GAPTEC®
GREEN TECHNOLOGY

1D14A_DS3UP Series

1W - Dual Separate Output - Fixed Input - Isolated & Unregulated
DIP PACKAGE

DC-DC Converter 1 Watt

- **14PIN DIP package**
- **Efficiency up to 80%**
- **Temperature range: -40°C ~ +85°C**
- **No external component required**
- **Short circuit protection (SCP)**
- **3KVDC isolation**
- **Internal SMD construction**
- **Unregulated output types**
- **Industry standard pinout**
- **RoHS compliance**
- **Dual separate isolated outputs**

The 1D14A_DS3UP Series are miniature, isolated 1W DC/DC-converters with twin output voltage in a DIP package. They offer the ideal solution in many space critical applications for board level power distribution. The internal SMD construction makes it possible to offer a product with high performance at low cost. The series offers smaller size, improved efficiency, lower output ripple noise and 3KVDC isolation.

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 – +85°C
Storage temperature range:	-55°C – +130°C
Lead temperature:	300°C (1.5mm from case for 10 sec.)
Storage humidity range:	< 95%
Case material:	Plastic [UL94-V0]
MTBF:	>3,500,000 hours
Weight:	2.3g

Input specifications

Item	Test condition	Min	Typ	Max	Units
Voltage range	• 5V input types • 12V input types	4.5 11	5 12	5.5 13	V V
Voltage tolerance	Vo, Io nom			±5	%
Filter	Capacitor				

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute	3000			VDC
Isolation resistance	Test at 1000VDC	1			GΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Voltage tolerance	100% full load			±5	%
Line regulation	For Vin change of ±1%		1.0	1.2	%
Load regulation	10% to 100% full load • 3.3V/5V • 9V/12V/15V			 14 9	 % %
Temperature drift	100% full load			±0.03	%/°C
Ripple & Noise	20MHz Bandwidth		75	100	mVp-p
Switching frequency	Full load, nominal input		110		KHz

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

Model selection:
WCTP_xxyyN##O**
W=Watt; **C=** Case; **T=**Type; **P=**Pinning; ****=** Voltage Variation (omitted ± 10%); **xx=** Vin; **yy=** Vout; **N=** Numbers of Output; **##=** Isolation (kVDC); **O=** output regulation

Example:
1D14A_050503DS3UP
1=1Watt; D14= DIP14; A=Pinning; 5Vin; 5Vout1; 3.3Vout2
DS= Dual Separate Output; 3=3kVDC; U=Unregulated Output;
P= Short circuit protection

Note:
1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
2. All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
3. This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300°C for 10 seconds. DIP types in this series are backward compatible with Sn/Pb soldering systems.
4. In this datasheet, all the test methods of indications are based on corporate standards.
5. Only typical models listed, other models may be different, please contact our technical person for more details.

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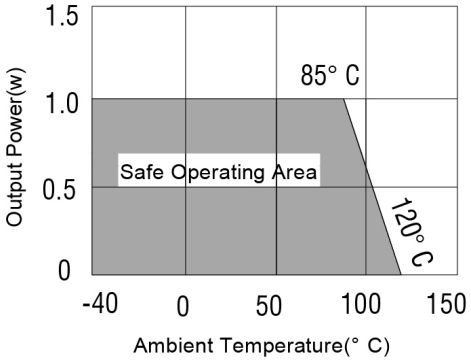
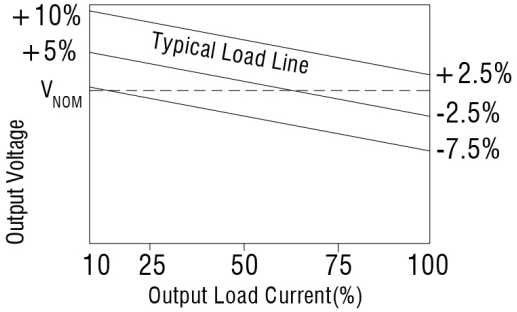
Part Number	Input Voltage [V]	Output Voltage 1 [VDC]	Output Voltage 2 [VDC]	Output Current 1 [mA]	Output Current 2 [mA]	Efficiency [%, max]	Package Style
1D14A_050503DS3UP	5	5	3.3	100	151	69	DIP
1D14A_050505DS3UP	5	5	5	100	99	70	DIP
1D14A_050509DS3UP	5	5	9	100	55	79	DIP
1D14A_050512DS3UP	5	5	12	100	41	80	DIP
1D14A_050515DS3UP	5	5	15	100	35	79	DIP
1D14A_120505DS3UP	12	5	5	100	99	70	DIP
1D14A_120509DS3UP	12	5	9	100	55	80	DIP
1D14A_120512DS3UP	12	5	12	100	41	80	DIP
1D14A_120515DS3UP	12	5	15	100	35	79	DIP

Typical characteristics

Temperature derating graph

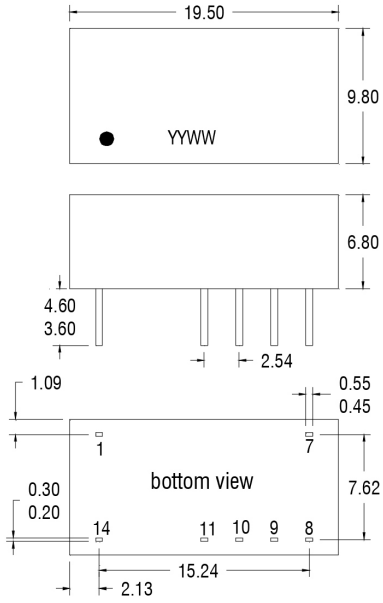


Tolerance envelope graph



Mechanical Dimensions

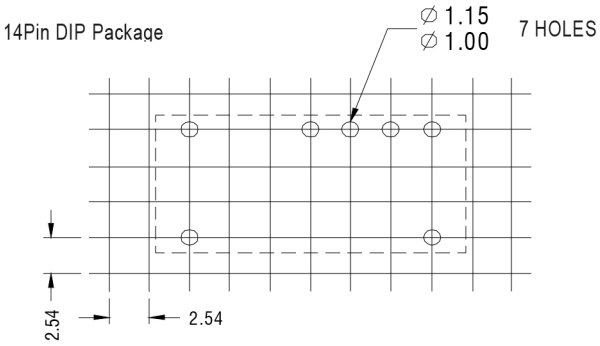
DIP Package



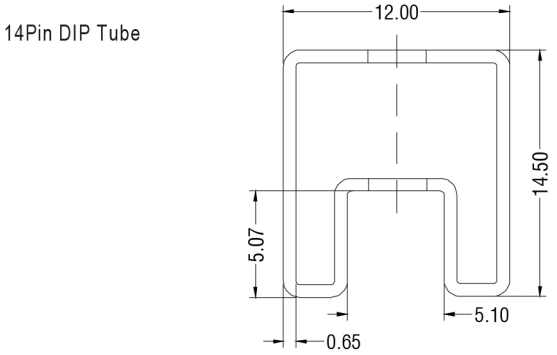
PIN CONNECTIONS-14PIN DIP	
Pin	Function
1	-Vin
7	NC
8	-Vout2
9	+Vout2
10	-Vout1
11	+Vout1
14	+Vin

All dimensions in mm ±0.25mm. All pins on a 2.54mm pitch and within ±0.25mm of true position.
Weight: 2.3g

Recommended footprint



Tube outline dimensions



Unless otherwise stated all dimensions in mm ±0.5mm.
Tube length (14 Pin DIP) :520mm ±2mm Tube Quantity : 25