GAPTEC®
GREEN TECHNOLOGY

2S8WE_1RP Series

2W - Single Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 2 Watt

- Wide 2:1 input voltage range
- Efficiency up to 80%
- Regulated output types
- I/O Isolation 1KVDC
- Internal SMD construction
- Operating temperature range: -40°C to +85°C
- Continuous short circuit protection (SCP)
- Industry standard pinout

The 2S8WE_1RP series is a family of cost effective 2W single output DC-Dc converters, specially designed for applications where a wide range input voltage power supplies are 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 wide range (voltage range≤2:1)
2) Where isolation is necessary between input and output (isolation voltage≤1000VDC)
3) Where the regulation of the output voltage and the output ripple noise are demanded

Common specifications	
Short circuit protection:	Continuous
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Operating case temperature:	100°C max.
Storage temperature range:	-40°C ~+125°C
Storage humidity range:	< 95%
Soldering temperature:	260°C max, 1.5mm from case for 10 sec
Switching frequency:	100~650kHz
Temperature coefficient:	0.02%/°C typ.
Case material:	Non-conductive black plastic [UL94-V0]
Potting material:	Epoxy [UL94-V0]
MTBF (MIL-HDBK-217F):	>1500000 hours
Weight:	4.5g
Dimensions:	21.8x9.2x11.1mm

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input filter	Capacitor				

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Output voltage accuracy	Nominal Vin and full load			±3	%
Line regulation	Vin=min to max,full load			±0.5	%
Load regulation	20% to 100% full load			±0.8	%
Ripple & Noise	20MHz Bandwidth • 5V-9V models • 12V-24V models			 100 1% of Vout	 mVp-p
Transient response setting time	50% load step change		350		ms

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage		1000			VDC
Isolation resistance	500VDC, input to output	1000			MΩ

Example:
2S8WE_0505S1RP
2=2Watt; S8= SIP8; W=wide input (2:1); E= cost effective; 5 - 9Vin; 5Vout; S= Single output; 1= 1000VDC; R= Regulated 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. Capacitive load: test by nominal input voltage and constant resistor load.
3. Exceeding the absolut ratings of the unit could cause damage. It is not allowed for continuous operating.
4. In this datasheet, all the test methods of indications are based on corporate standards.

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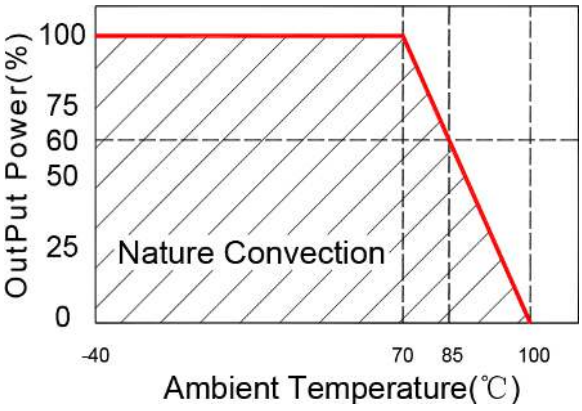
DC-DC Converter

Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA, max]	Efficiency [%, typ]
2S8WE_0505S1RP	5-9	5	400	65
2S8WE_0509S1RP	5-9	9	222	70
2S8WE_0512S1RP	5-9	12	167	70
2S8WE_0515S1RP	5-9	15	133	70
2S8WE_0524S1RP	5-9	24	83	70
2S8WE_1205S1RP	9-18	5	400	70
2S8WE_1209S1RP	9-18	9	222	80
2S8WE_1212S1RP	9-18	12	167	80
2S8WE_1215S1RP	9-18	15	133	80
2S8WE_1224S1RP	9-18	24	83	80
2S8WE_2405S1RP	18-36	5	400	75
2S8WE_2409S1RP	18-36	9	222	80
2S8WE_2412S1RP	18-36	12	167	80
2S8WE_2415S1RP	18-36	15	133	80
2S8WE_2424S1RP	18-36	24	83	80
2S8WE_4805S1RP	36-72	5	400	70
2S8WE_4809S1RP	36-72	9	222	80
2S8WE_4812S1RP	36-72	12	167	80
2S8WE_4815S1RP	36-72	15	133	80
2S8WE_4824S1RP	36-72	24	83	80

Typical characteristics

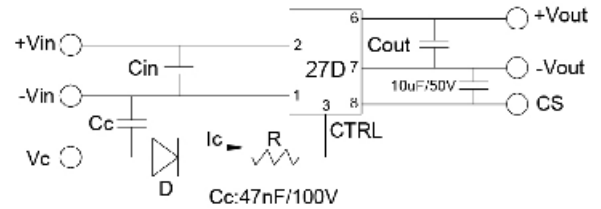
Temperature derating graph

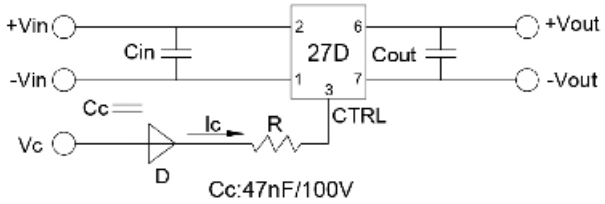


Recommended test circuit

When open or high impedance, the converter works well; when this pin is ‚high', the converter shut down. It should be note that the input current should be between 5-10mA, exceeding the maximum 20mA will cause permanent damage to the converter.

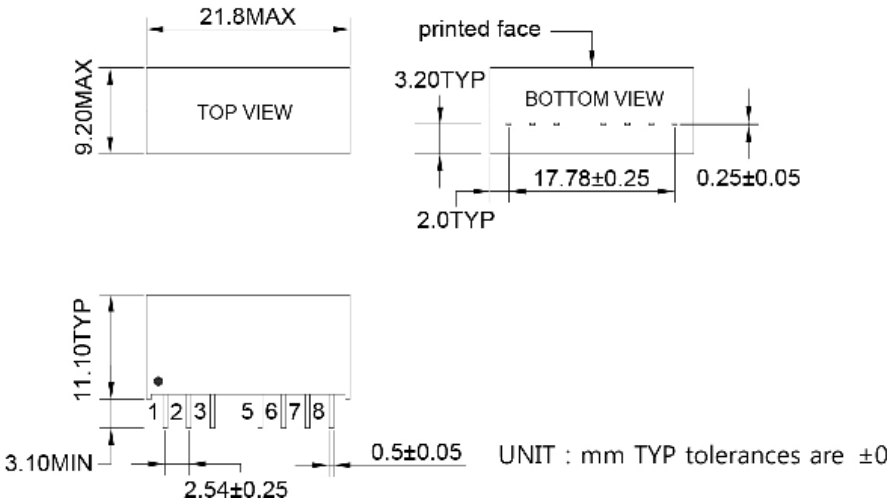
To make sure the product work at perfect operation status with full loading external capacitor is necessary and it is recommended to use high frequency low resistance electrolytic capacitor.





5V:Cin 10uF,25V	5V :Cout 100uF/25V
12V:Cin 10uF,50V	9V :Cout 100uF/25V
24V:Cin 10uF,100V	12V:Cout 100uF/25V
48V:Cin 10uF,100V	15V:Cout 100uF/50V
	24V:Cout 100uF/50V

Mechanical specifications



Pin number	Single
1	-Vin
2	+Vin
3	Ctrl-Control input can (can be left open)
5	NE-No external connection allowed
6	+Vout
7	-Vout
8	CS Optional External capacitor