GAPTEC®
GREEN TECHNOLOGY



5S8W_2RP Series

5W - Dual/Single Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 5 Watt

- **Highest power density in SIP8 package**
- **Wide 2:1 input voltage range**
- **High efficiency up to 87%**
- **5W single and dual outputs**
- **I/O isolation 2KVDC and 4KVDC option**
- **Operating temperature range: -40°C to +100°C**
- **Continuous short circuit protection (SCP)**
- **Remote ON/OFF control**

The 5S8W_2RP 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 voltage≤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
Operating case temperature:	+110°C MAX
Operation temperature range:	-40°C~+100°C (with derating)
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 0.02 %/°C TYP
Operating Frequency:	200kHz MIN
Case material:	Non-conductive black plastic [UL94-V0]
Potting material:	Epoxy [UL94-V0]
MTBF (MIL-HDBK 217F):	+25°C: 1615x10³ hours +60°C: 203x10³ 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

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.

Model selection:
WCT_xxyyN##O**
W=Watt; **C=** Case; **T=**Type; ****=** Voltage Variation (omitted ± 10%);
xx= Vin; **yy=** Vout; **N=** Numbers of Output; **##=** Isolation (kVDC);
O= output regulation

Example:
5S8W_0505S2RP
5=5Watt; 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.

GAPTEC-Electronic GmbH & Co. KG
sales@gaptec-electronic.com – www.gaptec-electronic.com
Specifications subject to change without notice.

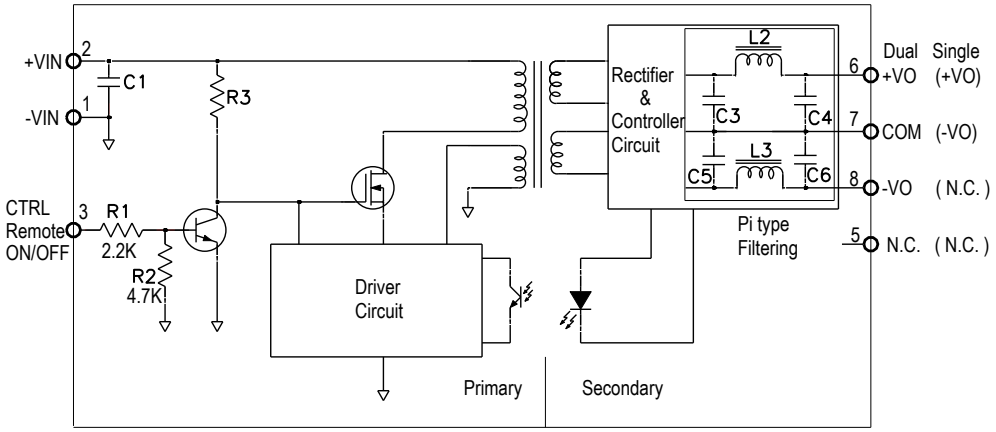
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DC-DC Converter

Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA, max]	Efficiency [%, typ]	Max. Capacative Load [µF]
5S8W_xx03SXRP	4.5-9, 9-18, 18-36, 36-75	3.3	1200	79-81	1000
5S8W_xx05SXRP	4.5-9, 9-18, 18-36, 36-75	5	1000	82-84	1000
5S8W_xx09SXRP	4.5-9, 9-18, 18-36, 36-75	9	555	82-86	680
5S8W_xx12SXRP	4.5-9, 9-18, 18-36, 36-75	12	420	84-87	470
5S8W_xx15SXRP	4.5-9, 9-18, 18-36, 36-75	15	333	85-87	330
5S8W_xx05DXRP	4.5-9, 9-18, 18-36, 36-75	±5	±500	81-84	±470
5S8W_xx12DXRP	4.5-9, 9-18, 18-36, 36-75	±12	±210	84-87	±100
5S8W_xx15DXRP	4.5-9, 9-18, 18-36, 36-75	±15	±167	85-87	±47

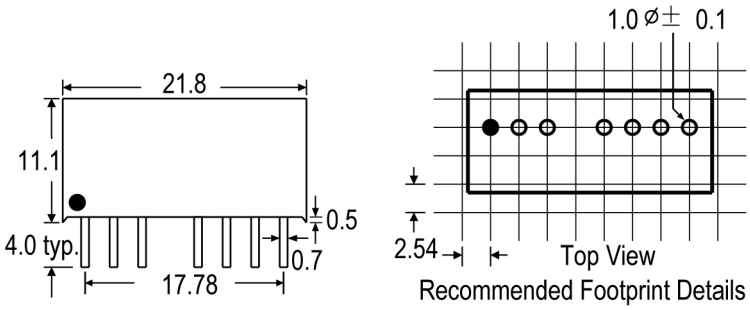
- X=2=2KVDC, X=4=4KVDC
- xx=Input Voltage
  Vin=4.5-9V, xx=05
  Vin=9-18V, xx=12
  Vin=18-36V, xx=24
  Vin=36-75V, xx=48

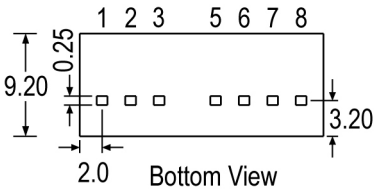
Functional block diagram



Input Voltage	C1 Values
4.5~9VDC	22uF/16V
9~18VDC	10uF/25V
18~36VDC	4.7uF/50V
36~75VDC	2.2uF/100V

Mechanical dimensions



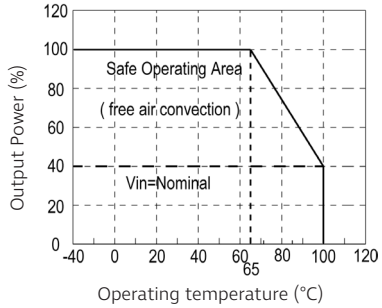


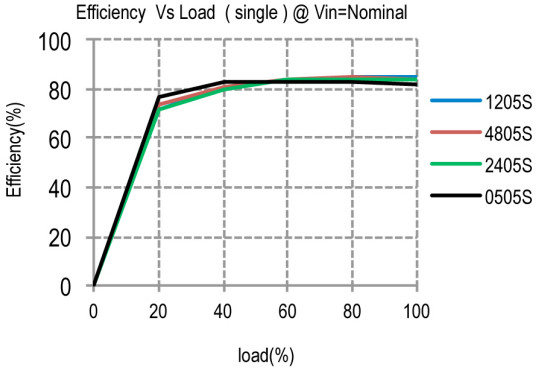
Pin Connections

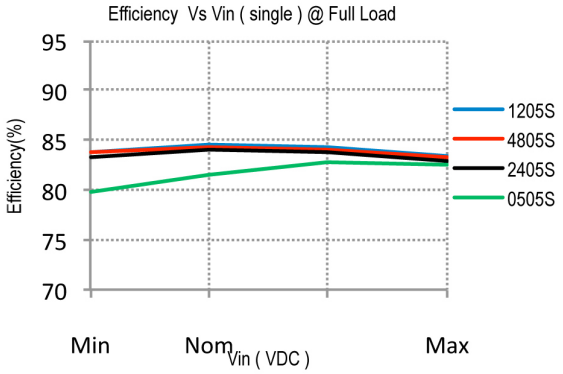
Pin#	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

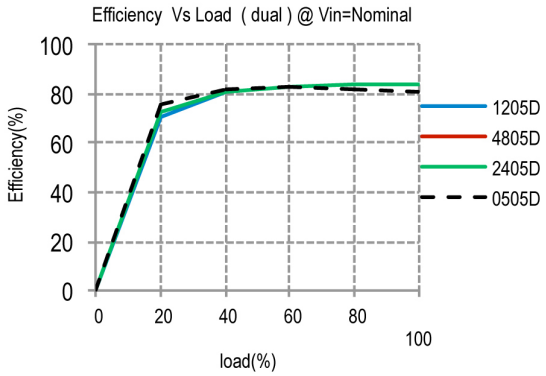
NC=No Connection
CTRL=Remote ON/OFF Control

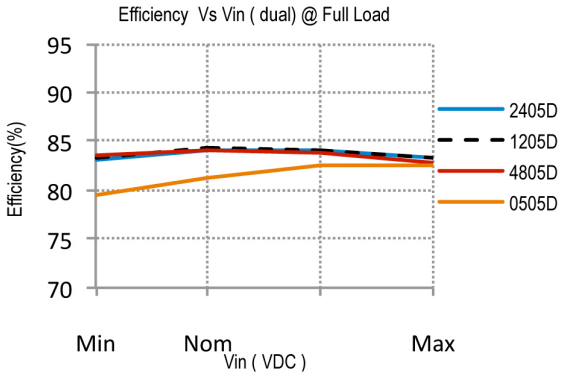
Typical characteristics



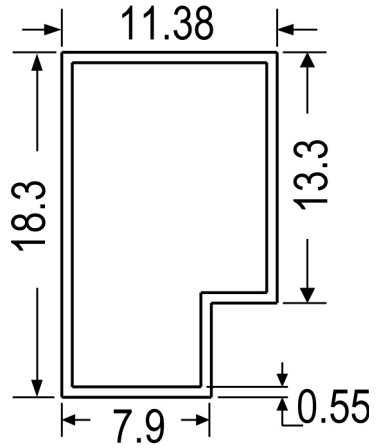








Tube outline



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

L=520mm ±2mm
Tube quantity: 23pcs