

9S8W4E_1.6RP series

9W - Single Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 9 Watt

- + **Wide input voltage range (4:1)**
High efficiency up to 89%
- + **Operating temperature range:**
-40°C to +100°C
- + **Isolation voltage: 1.6kVDC**
- + **Meets UL62368, EN62368 standards**
- + **Short circuit protection (SCP)**
- + **Internal SMD construction**
- + **International standard pin-out**

The 9S8W4E_1.6RP series offers an excellent performance and high power density design. Wide 4:1 input voltage ranges: 9V-36V, 18-75V.

It features efficiency up to 89%, 1600VDC isolation, operating temperature of -40°C to +100°C, short circuit protection and industry standard pinout, which make it widely applied in medical care, industrial control, electric power, instruments and communication fields.



Common specifications	
Short circuit protection:	Continuous, automatic recovery
Cooling:	Free air convection
Operation temperature range:	-40°C~+100°C, with derating
Operation case temperature:	+110°C MAX
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	95% MAX, without condensing
Pin welding resistance temperature:	300°C MAX, 1.5mm from case for 10 sec
Vibration:	10-150Hz, 5G, 0.75mm. along X, Y and Z
Switching Frequency:	Single: 400kHz TYP Dual: 500kHz TYP
Case material:	Flame-retardant, heat-resistant black plastic [UL94-V0]
MTBF (MIL-HDBK 217F @25°C):	2696 x 10 ⁶ hours
Weight:	4.8g
Dimensions:	21.8*9.2*11.1 mm

Output specifications						
Item	Test condition	Min	Typ	Max	Units	
Voltage accuracy	5%-100% load		±1	±2	%	
Line regulation		-0.5		+0.5	%	
Load regulation	5% to 100% full load					
	• Single output	-1.0		+1.0	%	
	• Dual output	-5.0		+5.0	%	
Transient response setting time	25% load step change		250		µs	
Temperature coefficient	full load			±0.03	%/°C	
Ripple & Noise	20MHz Bandwidth					
	• output: 3-10V types			100	mVp-p	
	• output: >10V types			1% of Vout	mVp-p	

Input specifications						
Item	Test condition	Min	Typ	Max	Units	
Input current (no load)	• 24V output • 48V output		9 4		mA	
Input filter	Capacitance filter					

Isolation specifications						
Item	Test condition	Min	Typ	Max	Units	
Isolation voltage			1600		VDC	
Isolation resistance	500VDC	1000			MΩ	

Example:

9S8W4E_2405S1.6RP

9 = 9Watt; S8 = SIP8; W4 = wide input 4:1; 9-36Vin; E = Eco Series; 24 = 24 Vin; 05 = 5Vout; S = Single Output; 1.6 = 1600VDC isolation; R = Regulated Output; P = Short Circuit Protection

Note:

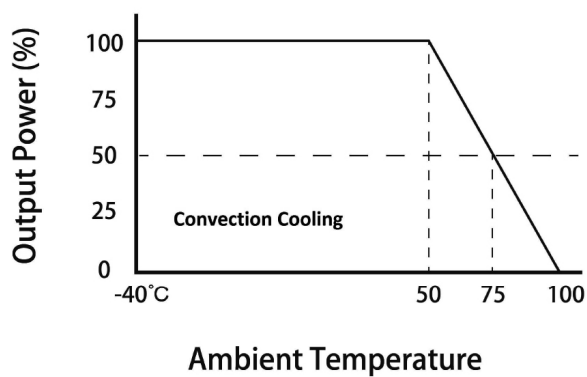
- All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
- In this datasheet, all the test methods of indications are based on corporate standards.

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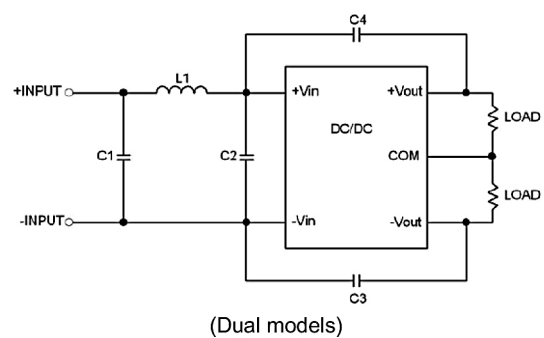
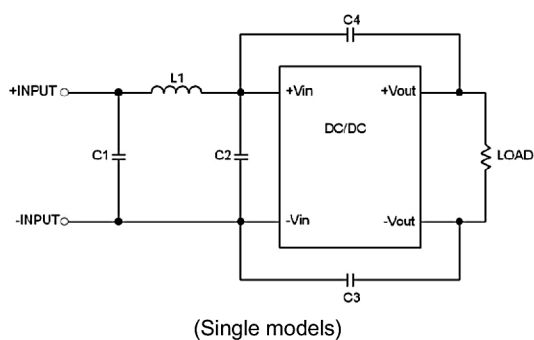
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Part Number	Nominal	Input Voltage [VDC]		Output Voltage [VDC]	Output Current [mA, max.]	Efficiency [%, typ.]
		Range	Max			
9S8W4E_2403S1.6RP	24	9-36	40	3.3	2000	82
9S8W4E_2405S1.6RP	24	9-36	40	5	1600	85
9S8W4E_2409S1.6RP	24	9-36	40	9	1000	88
9S8W4E_2412S1.6RP	24	9-36	40	12	750	88
9S8W4E_2415S1.6RP	24	9-36	40	15	600	89
9S8W4E_2424S1.6RP	24	9-36	40	24	375	89
9S8W4E_4803S1.6RP	48	18-75	80	3.3	2000	82
9S8W4E_4805S1.6RP	48	18-75	80	5	1600	85
9S8W4E_4809S1.6RP	48	18-75	80	9	1000	89
9S8W4E_4812S1.6RP	48	18-75	80	12	750	89
9S8W4E_4815S1.6RP	48	18-75	80	15	600	89
9S8W4E_4824S1.6RP	48	18-75	80	24	375	89
9S8W4E_2405S1.6RP	24	9-36	40	±5	±800	86
9S8W4E_2412S1.6RP	24	9-36	40	±12	±375	88
9S8W4E_2415S1.6RP	24	9-36	40	±15	±300	88
9S8W4E_4805S1.6RP	48	18-75	80	±5	±800	85
9S8W4E_4812S1.6RP	48	18-75	80	±12	±375	88
9S8W4E_4815S1.6RP	48	18-75	80	±15	±300	87

Typical characteristics



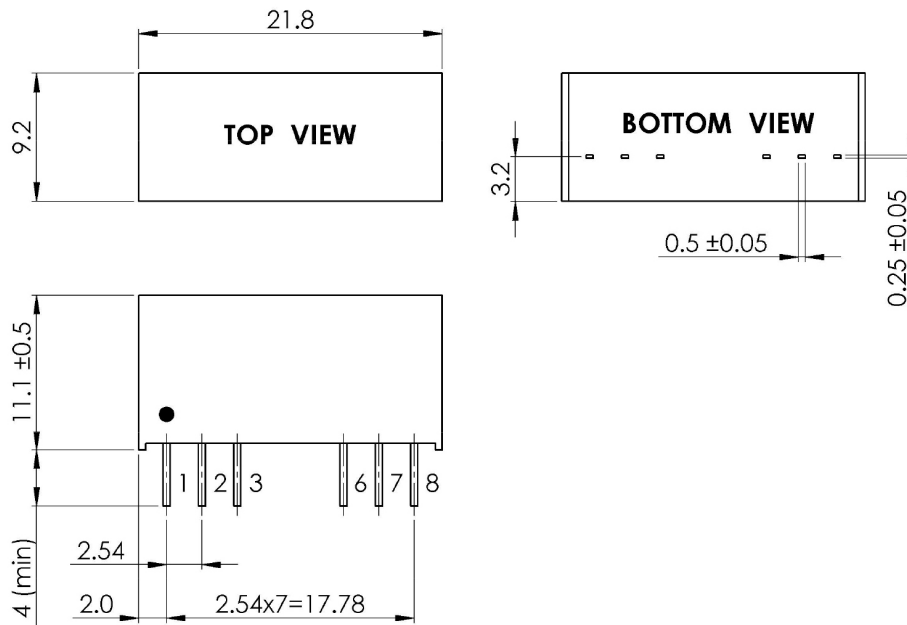
Recommended circuit



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Mechanical dimensions



Unit : mm
Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

Pin connections		
Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	Ctrl	Ctrl
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout