

**FEATURES :**

- 14PIN DIL Package
- High Efficiency up to 85%
- Internal SMD Construction
- Unregulated Output Types
- No External Component Required
- Operating Temperature:-40°C to +85°C
- Industry Standard Pinout

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

Part Number	Output Voltage	Output Current	Efficiency	Recognized By UL 60950-1
	Vdc	mA	%Typ	
24D-XXS05NNL	5	400	70	24D-05D05NNL 24D-05D12NNL 24D-05D15NNL 24D-05D24NNL 24D-12D12NNL 24D-12D15NNL 24D-24D05NNL 24D-24D09NNL 24D-24D15NNL 24D-24D24NNL
24D-XXS09NNL	9	222	75	
24D-XXS12NNL	12	167	80	
24D-XXS15NNL	15	133	80	
24D-XXS24NNL	24	84	85	
24D-XXD05NNL	±5	±200	70	
24D-XXD09NNL	±9	±111	75	
24D-XXD12NNL	±12	±84	80	
24D-XXD15NNL	±15	±67	80	
24D-XXD24NNL	±24	±42	85	

**Note:**

- 1."XX" Is Input Voltage:03 = 3.3Vdc, 05=5Vdc, 09=9Vdc,12=12Vdc,15=15Vdc 24=24Vdc.
2. The input voltage increases, there will be an increase in efficiency.

**Input Specifications**

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Vo,Io Nom			±10	%
Filter	Capacitor				

**Output Specifications**

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Short Term			1	Sec
Line Regulation	For 1.0% OF Vin		1.2		%
Load Regulation	5V (10% To 100% F.L)			15	%
Load Regulation	9V,12V,15V,24V (10% To 100% F.L.)			10	%
Ripple & Noise	BW=DC To 20MHZ			100	mVp-p
Transient response setting time	50% load step change		350		us

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DC-DC Converter

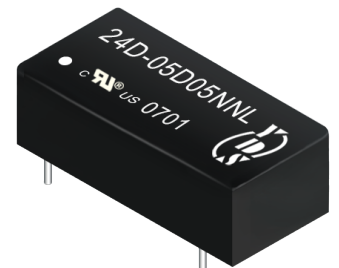
24D SERIES

2Watt

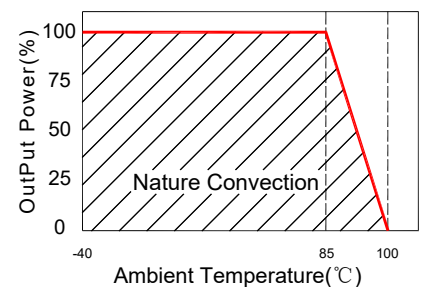
1KV Isolated

Single & Dual Output

DIL14



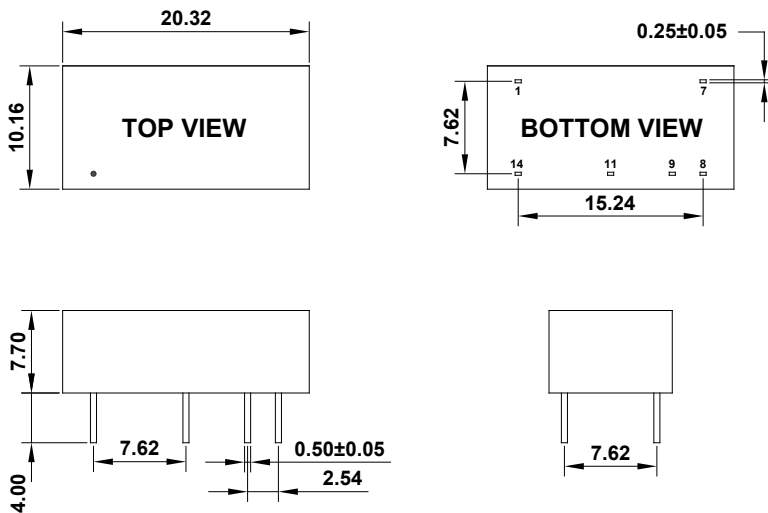
Temperature Derating Graph



General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load, nominal input		75		KHz
Operating Temperature		-40		+85	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	3500000			Hours
Weight			2.8		g
Dimensions		20.32x10.16x7.70			mm

Markings and Dimensions

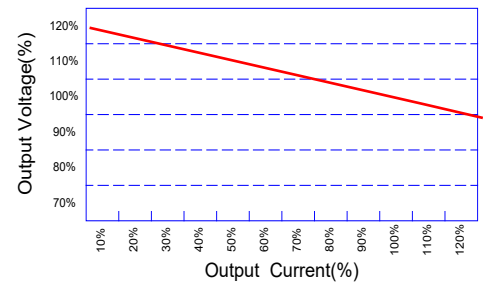


Unit : mm Unless otherwise specified, all tolerances are ±0.25

PIN Connection

PIN	1	7	8	9	11	14
Single	-Vin	NC	-Vout	+Vout	No Pin	+Vin
Dual	-Vin	NC	COM	+Vout	-Vout	+Vin

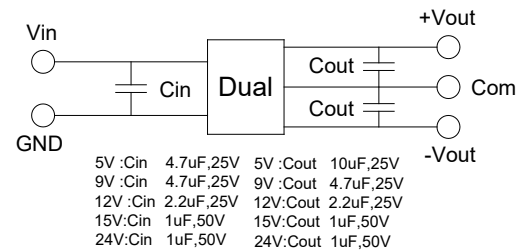
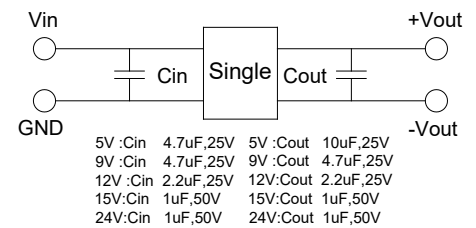
Tolerance Envelope Graph



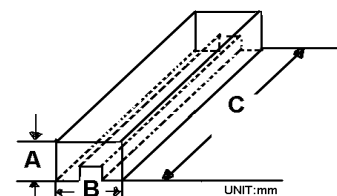
Part Number

24D - 05 D 05 N NL  
 A B C D E F  
 A:Series  
 B:Input Voltage  
 C:Single(S)Dual(D)  
 D:Output Voltage  
 E:Unregulated(N)  
 F:RoHS Version

Recommended Test Circuit



Packaging



Size(mm)		
A	B	C
13.23	12.30	530

