



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



### FEATURES:

- 2:1 Wide Input Voltage.
- Efficiency To 84%
- 700Vdc Isolation
- Regulated Output Types
- MTBF:>1,500,000 hrs
- Operating Temperature:-40°C TO +100°C



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	mA	%TYP
99D-12S05RNL	9-18	25	3125	5	6000	80
99D-12S12RNL	9-18	25	2976	12	2500	84
99D-24S05RNL	18-36	20	2083	5	8000	80
99D-24S12RNL	18-36	20	1984	12	3333	84
99D-24S15RNL	18-36	20	1984	15	2667	84
99D-24S24RNL	18-36	20	1984	24	1667	84
99D-48S05RNL	36-72	20	1042	5	8000	80
99D-48S12RNL	36-72	20	992	12	3333	84
99D-48S15RNL	36-72	20	992	15	2667	84
99D-48S24RNL	36-72	20	992	24	1667	84

### Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Types				2:1	
Filter	Pi TYPE				

### Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance				±2	%
Short Circuit Protection			Continuous		
Line Regulation				±0.5	%
Load Regulation	Single(25% To 100% F.L)			±1.0	%
Ripple & Noise	BW=DC To 20MHz			100	mVp-p
Transient response setting time	50% load step change		350		us

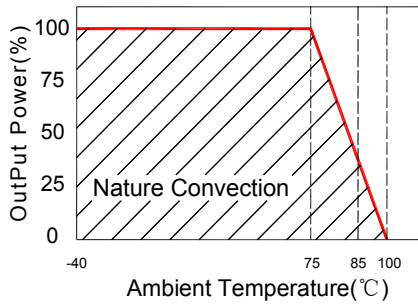
### General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			300		KHz
Operating Temperature		-40		100	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Six-Side Shielded Copper				
Weight			110		g
Dimensions			76.2x63.5x8.5		mm
Potting Material		Epoxy (UL94V-0 rated)			
Radiated Emissions	EN55022	CLASS A			
Conducted Emissions(7)	EN55022	CLASS A			

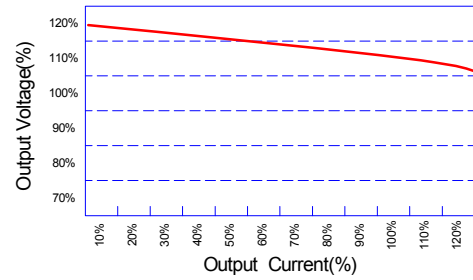


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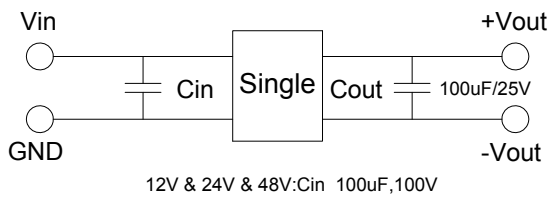
### Temperature Derating Graph



### Tolerance Envelope Graph



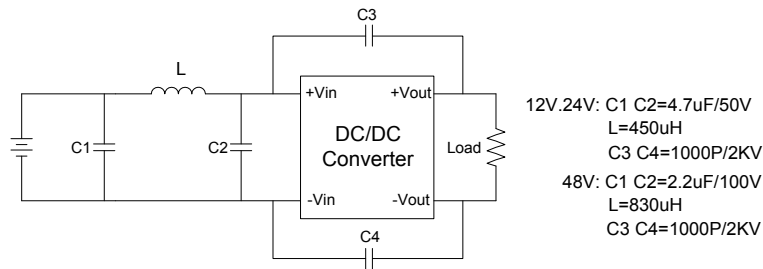
### Recommended Test Circuit



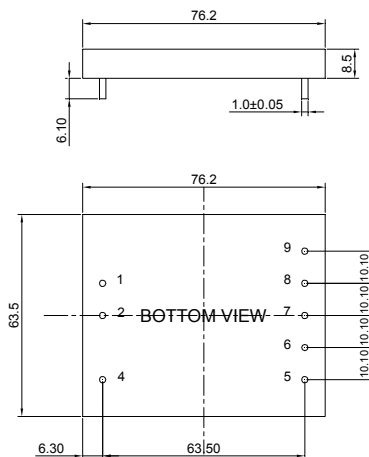
### Part Number

99D - 24 S 05 R NL  
 A B C D E F  
 A:Series  
 B:Input Voltage  
 C:Single(S)  
 D:Output Voltage  
 E:Regulated(R)  
 F:RoHS Version

### Suggest adding input external filter(C1,C2,C3,C4,L)to meet conducted emissions(EN55022 class A)



### Markings and dimensions



UNIT:mm XX.X±0.5 XX.XX±0.25

### PIN Connection

PIN	1	2	4	5	6	7	8	9
SINGLE	-Vin	+Vin	Ctrl	Trim	+Vout	-Vout	No Pin	No Pin