



Yuan Dean Scientific CO.,LTD 93D-R2 SERIES

Wide Input Voltage Range 60 Watt Dc-Dc Converter



FEATURES:

- 2:1 WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY UP TO 90%
- Under Voltage Lockout
- Over Temperature Protection
- Remote Control ON/OFF
- UL94V-0 Package Material



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	Capacitor Load
		No-Load (mA TYP)	Full Load (mA TYP)				
93D-24S03R2NL	18-36	150	2162	3.3	14000	89	28800
93D-24S05R2NL	18-36	150	2777	5	12000	90	15000
93D-24S12R2NL	18-36	30	2777	12	5000	90	2800
93D-24S15R2NL	18-36	30	2777	15	4000	90	1800
93D-48S03R2NL	36-72	75	1081	3.3	14000	89	28800
93D-48S05R2NL	36-72	75	1388	5	12000	90	15000
93D-48S12R2NL	36-72	30	1388	12	5000	90	2800
93D-48S15R2NL	36-72	30	1388	15	4000	90	1800

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Types				2:1	
Filter	Pi Network				
Protection	Fuse Recommended				

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

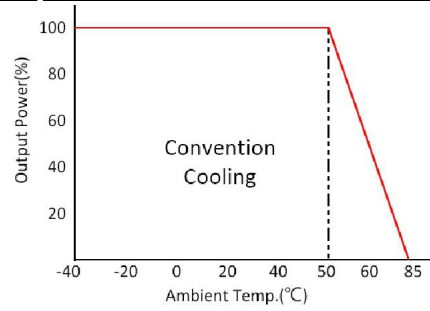
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Full load@Vin(nom.)			±2	%
Short Circuit/ Restart Protection	Hiccup, automatic recovery				
Over load protection			150		%
Line Regulation				±0.5	%
Load Regulation	10% to 100% load			±0.5	%
Ripple & Noise	BW=DC To 20MHz			100	mVp-p
Transient response setting time	25% Step Load Change		300		us
Thermal Shutdown			110		°C
External Trim Adj. Range				±10	%

General Specifications

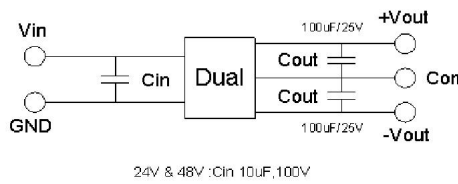
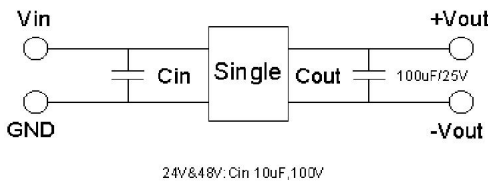
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			300		KHz
Operating Temperature	With derating	-40		85	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material		Nickel Coated with Non-Conductive Base			
Weight		70g			
Dimensions		51.0X51.0X10.3 mm			
Potting Material		Epoxy (UL94V-0 rated)			
Remote ON/OFF	ON	Open			
	OFF	Short to -Vin			
Isolation Voltage				1500	VDC
MTBF	MIL-HDBK-217F @25°C , Ground Benign	110000			Hours
Storage Temperature		-55		+125	°C
Case Temperature				+105	°C
Isolation Capacitance				2500	pF

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Temperature Derating Graph



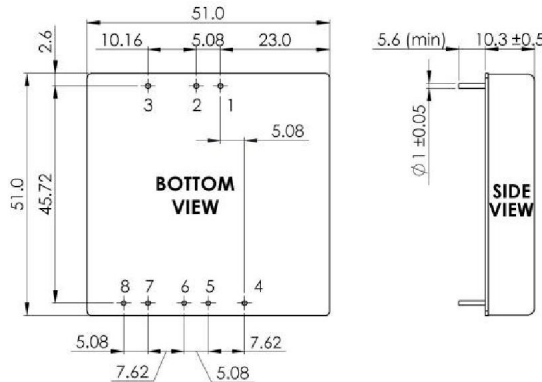
Recommended Test Circuit



Part Number

93D - 24 S 05 R 2 NL
 A B C D E F G
 A : Series
 B : Input Voltage
 C : Single Output(S),DUAL(D)
 D : Output Voltage
 E : Regulated(R)
 F : Package
 G : RoHs Version

Markings and dimensions



Unit : mm
 Tolerance : XX.X±0.5 , XX.XX±0.25

PIN Assignment

PIN	1	2	3	4	5	6	7	8
Function	+Vin	-Vin	Ctrl	-Sense	+Sense	+Vout	-Vout	Trim