



3S6W4_1.6RP series

3W - Single/Dual Outputs - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 3 Watt

- ⊕ Wide 4:1 input voltage range
- ⊕ Operating temperature range -40°C to +75°C
- ⊕ High efficiency up to 86%
- ⊕ 3W single and dual outputs
- ⊕ I/O isolation 1.6kVDC and 3kVDC option
- ⊕ Continuous short circuit protection remote ON/OFF
- ⊕ Control for single output only

The 3S6W4_1.6RP series is an excellent performance and high power density design, Wide 4:1 input voltage ranges: 4.5V-18V,9V-36V and 18V-75V. The highest efficiency allows -40°C to +75°C operating temperatures. The very low stand-by (no-load)input power consumption 50mW typ,makes them an ideal solution for application in battery-powered equipment and instrumentation.



Common specifications	
Short circuit protection:	Continuous
Operation temperature range:	-40°C to +75°C
Case temperature:	100°C MAX
Storage temperature range:	-55°C ~+125°C
Lead Temperature	300°C max. 1.5mm from case for 10 sec
Storage humidity range:	< 95%
Operating Frequency	150kHz Min
MTBF:	>1310000 hours (MIL-HDBK-217F@25°C) >187000 hours (MIL-HDBK-217F@71°C)
Packing Quantity	30 pcs per Tube
Potting Material	Epoxy [UL94-V0]
Case material:	Non-conductive black plastic [UL94-V0]
Weight:	3.5g
Dimension:	17 x 9.2 x 11.7mm

Output specifications						
Item	Test condition	Min	Typ	Max	Units	
Voltage accuracy	Nominal Vin and full load		±2		%	
Line regulation	Vin=min to max,full load		±0.5		%	
Load regulation	20% to 100% load		±0.5		%	
Temperature coefficient	- 40°C to +85°C ambient		0.015		%/°C	
Ripple&Noise	20MHz bandwidth		60		mVp-p	
No Load Power Consumption		50		150	mW	
Operating Frequency		150			kHz	

Example:

3S6W4_1205S1.6RP

3 = 3Watt; S6 = SIP6; W4 = 4:1 Wide input; 4.5-18Vin; 12 = 12Vout; S = Single Output; 1.6 = 1600VDC isolation; R = Regulated Output; P = Short Circuit Protection

Note:

1. Recommended used in more than 5% load, if the load is lower than 5%, then the ripple index of the product may exceed the specification, but does not affect the reliability of the product;
2. The max. capacitive load should be tested within the input voltage range and under full load conditions;
3. Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta = 25°C, humidity <75%RH, when inputting nominal voltage and outputting rated load;
4. All index testing methods in this datasheet are based on our Company's corporate standards;
5. We can provide product customization service;
6. Specifications of this product are subject to changes without prior notice.

Input specifications						
Item	Test condition	Min	Typ	Max	Units	
Input Voltage Range	4.5-18V,9-36V, 18-75V			4:1		
Input filter	Capacitor					
Remote on/off	• ON (leave open if not used) • OFF (Series a 1KΩ Resistor)	2	Open	4	mA	

Isolation specifications						
Item	Test condition	Min	Typ	Max	Units	
Isolation voltage	1 second	1600			VDC	
Isolation resistance	500VDC, input to output	1500			MΩ	
Isolation capacitance	100KHz tested			30	pF	

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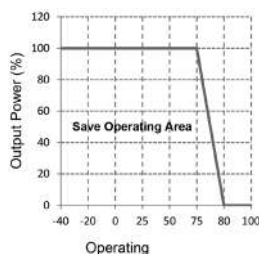
Product Selection Guide

Part Number	Input Voltage [VDC]		Output Voltage [VDC]	Output Current [mA, Max]	Capacitive load [μ F, Max.]	Efficiency [%, Typ.]
	Nominal	Range				
3S6W4_1203S1.6RP	12	4.5-18	3.3	600 mA	1000 μ F	78%
3S6W4_1205S1.6RP	12	4.5-18	5	600 mA	1000 μ F	82%
3S6W4_1212S1.6RP	12	4.5-18	12	250 mA	470 μ F	85%
3S6W4_1215S1.6RP	12	4.5-18	15	200 mA	330 μ F	85%
3S6W4_2403S1.6RP	24	9-36	3.3	600 mA	1000 μ F	79%
3S6W4_2405S1.6RP	24	9-36	5	600 mA	1000 μ F	83%
3S6W4_2412S1.6RP	24	9-36	12	250 mA	470 μ F	85%
3S6W4_2415S1.6RP	24	9-36	15	200 mA	330 μ F	85%
3S6W4_4803S1.6RP	48	18-75	3.3	600 mA	1000 μ F	80%
3S6W4_4805S1.6RP	48	18-75	5	600 mA	1000 μ F	83%
3S6W4_4812S1.6RP	48	18-75	12	250 mA	470 μ F	85%
3S6W4_4815S1.6RP	48	18-75	15	200 mA	330 μ F	85%

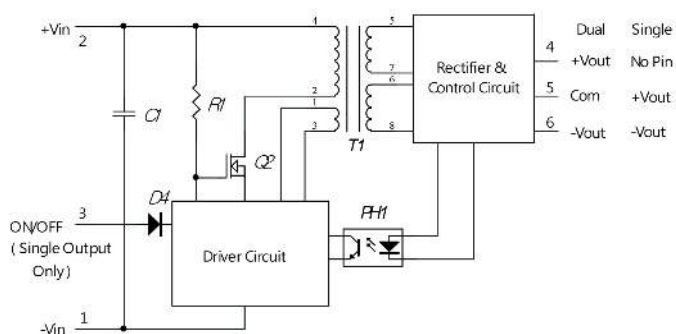
Part Number	Input Voltage [VDC]		Output Voltage [VDC]	Output Current [mA, Max]	Capacitive load [μ F, Max.]	Efficiency [%, Typ.]
	Nominal	Range				
3S6W4_1205D1.6RP	12	4.5-18	\pm 5	\pm 300 mA	\pm 470 μ F	82%
3S6W4_1212D1.6RP	12	4.5-18	\pm 12	\pm 125 mA	\pm 100 μ F	84%
3S6W4_1215D1.6RP	12	4.5-18	\pm 15	\pm 100 mA	\pm 47 μ F	85%
3S6W4_2405D1.6RP	24	9-36	\pm 5	\pm 300 mA	\pm 470 μ F	84%
3S6W4_2412D1.6RP	24	9-36	\pm 12	\pm 125 mA	\pm 100 μ F	86%
3S6W4_2415D1.6RP	24	9-36	\pm 15	\pm 100 mA	\pm 47 μ F	86%
3S6W4_4805D1.6RP	48	18-75	\pm 5	\pm 300 mA	\pm 470 μ F	83%
3S6W4_4812D1.6RP	48	18-75	\pm 12	\pm 125 mA	\pm 100 μ F	85%
3S6W4_4815D1.6RP	48	18-75	\pm 15	\pm 100 mA	\pm 47 μ F	85%

Please note: For B-Pinning please add „B*“ as suggested: For example: 3S6BW4_1.6RP

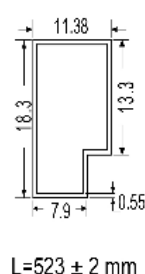
Typical Characteristic Curves



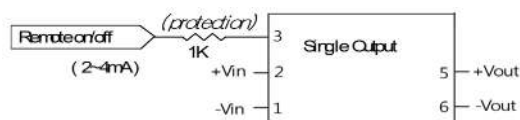
Functional Block Diagram



Tube Outline Dimensions (mm)



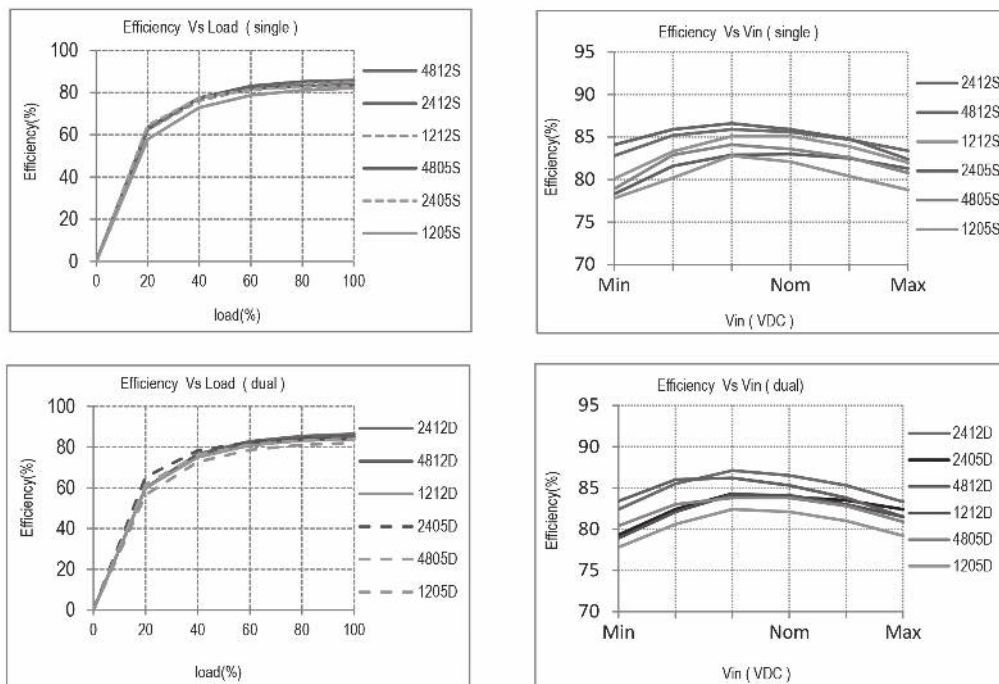
Remote On/ Off Control



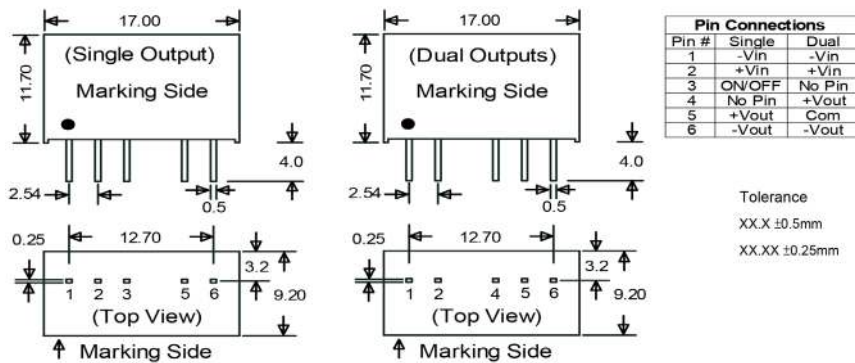
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Efficiency



Package style and pinning (standard pinning)



Package style and pinning (B-pinning)

