



## 1MD6A\_1.5UP series

1W - Single Output - Fixed Input - Isolated & Unregulated  
Micro Size DIP Package

### DC-DC Converter

1 Watt

- ⊕ Micro size DIP6 package (8.5 x 8.5 x 7.0mm)
- ⊕ 1500VDC isolation
- ⊕ High efficiency to 82%
- ⊕ High power density 1W output
- ⊕ Short circuit protection
- ⊕ Operating temperature range -40°C to +105°C
- ⊕ Unregulated output types
- ⊕ No-load input current as low as 5mA

The 1MD6A\_1.5UP series and are miniature DC-DC converters that are offering excellent performance. The series comes in a micro DIP6 package, offers high efficiency up to 82% and 1W single output. The 1MD6A\_1.5 series operates at 105°C temperature and 100% load and is widely used for most critical environment and space critical applications.



Common specifications	
Short circuit protection:	Continuous
Temperature rise at full load:	25°C MAX, 15°C TYP
Cooling:	Free air convection
Operation temperature range:	-40°C~+105°C
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	< 95%
Lead temperature range:	300°C MAX, 1.5mm from case for 10 sec
Temperature coefficient:	0.03 %/°C MAX
Switching Frequency:	215kHz
Efficiency at Full Load:	82% MAX
Case material:	DAP
MTBF (MIL-HDBK 217F):	>3500000 Hours
Weight:	1.5g

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Line regulation	For Vin change of 1%		±1.2		%
Load regulation	10% to 100% full load		±10	±15	%
Output voltage accuracy			±5		%
Temperature coefficient	100% full load			0.03	%/°C
Output ripple & noise*	20MHz Bandwidth		30	75	mVp-p

\*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

#### Example:

#### 1MD6A\_0305S1.5UP

1 = 1Watt; MD6 = Micro DIP6; A = Pinout; 03 = 3.3 Vin; 05 = 5Vout;  
S = Single Output; 1.5 = 1500 VDC Isolation; U = Unregulated Output; P = Short Circuit Protection

#### Note:

- All specifications measured at TA = 25°C, humidity < 75%, nominal input voltage and rated output load unless otherwise specified.
- See below recommended circuits for more details.

#### Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	(Tested for 1 sec.)	1500			VDC
Isolation resistance		1000			MΩ
Isolation capacitance	Tested at 100kHz	20		75	pF

#### EMC specifications

EMI	CE	CISPR22/EN55032 CLASS B (see Fig. 1 for recommended circuit)			
EMI	RE	CISPR22/EN55032 CLASS B (see Fig. 1 for recommended circuit)			
EMS	ESD	IEC/EN61000-4-2 Air	Contact ±8KV ±4kV perf. Criteria B		

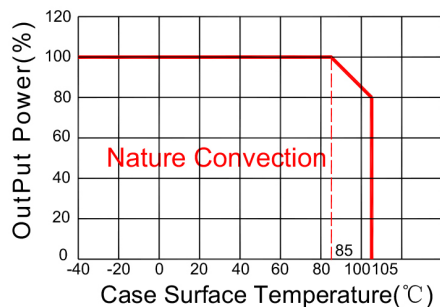
## Product Selection Guide

Part Number	Input Voltage [V]	Output Voltage [VDC]	Current [mA]	Efficiency [%, max]	Max. Capacitive Load [μF]
1MD6A_0305S1.5UP	3.3	5	200	82	2400

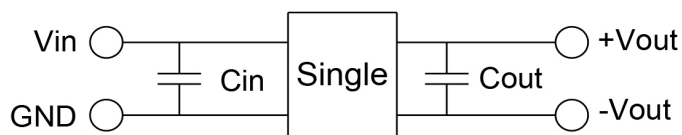
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### Temperature Derating Graph

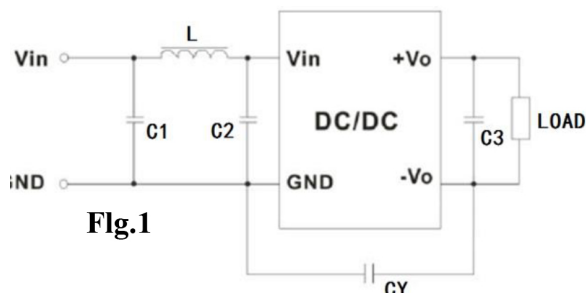


### Recommended Test Circuit



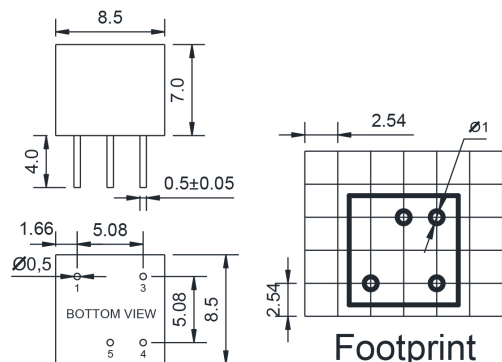
Vin	Cin	Single Vout	Cout
3.3Vdc	4.7µF/25V	5Vdc	10µF/16V

### EMC (CLASS B) compliance



EMC recommended circuit value table		
EMI	C1	4.7µF /50V
	C2	4.7µF /50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8µH

### Mechanical dimensions



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

PIN	1	3	4	5
Single	-Vin	+Vin	+Vout	-Vout