

FEATURES :

- 4PIN SIP and 8PIN DIL Package
- No-load input current as low as 8mA
- Continuous short-circuit protection
- High Efficiency up to 88%
- Unregulated Output Types
- 1.5KVDC & 3KVDC Isolation
- Operating Temperature:-40°C to +85°C
- Industry Standard Pinout
- UL/cUL/IEC/EN 62368-1 approved, CB-Report
- EMC Standard of EMI EN55032:2015 Approved
- EMC Standard of EMS EN55035:2017 Approved

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

Part Number	Output Voltage	Output Current	Efficiency	Capacitive Load(μF)	Package Style
	Vdc	mA	%TYP	Max.	
13DC-12S05NXP3 ^(H3)	5	600	85	1000	1/2
13DC-12S12NXP3 ^(H3)	12	250	87	220	1/2
13DC-12S15NXP3 ^(H3)	15	200	88	220	1/2
13DC-12S24NXP3 ^(H3)	24	125	88	47	1/2
13DC-12D05N2P3 ^(H3)	±5	±300	86	±560	2
13DC-12D12N2P3 ^(H3)	±12	±125	86	±100	2
13DC-12D15N2P3 ^(H3)	±15	±100	88	±100	2
13DC-12D24N2P3 ^(H3)	±24	±63	88	±22	2
13DC-15S05NXP3 ^(H3)	5	600	85	1000	1/2
13DC-15S12NXP3 ^(H3)	12	250	87	220	1/2
13DC-15S15NXP3 ^(H3)	15	200	88	220	1/2
13DC-15S24NXP3 ^(H3)	24	125	88	47	1/2
13DC-15D05N2P3 ^(H3)	±5	±300	86	±560	2
13DC-15D12N2P3 ^(H3)	±12	±125	86	±100	2
13DC-15D15N2P3 ^(H3)	±15	±100	88	±100	2
13DC-15D24N2P3 ^(H3)	±24	±63	88	±22	2
13DC-24S05NXP3 ^(H3)	5	600	85	1000	1/2
13DC-24S12NXP3 ^(H3)	12	250	87	220	1/2
13DC-24S15NXP3 ^(H3)	15	200	88	220	1/2
13DC-24S24NXP3 ^(H3)	24	125	88	47	1/2
13DC-24D05N2P3 ^(H3)	±5	±300	86	±560	2
13DC-24D12N2P3 ^(H3)	±12	±125	86	±100	2
13DC-24D15N2P3 ^(H3)	±15	±100	88	±100	2
13DC-24D24N2P3 ^(H3)	±24	±63	88	±22	2

Note:

- 1: No suffix is standard isolation (1.5KVDC) e.g. 13DC-12S05NP3, *add suffix "H3" for 3KVDC isolation, e.g. 13DC-12S05NP3H3.
- 2: X = 1 or 2 package, No suffix X package1, When X=2, package2, and so on, e.g. 13DC-12S05N2P3.

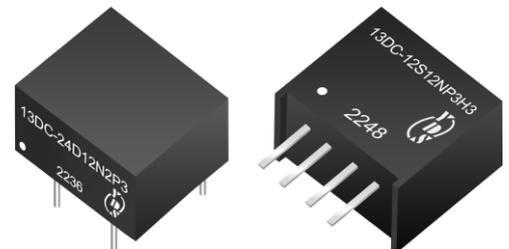
YUAN DEAN SCIENTIFIC



DC-DC Converter
13DC-3W SERIES

3Watt

1.5KV & 3KV Isolated
Single & Dual Output
SIP4 & DIL8

CB
SchemeC **UL** USROHS
COMPLIANT3
YEARS
WARRANTY

Temperature Derating Graph

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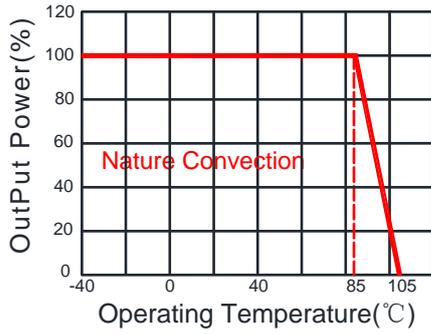


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Input Specifications

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

Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Continuous				
Line Regulation	For 1.0% OF Vin		1.2		%
Load Regulation	5V (10% To 100% F.L)		9	15	%
	12V (10% To 100% F.L)		7	10	%
	15V (10% To 100% F.L)		6	10	%
	24V (10% To 100% F.L)		5	10	%
Ripple & Noise	BW=DC To 20MHz		100	150	mVp-p

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V		20		pF
Switching Frequency	Full load, nominal input		250		KHz
Operation Temperature		-40		+85	°C
Storage Temperature		-55		+125	°C
Humidity	Non Condensing			95	%

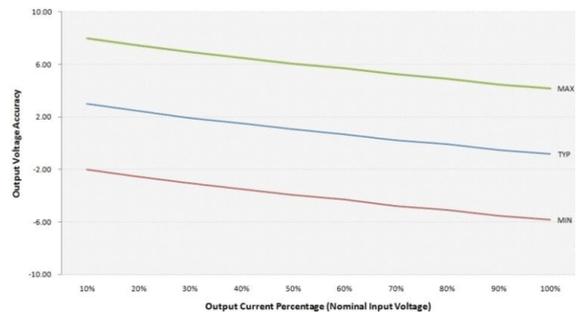
Cooling	Free air Convection		
Case material	DAP		
MTBF	MIL-HDBK-217F@25°C	3500000	Hours
Weight	Package 1	1.9	g
	Package 2	1.9	g
Dimensions	Package 1	11.50x7.50x10.00	mm
	Package 2	12.70x10.16x7.50	mm

Part Number

13DC - 12 S 12 N X P 3 H3
 A B C D E F G H I

- A : Series
- B : Input Voltage
- C : Single(S)/Dual(D)/Output
- D : Output Voltage
- E : Unregulated(N)
- F : Package
- G : Protection
- H : Output Power
- I : Isolation Voltage

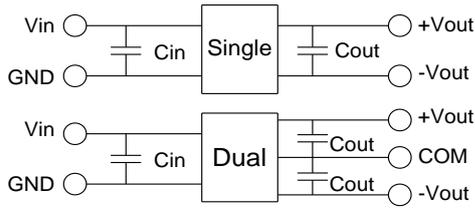
Tolerance Envelope Graph



Electromagnetic Compatibility (EMC)

EMI	CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
EMS	ESD	IEC/EN61000-4-2 Air ±8kV , Contact ±6kV perf. Criteria B

Recommended Test Circuit



Vin	Cin	Single Vout	Cout	Dual Vout	Cout
12Vdc	2.2μF/25V	5Vdc	10μF/16V	±5Vdc	±4.7μF/16V
15Vdc	2.2μF/25V	9Vdc	2.2μF/16V	±9Vdc	±1μF/16V
24Vdc	1μF/50V	12Vdc	2.2μF/25V	±12Vdc	±1μF/25V
--	--	15Vdc	1μF/25V	±15Vdc	±1μF/25V
--	--	24Vdc	1μF/50V	±24Vdc	±1μF/50V

EMC (CLASS B) compliance circuit

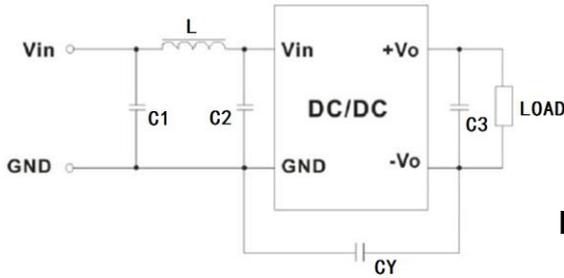
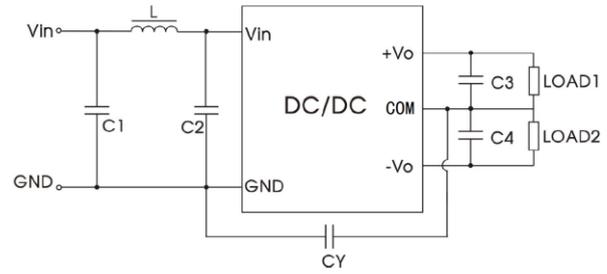


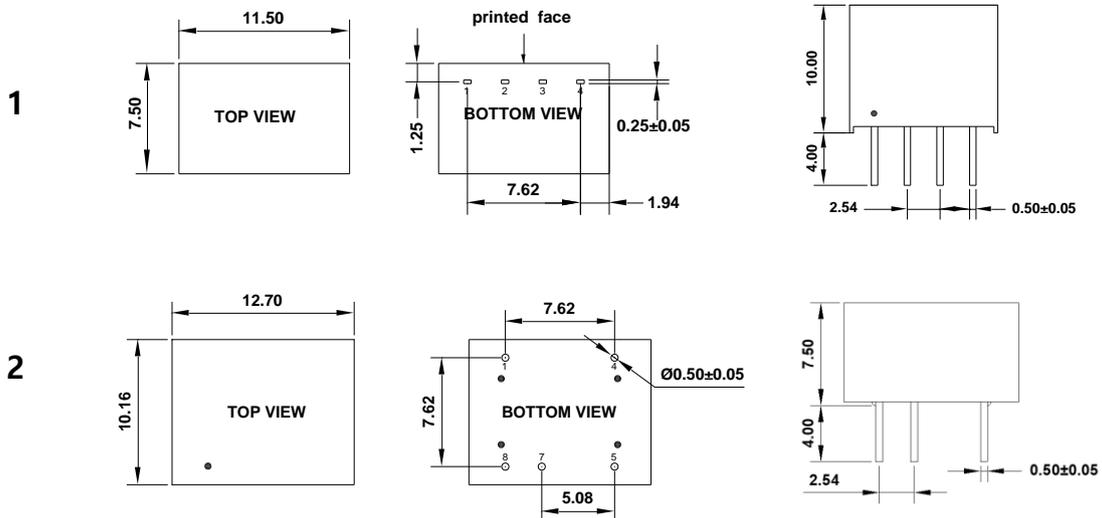
Fig.1



EMC recommended circuit value table

EMI		Value
	C1	10μF /50V
	C2	10μF /50V
	CY	1nF/4kV
	C3, C4	Recommended Test Circuit
	L	6.8μH

Markings and Dimensions



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

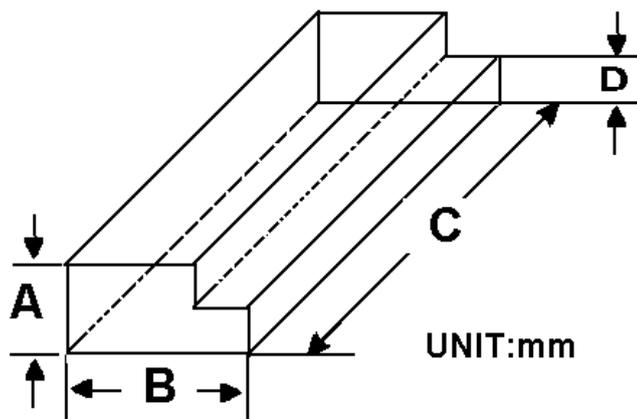
PIN Connection



Package	PIN	1	2	3	4	5	7	8
1	Single	-Vin	+Vin	-Vout	+Vout			
	Single	-Vin			+Vin	+Vout	-Vout	No Pin
2	Dual	-Vin			+Vin	+Vout	Com	-Vout

Packaging

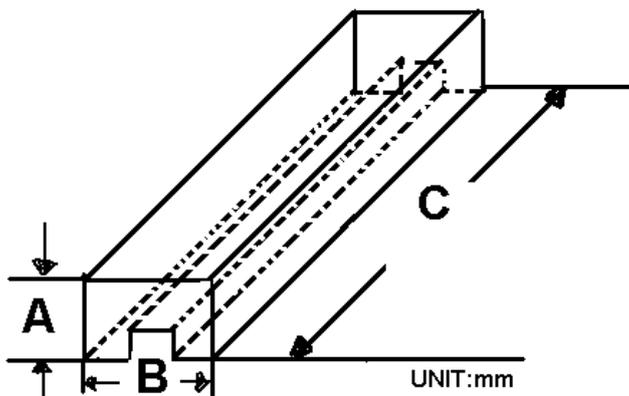
N2 Package



TUBE-----42pcs

Size(mm)			
A	B	C	D
9.50	16.50	522	5.00

N3Package



TUBE-----40pcs

Size(mm)		
A	A	A
15.1	15.1	15.1