

DUR01 SERIES

UNREGULATED DC-DC CONVERTER



1Watts Output Power



FEATURES

- UNREGULATED OUTPUT VOLTAGE
- 1000VDC INPUT TO OUTPUT ISOLATION
- STANDARD 0.45 X 0.24 X 0.40 INCH
- SAFETY MEETS UL60950-1, EN60950-1, & IEC60950-1
- CE MARKED
- COMPLIANT TO RoHS II & REACH

APPLICATIONS

- WIRELESS NETWORK
- TELECOM/DATACOM
- INDUSTRY CONTROL SYSTEM
- DISTRIBUTED POWER ARCHITECTURES
- SEMICONDUCTOR EQUIPMENT

TECHNICAL SPECIFICATION

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

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

PART NUMBER STRUCTURE

DUR01 -	05	S	05
Series Name	Input Voltage (VDC)	Output Quantity	Output Voltage (VDC)
	33:3.0~3.6	S:Single	33:3.3
	05:4.5~5.5		05:5
	09:8.1~9.9		09:9
	12:10.8~13.2		12:12
	15:13.5~16.5		15:15
	24:21.6~26.4		

INPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating input voltage range	3.3Vin(nom)	3.0	3.3	3.6	VDC
	5Vin(nom)	4.5	5	5.5	
	9Vin(nom)	8.1	9	9.9	
	12Vin(nom)	10.8	12	13.2	
	15Vin(nom)	13.5	15	16.5	
	24Vin(nom)	21.6	24	26.4	
Input filter		C type			

OUTPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Voltage accuracy		-5.0		+5.0	%
Line regulation	Low Line to High Line at Full Load	3.3Vout, 5Vout			1.3%,max / 1% of Vin
		Others			
Load regulation	10% to 100% Load	3.3Vout, 5Vout			%
		Others			
Ripple and noise	Measured by 20MHz bandwidth		100		mVp-p
Temperature coefficient		-0.1		+0.1	%/°C
Short circuit protection				1 Second, max.	

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation voltage	1 minute Input to Output	1000			VDC
Isolation resistance	500VDC	1			GΩ
Isolation capacitance				80	pF
Switching frequency			90		kHz
Safety meets					IEC60950-1 UL60950-1 EN60950-1
Case material					Non-conductive black plastic
Base material					None
Potting material					Epoxy (UL94 V-0)
Weight					1.5g (0.053oz)
MTBF	MIL-HDBK-217F, Full load				9.850 x 10 ⁵ hrs

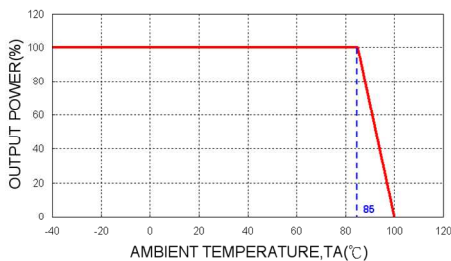
ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	Without derating	-40		+85	°C
Storage temperature range		-55		+125	°C
Thermal shock					MIL-STD-810F
Vibration					MIL-STD-810F
Relative humidity					5% to 95% RH

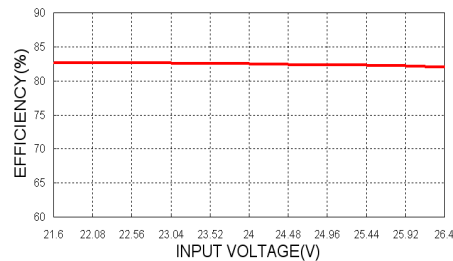
Note:

- 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.

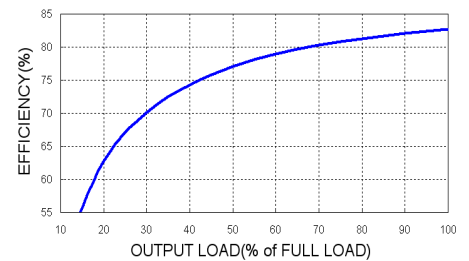
CAUTION: This power module is not internally fused. An input line fuse must always be used.

CHARACTERISTIC CURVE


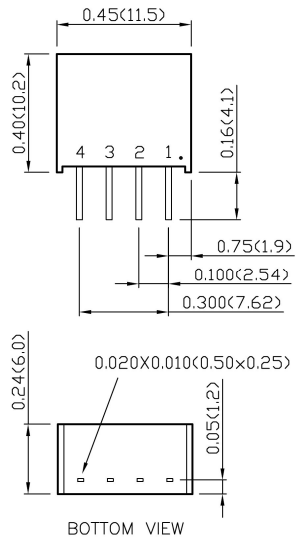
DUR01-24S12 Derating Curve



DUR01-24S12 Efficiency vs. Input Voltage



DUR01-24S12 Efficiency vs. Output Load


PIN CONNECTION

PIN	DEFINE
1	-Vin
2	+Vin
3	-Vout
4	+Vout

1. All dimensions in inch (mm)
2. Tolerance :x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
3. Pin pitch tolerance ±0.01 (0.25)
4. Pin dimension tolerance ±0.004(0.1)