

9S8W4_1.6RP Series

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

DC-DC Converter

6 Watt

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

The 9S8W4_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 them 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

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

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 the test methods of indications are based on corporate standards.

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			100	mVp-p
	• output: 3-10V types			1% of Vout	mVp-p
	• output: >10V types				

Isolation specifications

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

Example:

9S8W4_2405S1.6RP

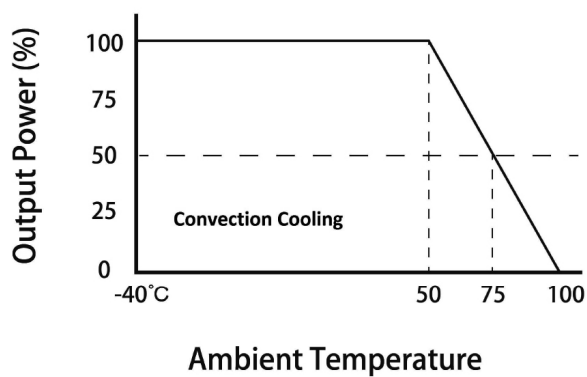
9= 9Watt; S8= SIP8; W4= wide input 4:1; 9-36Vin; 5Vout; S= Single Output; 1.6= 1600VDC; R= Regulated Output; P= Short Circuit Protection

9S8W4_1.6RP Series

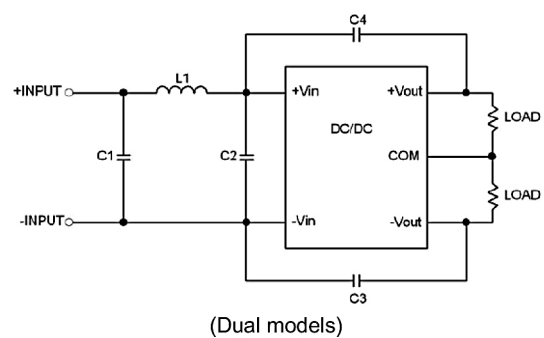
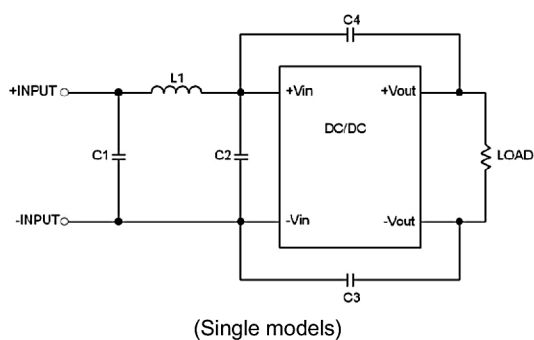
9W - Single Output - Wide Input - Isolated & Regulated
DC-DC Converter

Part Number	Nominal	Input Voltage [VDC]		Output Voltage [VDC]	Output Current [mA, max.]	Efficiency [%, typ.]
		Range	Max			
9S8W4_2403S1.6RP	24	9-36	40	3.3	2000	82
9S8W4_2405S1.6RP	24	9-36	40	5	1600	85
9S8W4_2409S1.6RP	24	9-36	40	9	1000	88
9S8W4_2412S1.6RP	24	9-36	40	12	750	88
9S8W4_2415S1.6RP	24	9-36	40	15	600	89
9S8W4_2424S1.6RP	24	9-36	40	24	375	89
9S8W4_4803S1.6RP	48	18-75	80	3.3	2000	82
9S8W4_4805S1.6RP	48	18-75	80	5	1600	85
9S8W4_4809S1.6RP	48	18-75	80	9	1000	89
9S8W4_4812S1.6RP	48	18-75	80	12	750	89
9S8W4_4815S1.6RP	48	18-75	80	15	600	89
9S8W4_4824S1.6RP	48	18-75	80	24	375	89
9S8W4_2405S1.6RP	24	9-36	40	±5	±800	86
9S8W4_2412S1.6RP	24	9-36	40	±12	±375	88
9S8W4_2415S1.6RP	24	9-36	40	±15	±300	88
9S8W4_4805S1.6RP	48	18-75	80	±5	±800	85
9S8W4_4812S1.6RP	48	18-75	80	±12	±375	88
9S8W4_4815S1.6RP	48	18-75	80	±15	±300	87

Typical characteristics



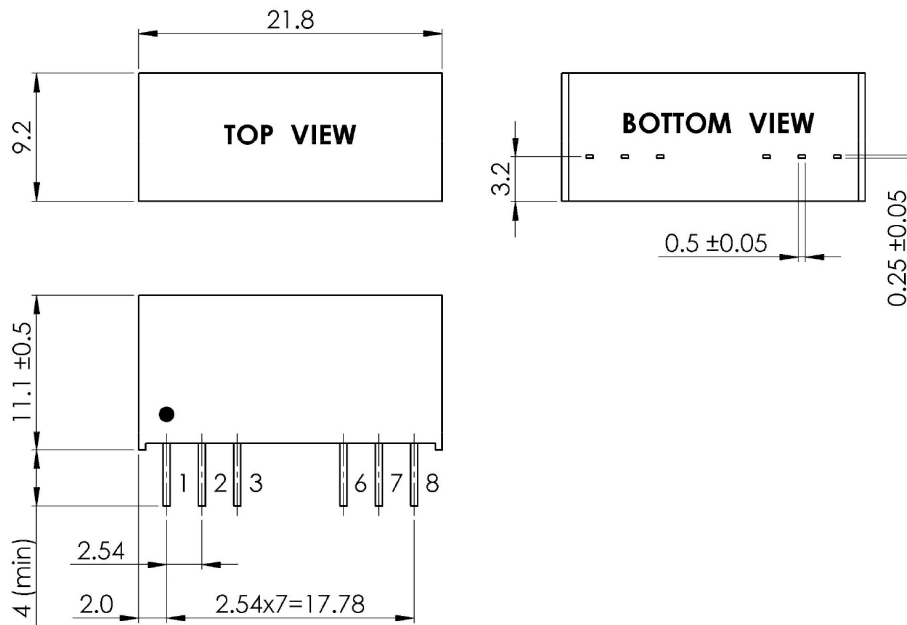
Recommended circuit



9S8W4_1.6RP Series

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

Mechanical dimensions



Unit : mm
Tolerance : $XX.X \pm 0.5$, $XX.XX \pm 0.25$

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