1D14B_3RP series

1W Single Output - Fixed Input - Isolated & Unregulated
DIP PACKAGE

DC-DC Converter 1 Watt

- 1 Watt DIL package
- Efficiency up to 70%
- 100% Burned in
- UL94V-0 Package material
- Custom solutions available
- Regulated output types

The 1D14B_3RP series is specially designed for applications where an isolated voltage is required in a distributed power supply system. They are suitable for: pure digital circuits, low frequency analog circuits, relay-driven circuits and data switching circuits.

Common specifications	
Short circuit protection:	Continuous, self-recovery
Operation temperature:	-40°C – +85°C
Storage temperature:	-55°C – +125°C
Storage humidity:	< 95%
Lead temperature	300°C Max. (1.5mm from case for 10 sec.)
Casing Temperature Rise:	15°C TYP Ta = 25°C
MTBF (MIL-HDBK-217F@25°C):	>3,500,000 hours (Ground Bengin)
Case material:	DAP
Cooling:	Free air convection
Dimensions:	20.32 x 10.16 x 6.08 mm
Weight:	2.3g TYP

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Output Voltage	3.3 VDC				
Output Voltage Accuracy	@Vout= 3.201- 3. 399VDC @Vin: 5VDC		±3%		
Output Current	303 mA				
Line regulation	For Vin change of 1%		±1		%
Load regulation	10%-100% full load			±1	%
Ripple & Noise*	20MHz Bandwidth		30	75	mVp-p
Switching frequency			370		KHz

*The "parallel cable" method is used for Ripple and Noise test, please refer to DC-DC Converter Application Notes for specific information.

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input current (No load/full load)			5VDC		
Input Voltage Range			±5%		

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Input to Output (60 sec/0.5mA)	3000			VDC
Isolation resistance	Input-output resistance at 500VDC	1000			MΩ

EMC specifications		
Emissions	CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
Emissions	RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
Immunity	ESD	IEC/EN61000-4-2 Air 8kV , Contact 4kV perf. Criteria B

Example:
1D14B_0503S3RP
1 = 1Watt; D14 = DIP14; A1 = Pinning; 05 = 5Vin; 03 = 3.3Vout;
S = Single Output; 3 = 3kVDC; R = Regulated Output;
P = Short Circuit Protection

Note:
1. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
2. The maximum capacitive load offered were tested at input voltage range and full load;
3. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75%RH with nominal input voltage and rated output load;
4. All index testing methods in this datasheet are based on our company's corporate standards;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see „Features" and „EMC";
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

Product Selection Guide

Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA]	Efficiency [%, typ]
1D14B_0503S3RP	5 (4.5-5.5)	3.3	303	60%
1D14B_0505D3RP	5 (4.5-5.5)	±5	100	70%

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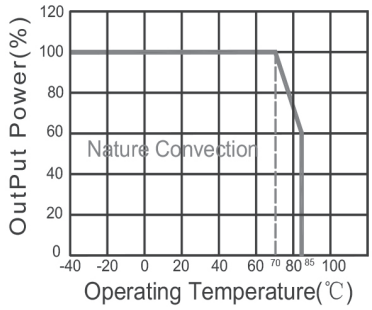
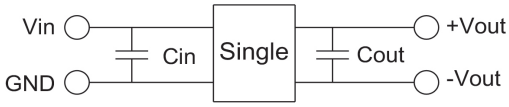
Typical characteristics

Temperature Derating Graph

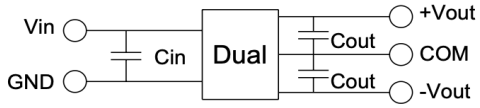


Recommended Test Circuit



To make sure the product work at perfect operation status with full loading external capacitor is necessary and it is recommended to use high frequency low resistance electrolytic capacitor.

Vin (VDC)	Cin (μF)	Vout (VDC)	Cout (μF)
5VDC	4.7μF/25V	3.3VDC	10μF/16V



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Vin (VDC)	Cin (μF)	Vout (VDC)	Cout (μF)
5VDC	4.7μF/25V	±5VDC	10μF/16V

EMC solution-recommended circuit

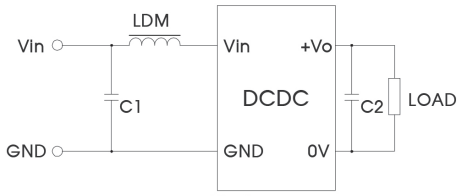


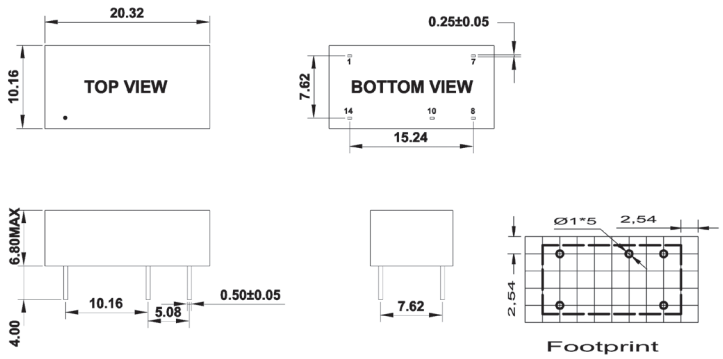
Fig. 4

EMC recommended circuit value table

	C1	4.7μF /25V
	C2	4.7μF /25V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	LDM	6.8μH

Mechanical dimensions

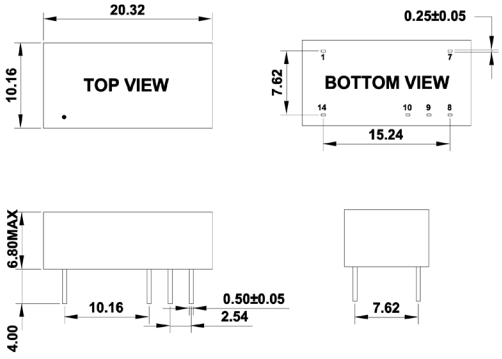
Single Output



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

PIN	1	7	8	10	14
Single	-Vin	NC	+Vout	-Vout	+Vin

Dual Output



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

PIN	1	7	8	9	10	14
Single	-Vin	NC	+Vout	COM	-Vout	+Vin