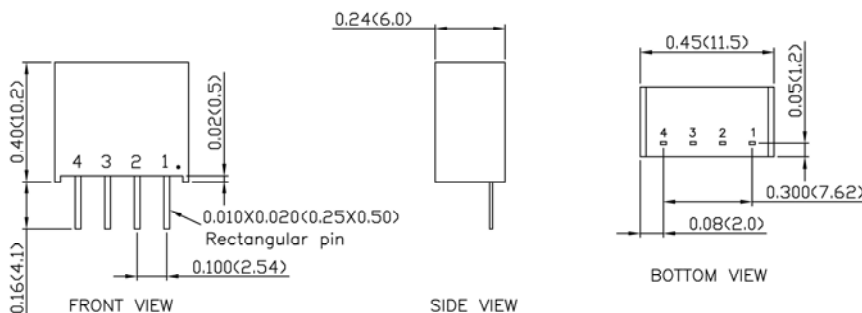
- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.  
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive 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.

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

DUR01-24S12 Derating Curve



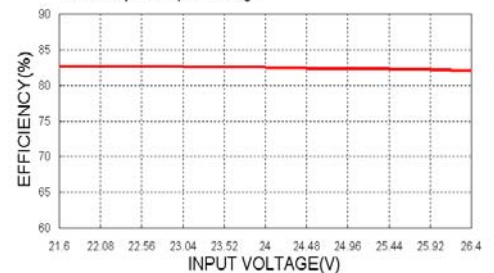
**MECHANICAL DRAWING :**



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

- All dimensions in Inch (mm)  
Tolerance: X.XX±0.02 (X.X±0.5)  
X.XXX±0.01 (X.XX±0.25)
- Pin pitch tolerance ±0.014 (0.35)
- Pin dimension tolerance ±0.004 (0.1)

DUR01-24S12  
Efficiency VS Input Voltage



DUR01-24S12  
Efficiency VS Output Load

