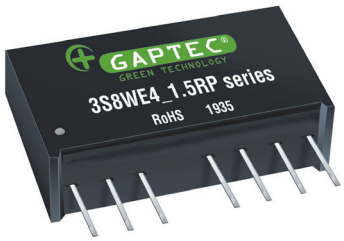
3S8EW4_1.5RP Series

3W - Single Output - Wide Input - Isolated & Regulated DC-DC Converter



DC-DC Converter 3 Watt

- 4:1 wide input voltage range
- 1.5KVDC isolation
- Short circuit protection (SCP) with current foldback
- Regulated output types
- Efficiency up to 80%
- Internal SMD construction
- Operating temperature: -40°C to +85°C
- Low ripple and noise
- RoHS compliance
- Industry standard pinout

The 3S8EW4_1.5RP Series series are isolated 3W DC-DC products with 4:1 input voltage and conventional voltage output. The product has a relatively compact SIP plastic package, and features high efficiency, operating temperature of -40°C~+85°C. The smaller size and fine cost design make the converter an ideal solution in communication, instruments, and industrial electronics applications.

These products apply to:
1) Where the voltage of the input power supply is wide range (voltage range≤4:1)
2) Where isolation is necessary between input and output (isolation voltage≤1500VDC)
3) Where the regulation of the output voltage and the output ripple noise are demanded

Common specifications	
Short circuit protection:	Continuous, automatic recovery
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Storage temperature range:	-40°C ~+100°C
Lead temperature range:	250±10°C / 5sec. MAX
Storage humidity range:	< 95%
Case material:	Plastic [UL94-V0]
MTBF (MIL-HDBK-217F@25°C):	>1,500,000 hours
Weight:	4.5g
Dimensions:	21.8x9.2x11.1mm

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input filter	Filter capacitor				

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute, leakage current less than 1 mA	1500			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Voltage tolerance	100% full load			±3	%
Line regulation	Regulated			±0.5	%
Load regulation	Regulated			±0.8	%
Temperature coefficient	100% load		±0.02	±0.03	%/°C
Ripple&Noise*	20MHz bandwidth • 5V-9V types • 12-15V types			 100 1% of Vout	 mVp-p mVp-p
Transient response setting time	50% load step change		350		µs
Switching frequency	Full load, nominal input		100		KHz

Example:
3S8EW4_2405S1.5RP
3= 3Watt; S8= SIP8; E= Cost effective; W4= wide input; 9-36Vin; 5Vout; S= Single Output; 1.5= 1500VDC; R= Regulated Output; P= Short Curcuit Protection

Note:
1. All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all test methods are based on our corporate standards.
3. All characteristics are for listed models, and non-standard models may perform differently. Please contact our technical support for more details.
4. Please contact our technical support for any specific requirement.
5. Specifications of this product are subject to changes without prior notice.

GAPTEC-Electronic GmbH & Co. KG
sales@gaptec-electronic.com – www.gaptec-electronic.com

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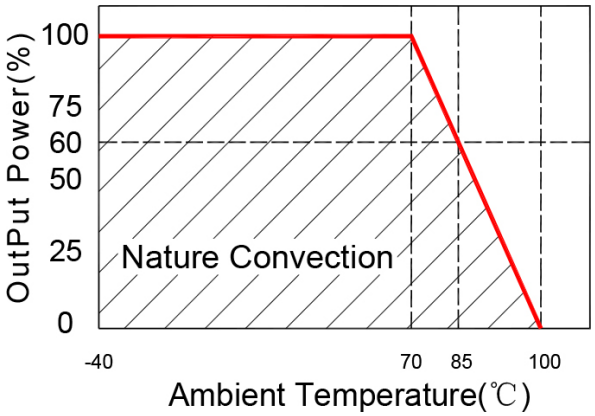
DC-DC Converter

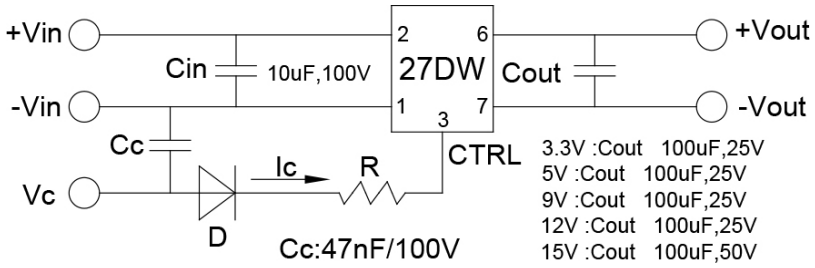
Part Number	Input Voltage [VDC] Nominal	Range	Output Voltage [VDC]	Output Current [mA; max]	Efficiency [%, Typ.]
3S8EW4_2403S1.5RP	24	9-36	3.3	700	68
3S8EW4_2405S1.5RP	24	9-36	5	600	70
3S8EW4_2409S1.5RP	24	9-36	9	333	75
3S8EW4_2412S1.5RP	24	9-36	12	250	78
3S8EW4_2415S1.5RP	24	9-36	15	200	80
3S8EW4_4803S1.5RP	48	18-75	3.3	700	68
3S8EW4_4805S1.5RP	48	18-75	5	600	70
3S8EW4_4809S1.5RP	48	18-75	9	600	75
3S8EW4_4812S1.5RP	48	18-75	12	250	78
3S8EW4_4815S1.5RP	48	18-75	15	200	80
3S8EW4_2405D1.5RP	24	9-36	±5	±300	70
3S8EW4_2409D1.5RP	24	9-36	±9	±167	75
3S8EW4_2412D1.5RP	24	9-36	±12	±125	78
3S8EW4_2415D1.5RP	24	9-36	±15	±100	80
3S8EW4_4805D1.5RP	48	18-75	±5	±300	70
3S8EW4_4809D1.5RP	48	18-75	±9	±167	75
3S8EW4_4812D1.5RP	48	18-75	±12	±125	78
3S8EW4_4815D1.5RP	48	18-75	±15	±100	80

Typical characteristics

Temperature derating graph

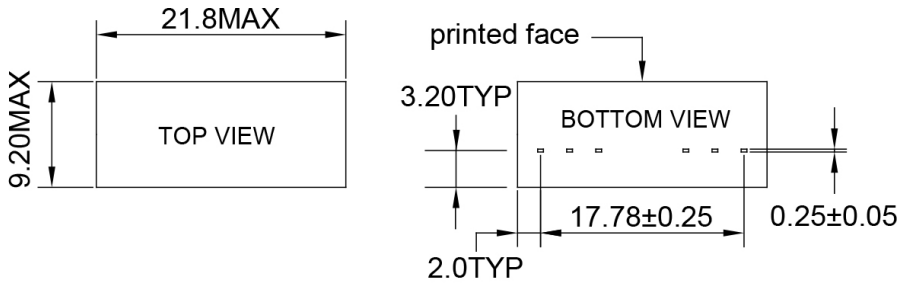


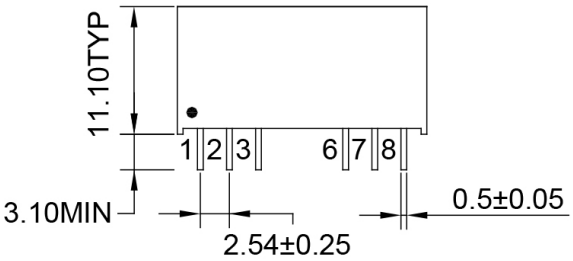
Recommended test circuit



1. 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.
2. 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.

Mechanical dimensions





Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	Ctrl-Control input can (can be left open)	Ctrl-Control input can (can be left open)
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout