3S8W_2RP Series

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



DC-DC Converter 3 Watt

- Ultra Wide 2:1 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, 4kVDC and 5.2kVDC option
- Operating Temperature Range:
- -40°C to +85°C Continuous Short Circuit
- Protection (SCP) Remote ON/OFF Control

The 3S8W_S & 3S8W_D 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 ≤2:1)
2) Where isolation is necessary between input and output (isolation voltages are: ≤2000VDC/4000VDC/5200VDC)
3) Where the regulation of the output voltage and the output ripple noise are demanded

Common specifications	
Input filter:	Capacitor
Short circuit protection:	Continuous
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:	100kHz MIN
Case material:	Non-conductive black plastic [UL94-V0]
Potting material:	Epoxy [UL94-V0]
MTBF (MIL-HDBK 217F):	+25°C: 3050x10³ hours +85°C: 247x10³ hours
Weight:	4.7g

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		%
Output Ripple & Noise	20MHz Bandwidth			60	mVp-p
Remote Power OFF (leave open if not used) (15 VDC max.)	Device ON Device OFF Device OFF (Stand by input current)				open or <0.8 VDC CTRL>1.5VDC 0.5mA max.

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 60 seconds, 0,5mA	2000 4000 5200			VDC VDC VDC
Isolation resistance	500VDC, input to output	15			GΩ
Isolation capacitance	100KHz			30	pF

Example:
3S8W_0505S2RP
3 = 3Watt; S8 = SIP8; W = wide input (2:1); 4,5 - 9Vin; 5Vout;
S = Single Output; 2 = 2000VDC; R = Regulated Output
P = Short Circuit 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 the test methods of indications are based on corporate standards.

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Specifications subject to change without notice.

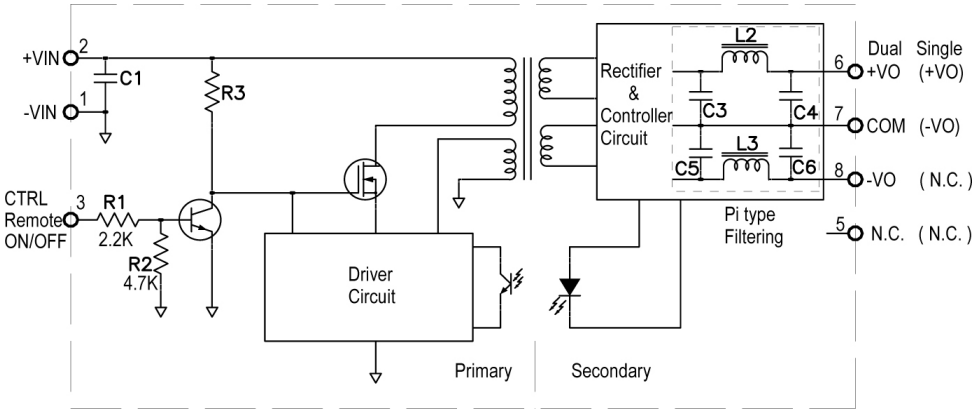
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DC-DC Converter

Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA, max]	Efficiency [%, typ]	Max. Capacative Load [µF]
3S8W_xx03SXRP	4.5-9, 9-18, 18-36, 36-75	3.3	600	77-80	1000
3S8W_xx05SXRP	4.5-9, 9-18, 18-36, 36-75	5	600	80-83	1000
3S8W_xx09SXRP	4.5-9, 9-18, 18-36, 36-75	9	333	80-84	680
3S8W_xx12SXRP	4.5-9, 9-18, 18-36, 36-75	12	250	83-85	470
3S8W_xx15SXRP	4.5-9, 9-18, 18-36, 36-75	15	200	83-85	330
3S8W_xx05DXRP	4.5-9, 9-18, 18-36, 36-75	±5	±300	80-83	±470
3S8W_xx12DXRP	4.5-9, 9-18, 18-36, 36-75	±12	±125	82-86	±100
3S8W_xx15DXRP	4.5-9, 9-18, 18-36, 36-75	±15	±100	82-86	±47

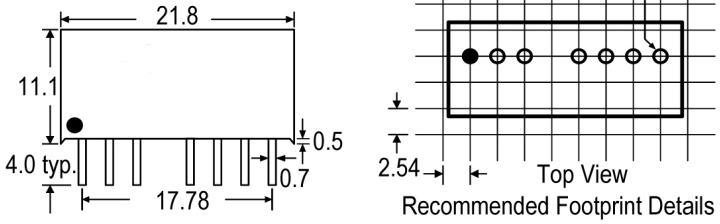
- **X= 2** = 2kVDC, **X= 4** = 4kVDC, **X= 5.2** = 5.2kVDC
- xx = Input Voltage (possible for other input and output voltage combinations on request)
  Vin= 4.5-9V, xx=05
  Vin=9-18V, xx=12
  Vin=18-36V, xx=24
  Vin=36-75V, xx=48

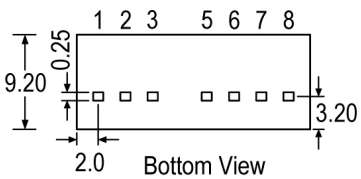
Functional block diagram



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

Mechanical dimensions and foot-





XX.X ± 0.25 mm

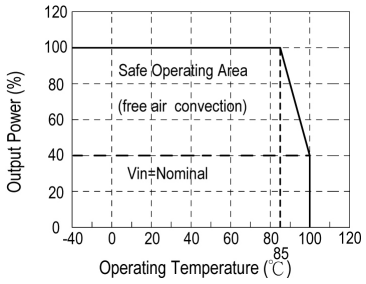
XX.XX ± 0.15 mm

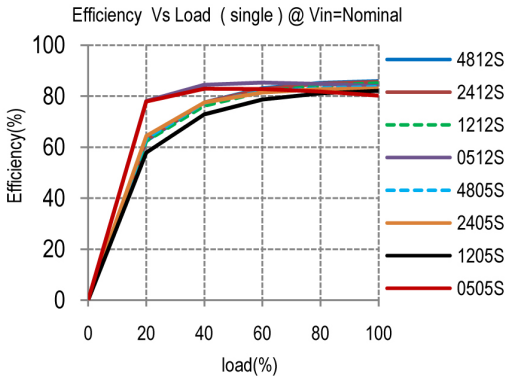
Pin Connections

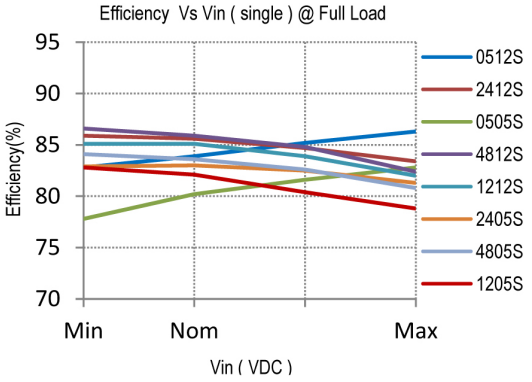
Pin#	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

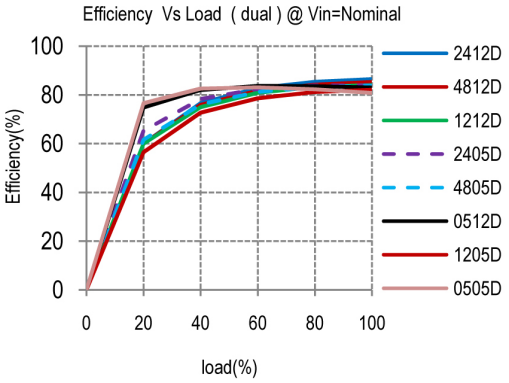
NC=No Connection
CTRL=Remote ON/OFF Control

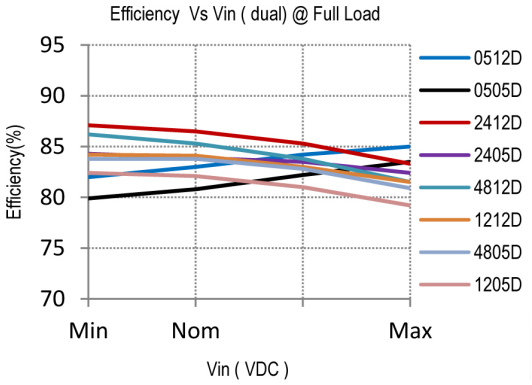
Typical characteristics



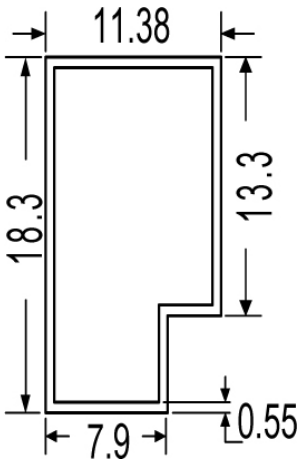








Tube outline



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

L=520mm
Tube quantity: 23pcs