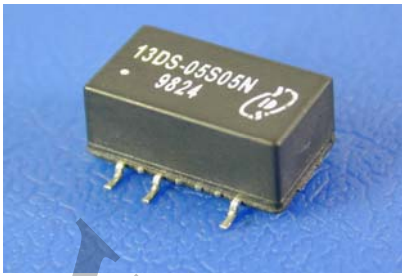




## 1000Vdc Isolation 1 Watt Single Output Surface Mount Dc-Dc Converter



### FEATURES:

- Small Footprint
- 14PIN SMD Package
- High Efficiency up to 80%
- Unregulated Output Types
- High Power Density
- 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
	Vdc	mA	% TYP
13DS-XXS03NNL	3.3	303	65
13DS-XXS05NNL	5	200	70
13DS-XXS09NNL	9	110	75
13DS-XXS12NNL	12	84	78
13DS-XXS15NNL	15	67	80

Note:1."XX" Is Input Voltage:03=3.3Vdc,05=5Vdc,09=9Vdc,12=12Vdc,15=15Vdc.  
 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			±5	%
Filter	Capacitor				

### Output Specifications

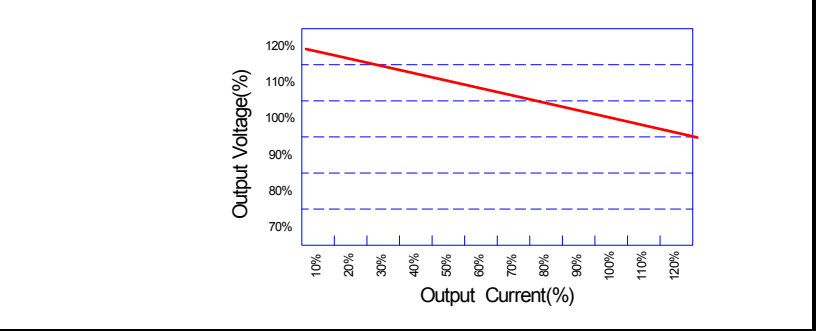
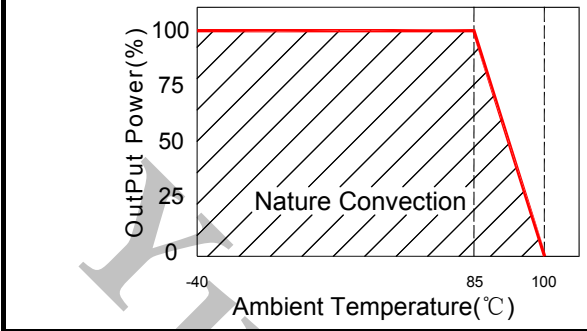
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Short Term			1 Sec	
Line Regulation	For 1.0% OF Vin		1.2		%
Load Regulation	3.3V(10% To 100% F.L)		15		%
Load Regulation	5V,9V(10% To 100% F.L)			15&9.0	%
Load Regulation	12V,15 V(10% To 100% F.L)			7.5&7.0	%
Ripple & Noise	BW=DC To 20MHZ			100	mVp-p
Transient response setting time	50% load step change		350		us

### General Specifications

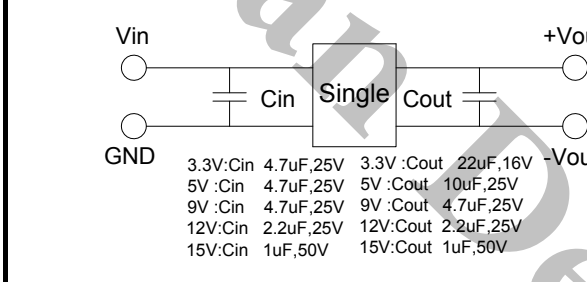
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load,nominal input		100		KHz
Operating Temperature		-40		+85	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	3500000			Hours
Weight			1.0		g
Dimensions			12.7X7.6X6.25		mm



**Temperature Derating Graph      Tolerance Envelope Graph**

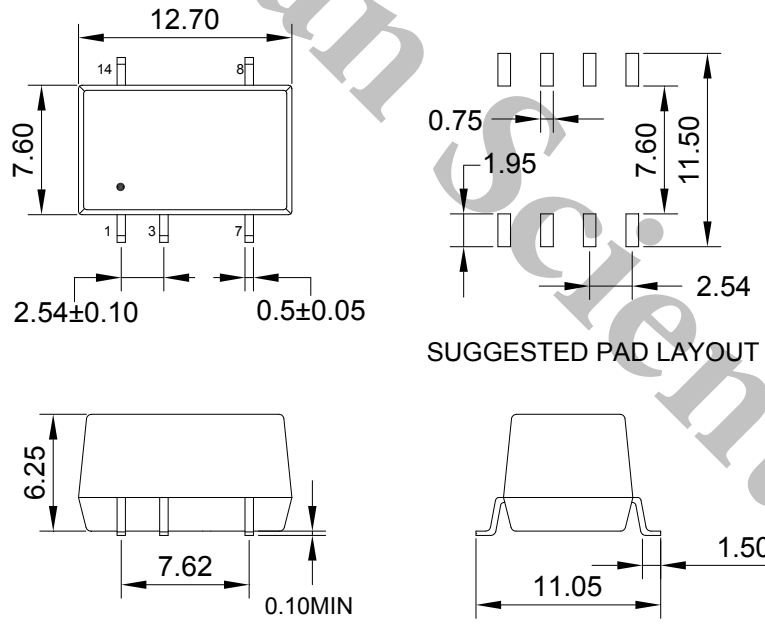


**Recommended Test Circuit      Part Number**



13DS - 05 S 05 N NL  
 A B C D E F  
 A:Series  
 B:Input Voltage  
 C:Single(S)  
 D:Output Voltage  
 E:Unregulated(N)  
 F:RoHS Version

**Markings and Dimensions**



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

**PIN Connection**

Pin	1	3	7	8	14
Single	-Vin	+Vin	-Vout	+Vout	NC