

# Yuan Dean Scientific CO.,LTD **13DS1-2W SERIES** 3000Vdc Isolation Single & Dual Output 2 Watt Dc-Dc Converter



## FEATURES:

- Small Footprint
- 22PIN SMD Package
- High Efficiency up to 80%
- Unregulated Output Types
- High Power Density ● Industry Standard Pinout
- Operating Temperature: -40°C TO +85°C ● No External Component Required



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
13DS1-XXS05N2W	5	400	70
13DS1-XXS09N2W	9	222	75
13DS1-XXS12N2W	12	167	80
13DS1-XXS15N2W	15	133	80
13DS1-XXD05N2W	±5	±200	70
13DS1-XXD09N2W	±9	±111	75
13DS1-XXD12N2W	±12	±84	80
13DS1-XXD15N2W	±15	±67	80

Note: 1."XX" Is Input Voltage: 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			±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 & 9V (10% To 100% F.L)			15	%
Load Regulation	12V & 15V (10% To 100% F.L.)			10	%
Ripple & Noise	BW=DC To 20MHz			75	mVp-p
Transient response setting time	50% load step change		350		us

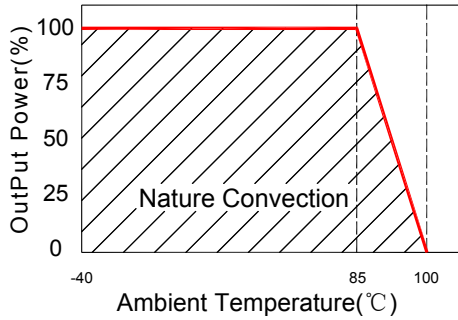
## General Specifications

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			1.8		g
Dimensions			15.24x8.0x8.5		mm

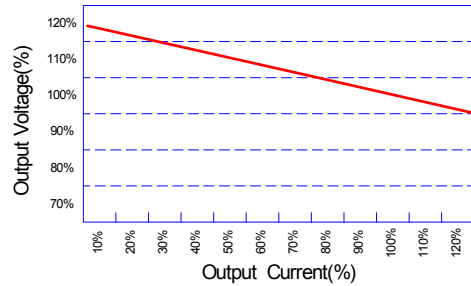
# Yuan Dean Scientific CO.,LTD 13DS1-2W SERIES

## 3000Vdc Isolation Single & Dual Output 2 Watt Dc-Dc Converter

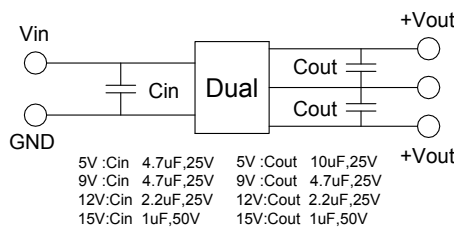
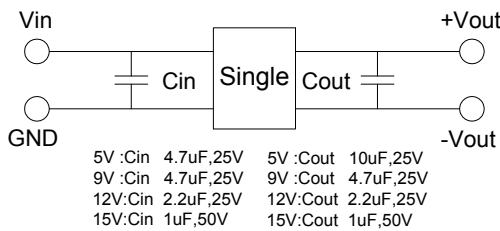
### Temperature Derating Graph



### Tolerance Envelope Graph



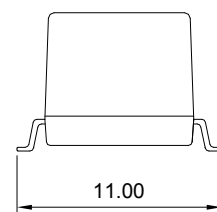
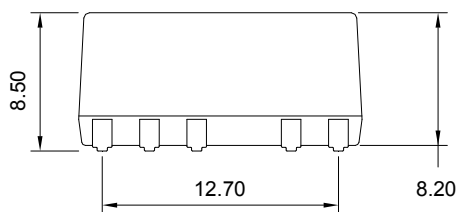
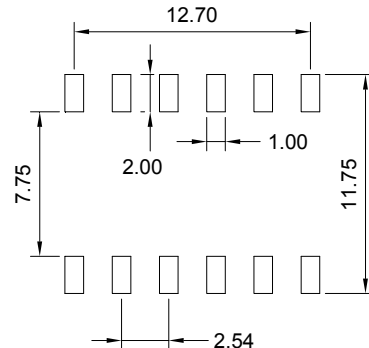
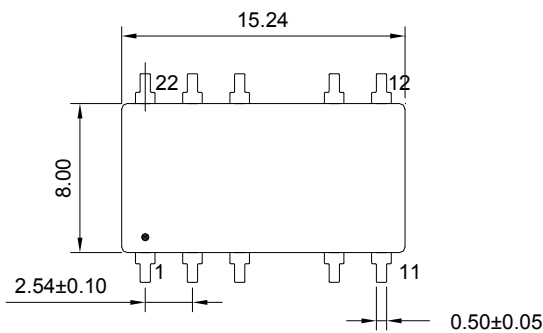
### Recommended Test Circuit



### Part Number

13DS1 - 05 S 05 N 2W  
 A B C D E F  
 A:Series  
 B:Input Voltage  
 C:Single(S) Dual(D)  
 D:Output Voltage  
 E:Unregulated(N)  
 F:Output Power

### Markings and Dimensions



Unit : mm Unless otherwise specified, all tolerances are  $\pm 0.25$

### PIN Connection

PIN	1	3	5	9	11	12	14	18	20	22
Single	-Vin	+Vin	NC	-Vout	NC	NC	+Vout	NC	NC	NC
Dual	-Vin	+Vin	NC	Com	-Vout	NC	+Vout	NC	NC	NC