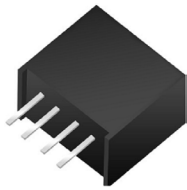


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RoHS
Compliant



4-Pin



8-Pin

Features

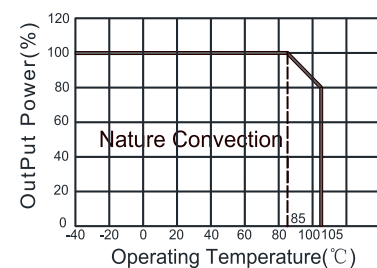
- 4PIN SIP and 8PIN DIL Package
- No-load input current as low as 5mA
- Continuous short-circuit protection
- High Efficiency up to 87%
- Unregulated Output Types
- 1.5KVDC & 3KVDC Isolation
- Operating Temperature:-40°C to +105°C
- Industry Standard Pinout

Specification Table

Typical @ T_A=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Output Voltage	Output Current	Efficiency	Capacitive Load μ F
	V DC	mA	%TYP	Max.
MP13DC-03S05NPH3	5	200	82	2400
MP13DC-05S05NPH3				
MP13DC-03S03N2P	3.3	303	76	470
MP13DC-05S12N2P	12	84	84	
MP13DC-05S05N3P	5	200	82	2400
MP13DC-12S03N2PH3	3.3	303	78	

Temperature Derating Graph



Input Specifications

Parameters	Conditions	Typ	Units
Voltage Range	Vo,lo Nom @Vin:3.3V,5V,9V	±10	%
	Vo,lo Nom @ Vin:12V,15V,24V	±20	
Filter	Capacitor		

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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	3.3V (10% to 100% F.L)		15	20	
	5V (10% to 100% F.L)		10	15	
	9V (10% to 100% F.L)		8	10	
	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 @Vo:3.3V, 5V, 9V, 12V,15V		30	75	mVp-p
	BW=DC To 20MHz @ Vo:24V		50	100	

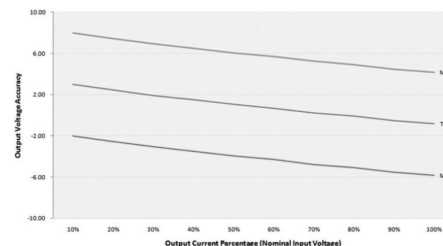
General Specifications

Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500V DC	1000	-	-	MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V	-	20	-	pF
Switching Frequency	Full load,nominal input @3.3V, 5V Vin	-	215/370	-	KHz
	Full load, nominal input @other Vin	-	250	-	
Operating Temperature		-40	-	+105	°C
Storage Temperature		-55	-	125	
Humidity	Non Condensing	-	-	95	%
Cooling	Free air Convection	-	-	-	-
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	3500000		-	Hours
Weight	Package 1/2/3	-	1.1/1.5/1.5	-	g
Dimensions	Package 1	-	11.5 × 6 × 7.5	-	mm
	Package 2	-	11.5 × 6 × 10	-	-
	Package 3	-	12.7 × 10.16 × 6.8	-	-

Electromagnetic Compatibility (EMC)

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

Tolerance Envelope Graph

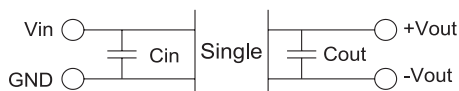


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Recommended Test Circuit



Vin	Cin	Single Vout	Cout
3.3Vdc	4.7μF/25V	3.3Vdc	10μF/16V
5Vdc	4.7μF/25V	5Vdc	10μF/16V
9Vdc	4.7μF/25V	9Vdc	2.2μF/16V
12Vdc	2.2μF/25V	12Vdc	2.2μF/25V
15Vdc	2.2μF/25V	15Vdc	1μF/25V
24Vdc	1μF/50V	24Vdc	1μF/50V

EMC (CLASS B) compliance circuit

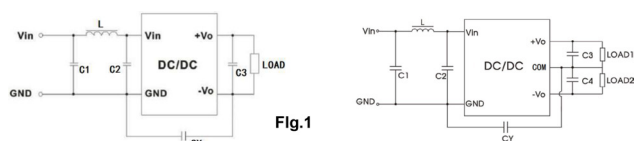
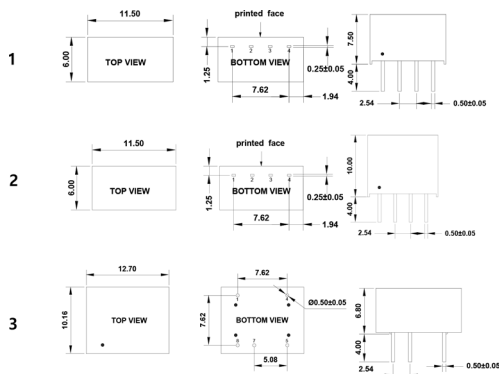


Fig.1

EMC recommended circuit value table

EMI	C1	4.7μF /50V
	C2	4.7μF /50V
	CY	1nF/4kV
	C3, C4	Recommended Test Circuit
	L	6.8μH

Markings and Dimensions



PIN Connection

PIN	1	2	3	4	5	7	8
4Pin	-Vin	+Vin	-Vout	+Vout			
8Pin-S	-Vin			+Vin	+Vout	-Vout	

Part Number Table

Description	Part Number
DC To DC Converter, Isolated, 1W, 200mA, 3Vin, 5Vout	MP13DC-03S05NPH3
DC To DC Converter, Isolated, 1W, 200mA, 5Vin, 5Vout	MP13DC-05S05NPH3
DC To DC Converter, Isolated, 1W, 303mA, 3Vin, 3Vout	MP13DC-03S03N2P
DC To DC Converter, Isolated, 1W, 84mA, 5Vin, 12Vout	MP13DC-05S12N2P
DC To DC Converter, Isolated, 1W, 200mA, 5Vin, 5Vout	MP13DC-05S05N3P
DC To DC Converter, Isolated, 1W, 303mA, 12Vin, 3Vout	MP13DC-12S03N2PH3

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