



3S8W4_2RP & 3S8W4_4RP series

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

DC-DC Converter

3 Watt

- ⊕ Ultra Wide 4:1 Input Voltage Range
- ⊕ Very Low Stand-by (no-load) Power Consumption 50mW typ and 150mW max.
- ⊕ High Efficiency up to 86%
- ⊕ 3W Single and Dual outputs
- ⊕ I/O Isolation 2kVDC and 4kVDC Option
- ⊕ Operating Temperature Range: -40°C to +85°C
- ⊕ Continuous Short Circuit Protection (SCP)
- ⊕ Remote ON/OFF Control
- ⊕ Internal PI-Filtering



The 3S8W4_2RP & 3S8W4_4RP series are 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 \leq 4:1)
- 2) Where isolation is necessary between input and output (isolation voltage \leq 2000VDC/4000VDC/)
- 3) Where the regulation of the output voltage and the output ripple noise are demanded

Common specifications	
Input filter:	Capacitor
Short circuit protection:	Continuous, automatic recovery
Temperature rise at full load:	15°C TYP
Cooling:	Free air convection
Operation temperature range:	-40°C~+100°C
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	< 95%
Lead temperature range:	300°C MAX, 1.5mm from case for 10 sec
No-load power consumption:	50mW TYP / 150mW MAX
Temperature coefficient:	-40°C to +85°C ambient 0.015 %/°C MAX
Operating Frequency:	150kHz MIN
Case material:	Non-conductive black plastic [UL94-V0]
Potting material:	Epoxy [UL94-V0]
MTBF (MIL-HDBK 217F):	+25°C: 2184x10 ³ hours +85°C: 298x10 ³ hours
Weight:	4.7g

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 second	2000 and 4000			VDC
Isolation resistance	500VDC, input to output	15			GΩ
Isolation capacitance	100KHz		30		pF

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	
Output accuracy	Nominal Vin and full load		±2		%	
Line regulation	Vin=min to max, full load		±0.5		%	
Load regulation	20% to 100% full load		±0.5		%	
Minimum load		0			%	
Temperature drift (Vout)	Refer to recommended circuit		±0.03		%/°C	
Output Ripple & Noise	20MHz Bandwidth			60	mVp-p	
Remote Power OFF (Vout) (leave open if not used) (15 VDC max.)	Device ON				open or <0.8 VDC	
	Device OFF				CTRL>1.5VDC	
	Device OFF (Stand by input current)				0.5mA max.	

Example:

3S8W4_0505S2RP
3=3Watt; S8= SIP8; W4=wide input (4:1); 4, 5 - 9Vin; 5Vout;
S= Single Output; 2= 2000VDC; R= Regulated Output
P= Short Circuit Protection

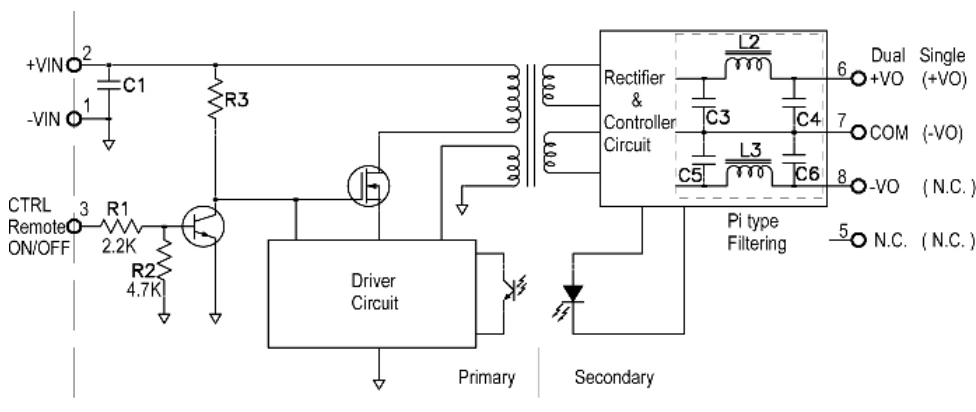
3S8W4_2RP & 3S8W4_4RP series

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

Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA, max]	Efficiency [%, typ]	Max. Capacitive Load [μ F]
3S8W4_xx03SXR	4.5-18, 9-36, 18-75	3.3	600	78-80	1000
3S8W4_xx05SXR	4.5-18, 9-36, 18-75	5	600	82-83	1000
3S8W4_xx12SXR	4.5-18, 9-36, 18-75	12	250	85	470
3S8W4_xx15SXR	4.5-18, 9-36, 18-75	15	200	85	330
3S8W4_xx05DXR	4.5-18, 9-36, 18-75	\pm 5	\pm 300	82-84	\pm 470
3S8W4_xx12DXR	4.5-18, 9-36, 18-75	\pm 12	\pm 125	84-86	\pm 100
3S8W4_xx15DXR	4.5-18, 9-36, 18-75	\pm 15	\pm 100	85-86	\pm 47

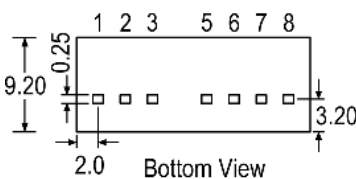
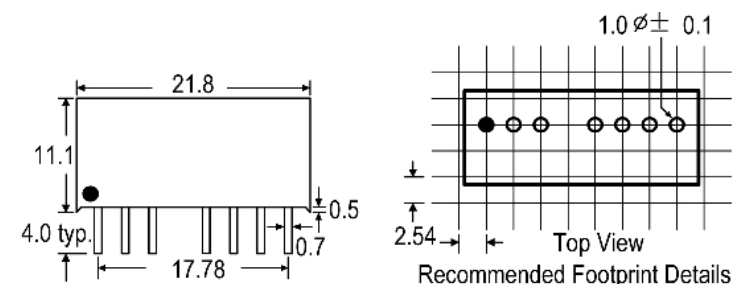
- X=2=2kVDC, X=4=4kVDC
- xx=Input Voltage (possible for other input and output voltage combinations on request)
 Vin=4.5-18V, xx=12
 Vin=9-36V, xx=24
 Vin=18-75V, xx=48

Functional block diagram



Input Voltage	C1 Values
4.5~18VDC	10 μ F/25V
9~36VDC	4.7 μ F/50V
18~75VDC	1 μ F/100V

Mechanical dimensions and foot-



XX.X \pm 0.25 mm
 XX.XX \pm 0.15 mm

Pin Connections

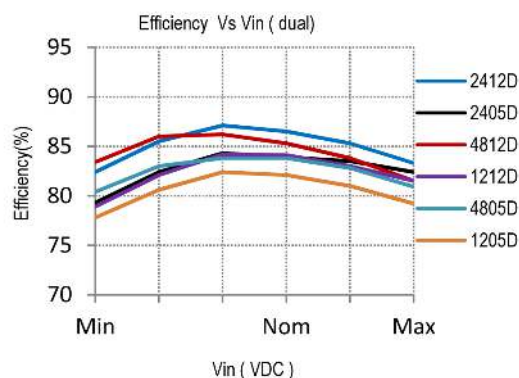
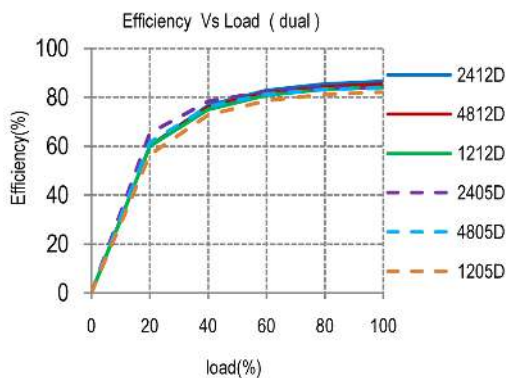
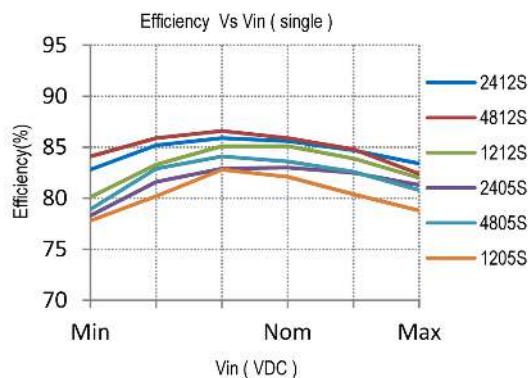
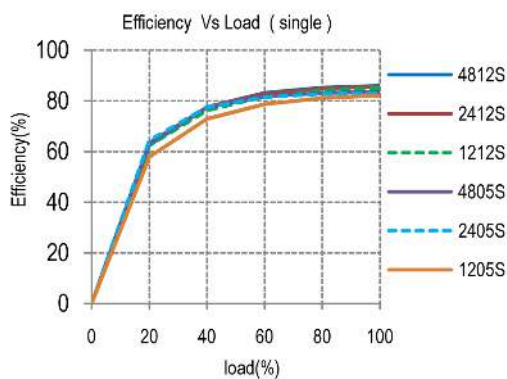
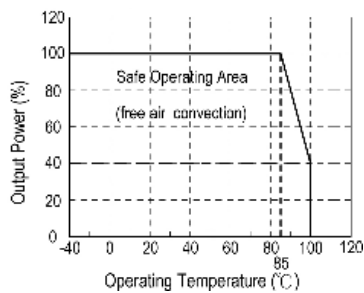
Pin#	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

NC=No Connection
 CTRL=Remote ON/OFF Control

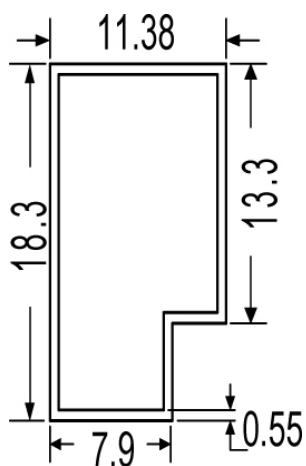
3S8W4_2RP & 3S8W4_4RP series

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

Typical characteristics



Tube outline



Note:
Unit: mm[inch]
General tolerances: ±0.50mm

L=520mm
Tube quantity: 23pcs