



## Wide Input Voltage Range 30 Watt Dc-Dc Converter



### FEATURES:

- 30W DIL PACKAGE
- Recognized By UL 60950-1
- 4:1 WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY



### Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Input Voltage	Input Current		Output Voltage	Output Current	Efficiency
	Vdc	No-Load (mA TYP)	Full Load (mA TYP)	Vdc	Full Load (mA)	%TYP
96DW-24S03RNL	9-36	25	1103	3.3	6500	81
96DW-24S05RNL	9-36	25	1524	5	6000	82
96DW-24S12RNL	9-36	25	1524	12	2500	82
96DW-24S15RNL	9-36	25	1524	15	2000	82
96DW-48S03RNL	18-72	20	545	3.3	6500	82
96DW-48S05RNL	18-72	20	753	5	6000	83
96DW-48S12RNL	18-72	20	753	12	2500	83
96DW-48S15RNL	18-72	20	753	15	2000	83
96DW-24D05RNL	9-36	25	1524	±5	±3000	82
96DW-24D12RNL	9-36	25	1524	±12	±1250	82
96DW-24D15RNL	9-36	25	1524	±15	±1000	82
96DW-48D05RNL	18-72	20	753	±5	±3000	83
96DW-48D12RNL	18-72	20	753	±12	±1250	83
96DW-48D15RNL	18-72	20	753	±15	±1000	83

### Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
<b>Voltage Types</b>				4:1	
<b>Filter</b>	Pi Network				
<b>Protection</b>	Fuse Recommended				

### Output Specifications (Temperature Coefficient : ±0.05%/°C)

Parameters	Conditions	Min	Typ	Max	Units
<b>Voltage Tolerance</b>	Single/Dual			±2	%
<b>Short Circuit/ Restart</b>	Continuous/ Automatic				
<b>Over Load Protection</b>	(Built-in Over Voltage Protection)		150		%
<b>Line Regulation</b>	Single & Dual (H/L to L/L)			±0.5	%
<b>Load Regulation</b>	Single & Dual (F.L-50%F.L)			±0.5	%
<b>Minimum Load</b>	10% of Full Load				
<b>Ripple &amp; Noise</b>	BW=DC To 20MHz (with 1uF Cap.)			150	mVp-p
Transient response setting time	50% Step Load Change			350	us
<b>Capacitive load</b>			2200		uF
<b>External Trim Adj. Range</b>	±10% of Output Voltage				

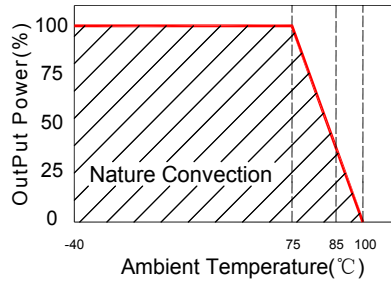
### General Specifications

Parameters	Conditions	Min	Typ	Max	Units
<b>Isolation Resistance</b>	500Vdc	1000			MΩ
<b>Switching Frequency</b>			270		KHz
<b>Operating Temperature</b>		-40		100	°C
<b>Humidity</b>	Non Condensing			95	%
<b>Cooling</b>	Free air Convection				
<b>Case material</b>	Six-Side Shielded Case				
<b>Weight</b>			65		g
<b>Dimensions</b>	Appearance size		50.8X50.8X11.0		mm
<b>Potting Material</b>			Epoxy (UL94V-0 rated)		
<b>Radiated Emissions</b>	EN55022		CLASS A		
<b>Conducted Emissions</b>	EN55022		CLASS A		
<b>Efficiency</b>		79			%
<b>Isolation Voltage</b>	For 10 seconds			3000	VDC
<b>MTBF</b>	MIL-HDBK-217F @25°C , Ground Benign	400000			Hours
<b>Storage Temperature</b>		-50		+100	°C
<b>Case Temperature</b>				+95	°C
<b>Isolation Capacitance</b>				2500	pF

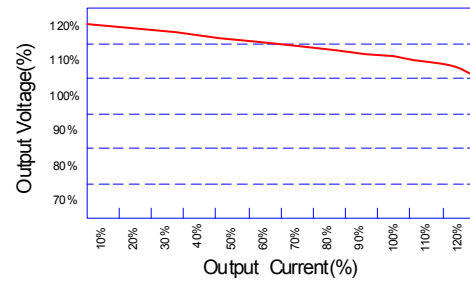


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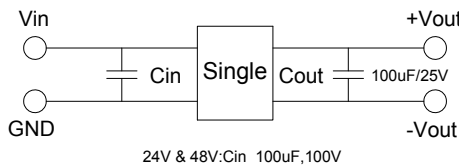
Temperature Derating Graph



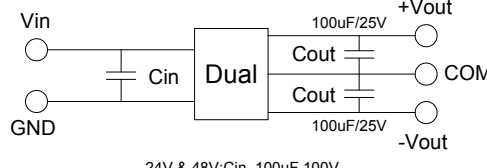
Tolerance Envelope Graph



Recommended Test Circuit



24V & 48V:Cin 100uF,100V

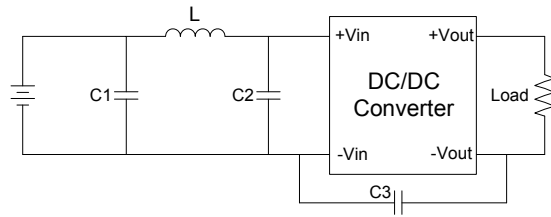


24V & 48V:Cin 100uF,100V

Part Number

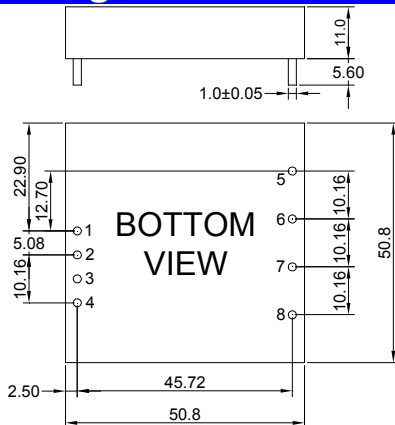
96DW - 24 S 03 R NL  
 A B C D E F  
 A:Series  
 B:Input Voltage  
 C:Single(S) Dual(D)  
 D:Output Voltage  
 E:Regulated(R)  
 F:RoHS Version

Suggest adding input external filter(C1,C2,C3,L) to meet conducted emissions (EN55022 class A) requirement for the module . These components should be mounted as close as possible to the module; and all leads should be minimized to decrease radiated noise. Exceeding the absolut ratings of the unit could cause damage.It is not allowed for continuous operating



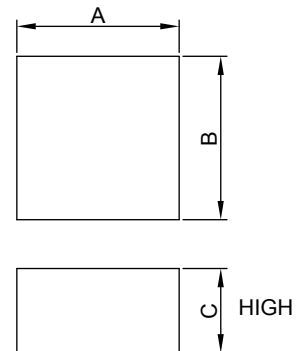
24V: C1 =330uF/100V  
 L=12uH  
 C3=N/A  
 24V: C2 =100uF/100V  
 48V: C1 =220uF/100V  
 L=12uH  
 48V: C2 =100uF/100V  
 C3=1000pF/2KV

Markings and dimensions



UNIT:mm XX.X±0.5 XX.XX±0.25  
 Pin Size Tolerance: 1.0Φ ±0.05mm

Packaging



SIZE(mm)		
A	B	C
51.50	52.30	27.00

PIN Connection

PIN	1	2	3	4	5	6	7	8
SINGLE	+Vin	-Vin	NO PIN	Ctrl	NC	+Vout	-Vout	Trim
DUAL	+Vin	-Vin	NO PIN	Ctrl	+Vout	Common	-Vout	Trim