

**FEATURES:**

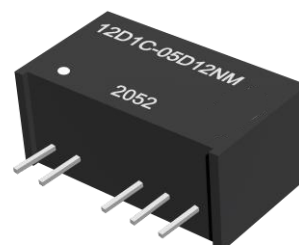
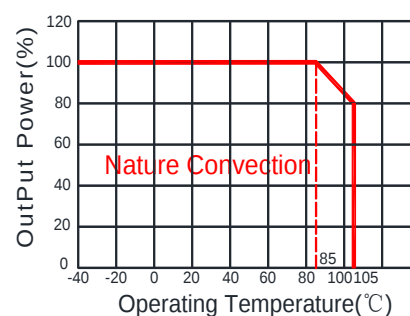
- 7PIN SIP package
- Continuous short-circuit protection
- The leakage current < 2 μ A
- Isolation capacitance as low as 4pF
- Creepage & clearance distance > 5mm
- High efficiency up to 83%
- Unregulated output types
- 5000Vac or 6000KVdc isolation
- Operating temperature:-40°C to +105°C
- Industry standard pinout
- Meet IEC60601 standard

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(μ F)
	Vdc	mA	%TYP	Max.
12D1C-YY03NM	3.3	303	75	2200
12D1C-YY05NM	5	200	80	2200
12D1C-YY09NM	9	112	80	1000
12D1C-YY12NM	12	84	81	470
12D1C-YY15NM	15	67	81	330
12D1C-YY24NM	24	42	81	100
12D1C-YYD03NM	± 3.3	± 151	75	± 1200
12D1C-YYD05NM	± 5	± 100	80	± 1200
12D1C-YYD09NM	± 9	± 56	80	± 470
12D1C-YYD12NM	± 12	± 42	81	± 220
12D1C-YYD15NM	± 15	± 34	81	± 220
12D1C-YYD24NM	± 24	± 21	81	± 47
12D1C-XXS03NM	3.3	303	75	2200
12D1C-XXS05NM	5	200	80	2200
12D1C-XXS09NM	9	112	80	1000
12D1C-XXS12NM	12	84	83	680
12D1C-XXS15NM	15	67	83	330
12D1C-XXS24NM	24	42	82	220
12D1C-XXD03NM	± 3.3	± 151	75	± 1200
12D1C-XXD05NM	± 5	± 100	80	± 1200
12D1C-XXD09NM	± 9	± 56	80	± 680
12D1C-XXD12NM	± 12	± 42	83	± 330
12D1C-XXD15NM	± 15	± 34	83	± 220
12D1C-XXD24NM	± 24	± 21	81	± 100

Note:

- 1: "YY" is input voltage : 03=3.3Vdc,05=5Vdc, e.g, 12D1C-03S05NM, 12D1C-05S12NM.
 2: "XX" is input voltage : 12=12Vdc,15=15Vdc, 24=24Vdc e.g, 12D1C-12S05NM, 12D1C-15S12NM, 12D1C-24S15NM

Volgen**DC-DC Converter****12D1C-NM SERIES****1 Watt****5KVac or 6KVdc Isolated****Single & Dual Output****SIP7****Temperature Derating****CONTACT US**

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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	Continuous				
Temperature Coefficient	100% load		±0.02		%/°C
Line Regulation	For 1.0% of Vin		1.2		%
Load Regulation	3.3V, 5V (10% To 100% F.L)			20	%
	Other output (10% To 100% F.L)			15	%
Ripple & Noise	BW=DC To 20MHz@Vo:3.3V		100	150	mVp-p
	BW=DC To 20MHz@ Other		80	120	mVp-p

General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load,nominal input @3.3V, 5V Vin		215/370		KHz
	Full load,nominal input @other Vin		250		KHz
OperatingTemperature		-40		+105	°C
Patient Leakage Current	250VAC, 50/60Hz			2	μA
Isolation Capacitance	Input-output, 100KHz/0.1V		4		pF
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			4		g
Dimensions			19.5x9.8x12.5		mm
altitude rating		5000M			

Electromagnetic Compatibility (EMC)

EMI	CE	EN60601-1-2/CISPR 11 GROUP1 CLASS B (see Fig. 1 for recommended circuit)			
	RE	EN60601-1-2/CISPR 11 GROUP1 CLASS B (see Fig. 1 for recommended circuit)			
EMS	ESD	EN60601-1-2 (IEC/EN61000-4-2) Air ±15kV, Contact ±8kV perf. Criteria B			

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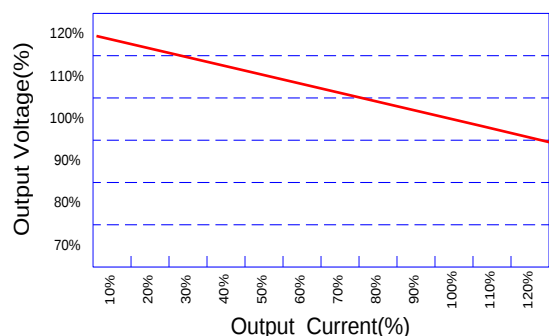
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Tolerance Envelope Graph



Part Number

12D1C	-	05	D	12	N	M
A		B	C	D	E	F

A : Series

B : Input Voltage

C :Single(S)/Dual(D) Output

D :Output Voltage

E : Unregulated(N)

F : Medical

Recommended Test Circuit

		Vin	Cin	Single Vout	Cout	Dual Vout	Cout
Single	+Vout	3.3Vdc	4.7 μ F/25V	3.3Vdc	10 μ F/16V	$\pm$ 3.3Vdc	$\pm$ 4.7 μ F/16V
	-Vout	5Vdc	4.7 μ F/25V	5Vdc	10 μ F/16V	$\pm$ 5Vdc	$\pm$ 4.7 μ F/16V
Dual	+Vout	12Vdc	2.2 μ F/25V	9Vdc	2.2 μ F/16V	$\pm$ 9Vdc	$\pm$ 1 μ F/16V
	COM	15Vdc	2.2 μ F/25V	12Vdc	2.2 μ F/25V	$\pm$ 12Vdc	$\pm$ 1 μ F/25V
	-Vout	24Vdc	1 μ F/50V	15Vdc	1 μ F/25V	$\pm$ 15Vdc	$\pm$ 1 μ F/25V
		--	--	24Vdc	1 μ F/50V	$\pm$ 24Vdc	$\pm$ 1 μ F/50V

EMC (CLASS B) Compliance Circuit

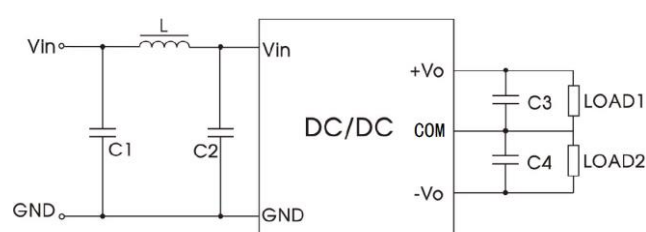
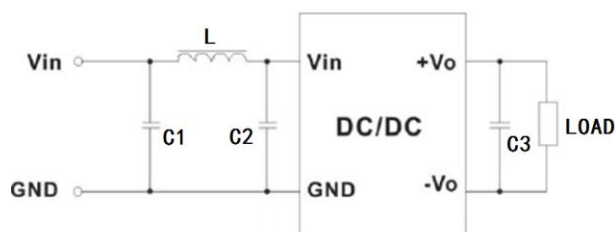


Fig.1

EMC recommended circuit value table

EMI	C1	22 μ F /50V
	C2	22 μ F /50V
	C3, C4	Recommended Test Circuit
	L	22 μ H

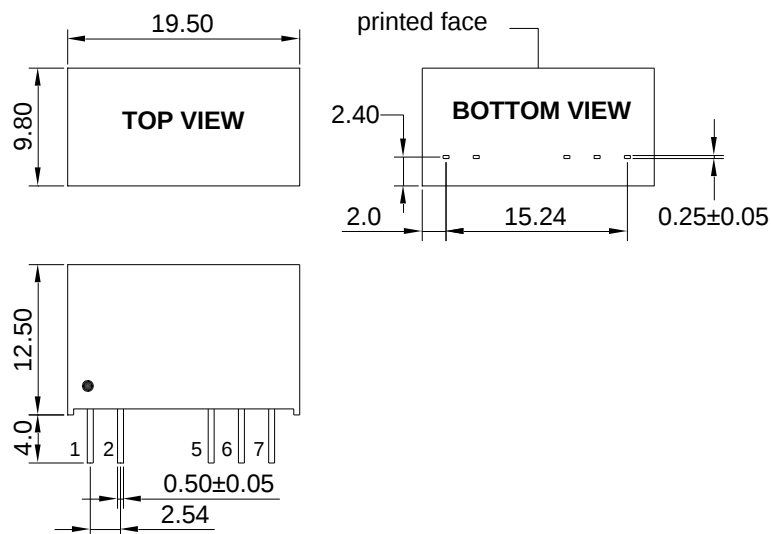
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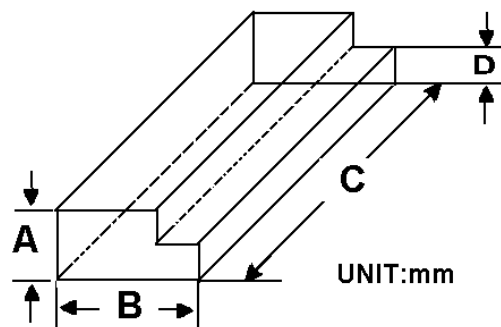
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**Markings and Dimensions**

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

Packaging

TUBE-----25pcs

Size(mm)			
A	B	C	D
12.0	28.55	550	6.0

PIN Connection

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

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