

**Wide Input Voltage Range 40 Watt Dc-Dc Converter**



**FEATURES:**

- 2"X1" DIL Package
- 2:1 Wide Input Range
- 100% Burned In
- High Efficiency Up To 91%
- Customized Solutions Available
- Shielded Metal Case with insulated baseplate
- 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	Capacitor Load	Efficiency
	Vdc	No Load (mA TYP)	Full Load (mA TYP)	Vdc	Full Load (mA)	uF Max	%TYP
99D-12S03R3NL	9-18	160	2471	3.3	8000	16000	89
99D-12S05R3NL	9-18	160	3745	5	8000	10000	89
99D-12S12R3NL	9-18	60	3752	12	3340	1800	89
99D-12S15R3NL	9-18	60	3708	15	2670	1200	90
99D-12D12R3NL	9-18	60	3795	±12	±1670	±1000	88
99D-12D15R3NL	9-18	60	3806	±15	±1340	±680	88
99D-24S03R3NL	18-36	90	1235	3.3	8000	16000	89
99D-24S05R3NL	18-36	90	1851	5	8000	10000	90
99D-24S12R3NL	18-36	50	1855	12	3340	1800	90
99D-24S15R3NL	18-36	50	1833	15	2670	1200	91
99D-24D12R3NL	18-36	50	1876	±12	±1670	±1000	89
99D-24D15R3NL	18-36	50	1882	±15	±1340	±680	89
99D-48S03R3NL	36-75	70	611	3.3	8000	16000	90
99D-48S05R3NL	36-75	70	925	5	8000	10000	90
99D-48S12R3NL	36-75	40	917	12	3340	1800	91
99D-48S15R3NL	36-75	40	916	15	2670	1200	91
99D-48D12R3NL	36-75	40	938	±12	±1670	±1000	89
99D-48D15R3NL	36-75	40	941	±15	±1340	±680	89

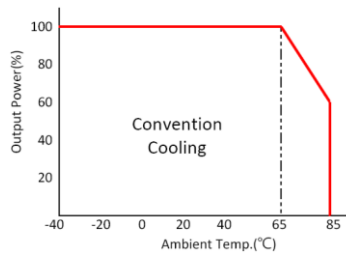
Input Specifications						
Parameters	Conditions	Min	Typ	Max	Units	
Voltage Types				2:1		
Filter	PI Network					
Protection	Fuse Recommended					

Output Specifications						
Parameters	Conditions	Min	Typ	Max	Units	
Voltage Tolerance	Full load@Vin(nom.)			±2	%	
Short Circuit Protection	Hiccup, automatic Recovery					
Line Regulation				±0.5	%	
Load Regulation	Single Dual(Balance Load)			±0.5 ±2	%	
Cross Regulation	Dual(25% To 100% Load)			±5	%	
Ripple & Noise	Output:3-15V TYPES BW=DC To 20MHz			100	mVp-p	
Ripple & Noise	Output > 15V TYPES BW=DC To 20MHz			1% of Vout	mVp-p	
Transient response setting time	25% load step change		300		us	
External Trim Adj. Range				±10	%	

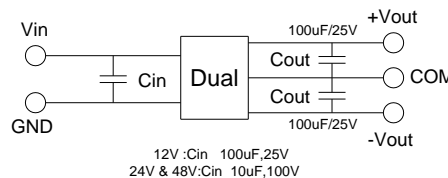
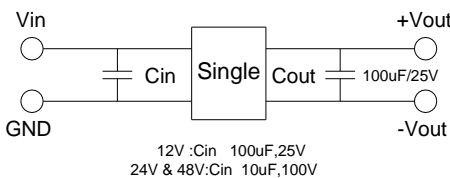
**Wide Input Voltage Range 40 Watt Dc-Dc Converter**

General Specifications					
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			350		KHz
Operating Temperature	Refer to temperature derating graph (with derating)	-40		85	°C
Humidity	Non Condensing	5		95	%
Cooling	Free air Convection				
Case material		Nickel Coated with Non-Conductive Base			
Weight		30g			
Dimensions		50.8X25.4X10.6			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	328000			Hours
Storage Temperature		-55		+125	°C
Case Temperature				+105	°C
Isolation Capacitance				1500	pF

**Temperature Derating Graph**



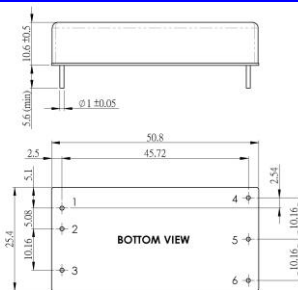
**Recommended Test Circuit**



**Part Number**

99D - 24 S 05 R 3 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**



**PIN Assignment**

PIN	1	2	3	4	5	6
SINGLE	+Vin	-Vin	Remote ON/OFF	+Vout	-Vout	Trim
DUAL	+Vin	-Vin	Remote ON/OFF	+Vout	COM	-Vout