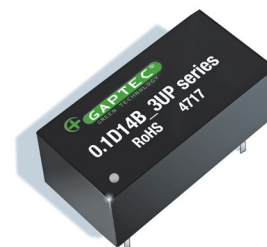


0.1D14B_3UP Series

0.1W - Single/Dual Output - Fixed Input - Isolated & Unregulated
 MINIATURE SIP PACKAGE



DC-DC Converter

0.1 Watt

- ⊕ Efficiency up to 83%
- ⊕ Small footprint from 1.17cm²
- ⊕ SIP package
- ⊕ Single/dual output voltage
- ⊕ 3KVDC isolation
- ⊕ Temperature range: -40°C~+105°C
- ⊕ Industry standard pinout
- ⊕ UL94-V0 package
- ⊕ No heat sink required
- ⊕ Power density 0.85W/cm³
- ⊕ RoHS compliance



The 0.1D14B_3UP Series are specially designed for applications where a single power supply is isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

- 1) Where the voltage of the input power supply is fixed (voltage variation $\leq \pm 10\%$);
- 2) Where isolation is necessary between input and output (isolation voltage = 3000VDC)
- 3) Where the regulation of the output voltage and the output ripple and noise are not demanding, such as: purely digital circuits, ordinary low frequency analog circuits and IGBT power device driven circuits, etc.

Common specifications

Short circuit protection:	Continuous, automatic recovery
Temperature rise at full load:	25°C MAX, 15°C TYP
Cooling:	Free air convection
Operation temperature range:	-40°C~+105°C Derating if the temperature $\geq 85^\circ\text{C}$
Storage temperature range:	-55°C ~+130°C
Storage humidity range:	95% MAX
Lead temperature:	300°C, 1.5mm from case for 10 seconds
Case material:	Plastic [UL94-V0]
MTBF (MIL-HDBK-217F@25°C):	>3,500,000 hours
Weight:	2.11g

Input specifications

Item	Test condition	Min	Typ	Max	Units
Voltage range	• 3.3V input types	2.9	3.3	3.6	V
	• 5V input types	4.4	5	5.6	V
	• 12V input types	11	12	13.3	V
	• 15V input types	13.4	15	16.4	V

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Input to Output (1sec)	3000			VDC
Isolation resistance	Test at 1000VDC	1			GΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Rated power				0.1	W
Line regulation	High Vin to low Vin			1.32	%
Load regulation	10% to 100% full load • 3.3V/5V types • Other			8	%
				6	%
Output voltage accuracy	See tolerance envelope				
Temperature drift	100% full load			± 0.03	%/°C
Ripple & Noise	20MHz Bandwidth			75	mVp-p
Switching frequency	Full load, nominal input • 3.3V input types • 5V input types • 12V input types • 15V input types		95		KHz
			120	140	KHz
			145	180	KHz
			90	180	KHz

Example:

0.1D14B_2405S3UP

0.1= 0.1Watt; D14= DIP14; B= Pinning; 24Vin; 5Vout; S= Single Output;
 3=3kVDC; U= Unregulated Output; P= Short Circuit Protection

Note:

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

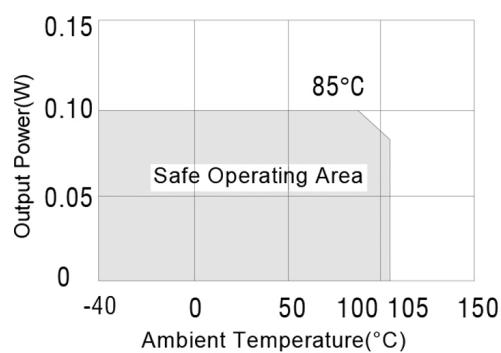
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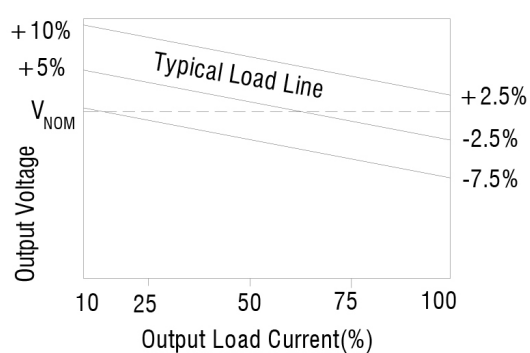
Part Number	Input Voltage [V]	Output Voltage [VDC]	Output current [mA; max]	Efficiency [%; typ]
0.1D14B_0303S3UP	3.3	3.3	30.3	72
0.1D14B_0305S3UP	3.3	5	20	72
0.1D14B_0505S3UP	5	5	20	72
0.1D14B_0509S3UP	5	9	11.1	75
0.1D14B_0512S3UP	5	12	8.3	76
0.1D14B_0515S3UP	5	15	6.7	78
0.1D14B_1205S3UP	12	5	20	72
0.1D14B_1209S3UP	12	9	11.1	75
0.1D14B_1212S3UP	12	12	8.3	77
0.1D14B_1215S3UP	12	15	6.7	78
0.1D14B_0505D3UP	5	±5	±10	72
0.1D14B_0509D3UP	5	±9	±5.55	77
0.1D14B_0512D3UP	5	±12	±4.15	78
0.1D14B_0515D3UP	5	±15	±3.35	80
0.1D14B_1205D3UP	12	±5	±10	72
0.1D14B_1209D3UP	12	±9	±5.55	74
0.1D14B_1212D3UP	12	±12	±4.15	76
0.1D14B_1215D3UP	12	±15	±3.35	77

Typical characteristics

Temperature derating graph



Tolerance envelope graph



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Technical drawing of a PCB layout showing top and bottom views with dimensions.

Top View Dimensions:

- Overall width: 19.50
- Overall height: 9.80
- Bottom section height: 6.80 *
- Bottom section width: 3.60
- Bottom section width: 4.60
- Bottom section width: 2.54
- Bottom section width: 0.55
- Bottom section width: 0.45

Bottom View Dimensions:

- Overall width: 15.24
- Overall height: 7.62
- Left side width: 2.13
- Left side width: 1.09
- Left side width: 0.20
- Left side width: 0.30
- Bottom section width: 1.4
- Bottom section width: 1.0
- Bottom section width: 0.8
- Bottom section width: 0.7
- Bottom section width: 0.6
- Bottom section width: 0.5
- Bottom section width: 0.4
- Bottom section width: 0.3
- Bottom section width: 0.2
- Bottom section width: 0.1

Labels:

- bottom view
- 1
- 7
- 14
- 10
- 9
- 8

Dual output variants	
14 PIN DIP	
Pin	Function
1	-Vin
7	NC
8	+Vout
9	0V
10	-Vout
14	+Vin

Note:
Unit: mm
General tolerances: $\pm 0.25\text{mm}$
Pin not fitted on single output variants.
*7.70for 48V variants
All pins on a 2.54mm pitch and within $\pm 0.25\text{mm}$ of true position.

Technical drawing of a DIP package showing dimensions and hole specifications. The drawing includes a grid with dimensions 2.54 and 2.54. A dashed rectangle indicates the footprint. A callout specifies hole dimensions: $\varnothing 1.15$ and $\varnothing 1.00$. The text "6 HOLES" is present.

14Pin DIP Tube

Technical drawing of a 14Pin DIP Tube showing dimensions: 12.00, 14.50, 5.00, 5.10, and 0.65.

Note:
Tube length: 520mm $\pm$ 2mm.
Tube Quantity : 25

Unless otherwise stated all dimensions in mm ± 0.5 mm.