

FEATURES :

- 7PIN SIP Package
- No-load input current as low as 8mA
- Continuous short-circuit protection
- High Efficiency up to 88%
- Unregulated Output Types
- 1.5KVDC ~ 6KVDC Isolation
- Operating Temperature:-40°C to +85°C
- Industry Standard Pinout
- Design refer to IEC62368, UL62368, EN62368

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)
	Vdc	mA	%TYP	Max.
12DC-12S05NP3 ^(H3)	5	600	85	1000
12DC-12S12NP3 ^(H3)	12	250	87	220
12DC-12S15NP3 ^(H3)	15	200	88	220
12DC-12S24NP3 ^(H3)	24	125	88	47
12DC-12D05NP3 ^(H3)	±5	±300	86	±560
12DC-12D12NP3 ^(H3)	±12	±125	86	±100
12DC-12D15NP3 ^(H3)	±15	±100	88	±100
12DC-12D24NP3 ^(H3)	±24	±63	88	±22
12DC-15S05NP3 ^(H3)	5	600	85	1000
12DC-15S12NP3 ^(H3)	12	250	87	220
12DC-15S15NP3 ^(H3)	15	200	88	220
12DC-15S24NP3 ^(H3)	24	125	88	47
12DC-15D05NP3 ^(H3)	±5	±300	86	±560
12DC-15D12NP3 ^(H3)	±12	±125	86	±100
12DC-15D15NP3 ^(H3)	±15	±100	88	±100
12DC-15D24NP3 ^(H3)	±24	±63	88	±22
12DC-24S05NP3 ^(H3)	5	600	85	1000
12DC-24S12NP3 ^(H3)	12	250	87	220
12DC-24S15NP3 ^(H3)	15	200	88	220
12DC-24S24NP3 ^(H3)	24	125	88	47
12DC-24D05NP3 ^(H3)	±5	±300	86	±560
12DC-24D12NP3 ^(H3)	±12	±125	86	±100
12DC-24D15NP3 ^(H3)	±15	±100	88	±100
12DC-24D24NP3 ^(H3)	±24	±63	88	±22

Note:

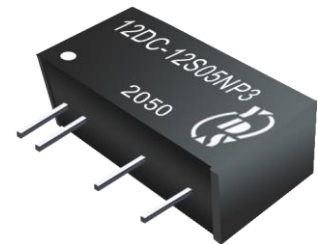
1:No suffix is standard isolation (1.5KVDC) e.g, 12DC-12S05NP3 ,
 *add suffix"H3" for 3KVDC isolation,*add suffix"H4" for 4KVDC isolation,
 *add suffix"H5" for 5.2KVDC isolation,*add suffix"H6" for 6KVDC isolation,
 e.g, 12DC-12S05NP3H3, 12DC-24D24NP3H6.

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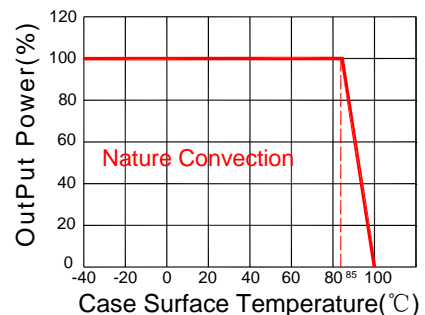


DC-DC Converter
12DC-3W SERIES

3Watt
 1.5~6KV Isolated
 Single & Dual Output
 SIP7



Temperature Derating Graph



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Rev: 1 2024/03/28

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Range	Vo,lo 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

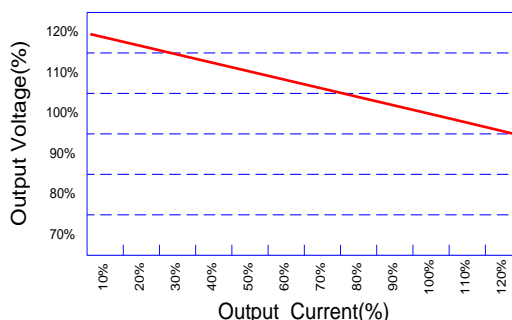
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V		20		pF
Switching Frequency	Full load, nominal input		250		KHz
Operation Temperature		-40		+85	°C
Storage Temperature		-55		+125	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	3500000			Hours
Weight			2.7		g
Dimensions		19.5x7.1x10.0			mm

Part Number

12DC - 15 S 24 N P 3 H3
 A B C D E F G H

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

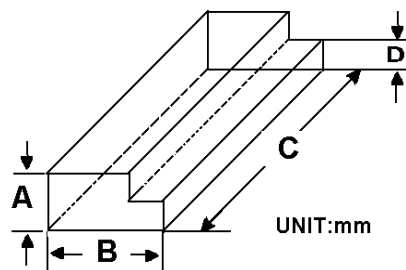
Tolerance Envelope Graph



Electromagnetic Compatibility (EMC)

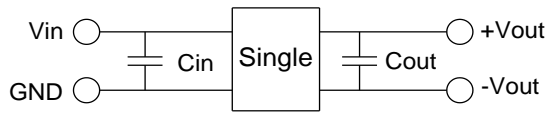
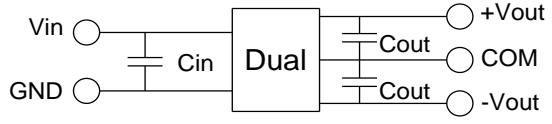
EMI	CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
EMS	ESD	IEC/EN61000-4-2 Air ±8kV , Contact ±6kV perf. Criteria B

Packaging



Size(mm)			
A	B	C	D
9.5	16.5	522	5.0

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

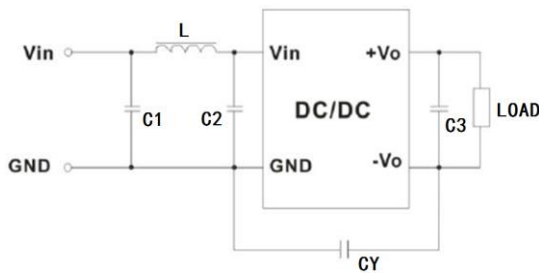
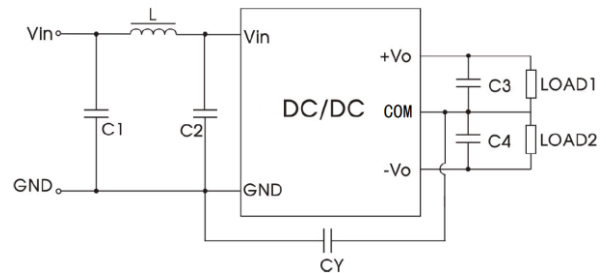


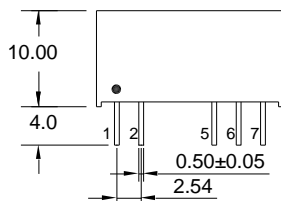
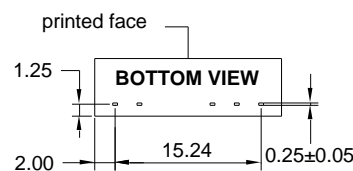
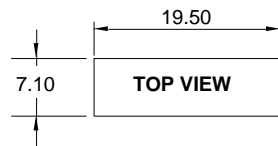
Fig.1



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

PIN	1	2	5	6	7
Single	+Vin	-Vin	-Vout	No Pin	+Vout
Dual	+Vin	-Vin	-Vout	Com	+Vout