

2S7WB_3RP series

2W - Single/Dual Output - Wide Input - Isolated & Regulated
SIP Package

DC-DC Converter 2 Watt

- ⊕ 7PIN SIP package
- ⊕ 2:1 Wide input voltage range
- ⊕ High Efficiency up to 80%
- ⊕ Regulated output types
- ⊕ Internal SMD construction
- ⊕ Operating temperature: -40°C to +85°C
- ⊕ Short circuit protection (SCP)
- ⊕ RoHS Compliance
- ⊕ No external component required
- ⊕ Industry standard pinout

The 2S7WB series are specially designed for applications where a group of polar 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 $\leq 2:1$)
- 2) Where isolation is necessary between input and output (isolation voltage $\leq 3000\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanding.



| Common specifications | |
|------------------------------|---------------------------|
| Input voltage range: | 2:1 |
| Filter: | Capacitor |
| Short circuit protection: | Continuous |
| Cooling: | Free air convection |
| Operation temperature range: | -40°C~+85°C |
| Storage temperature range: | -55°C ~+125°C |
| Storage humidity range: | < 95% |
| Temperature coefficient: | 0.03 %/°C MAX (full load) |
| Switching Frequency: | 100kHz TYP |
| Case material: | DAP |
| MTBF (MIL-HDBK 217F): | +25°C: 1500000 hours |
| Weight: | 2.7g |

| Output specifications | | | | | |
|---------------------------------|---|-----|------|----------------------|----------------|
| Item | Test condition | Min | Typ | Max | Units |
| 100% full load | | | | ±5 | % |
| Line regulation | Regulated | | ±0.5 | | % |
| Load regulation | Regulated | | ±1.5 | | % |
| Output ripple & noise | 20MHz Bandwidth • 5V, 9V • 12-24V | | | 100 1% of Vout | mVp-p mVp-p |
| Transient response setting time | 50% load step change | | 350 | | us |

Example:

2S7WB_0505S3RP

2 = 2Watt; S7 = SIP7; W = 2:1 Input; A = Pinning; 5 Vin; 5Vout;
S = Single Output; 3 = 3000 VDC Isolation; R = Regulated Output;
P = Short circuit protection (SCP)

| Isolation specifications | | | | | |
|--------------------------|---------------------|------|------|-----|-------|
| Item | Test condition | Min | Typ | Max | Units |
| Isolation voltage | Tested for 1 second | | 3000 | | VDC |
| Isolation resistance | 500VDC | 1000 | | | MΩ |

Note:

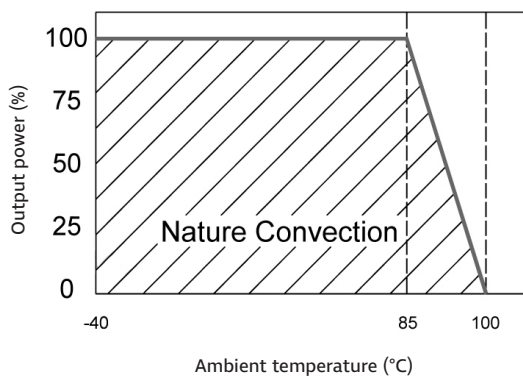
1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed.
2. All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
3. In this datasheet, all the test methods of indications are based on corporate standards.

| Part Number | Input Voltage Range [V] | Output Voltage [VDC] | Output Current [mA] | Efficiency [%, max] |
|----------------|-------------------------|----------------------|---------------------|---------------------|
| 2S7WB_0505S3RP | 4.5-9 | 5 | 400 | 70 |
| 2S7WB_0509S3RP | 4.5-9 | 9 | 222 | 72 |
| 2S7WB_0512S3RP | 4.5-9 | 12 | 167 | 75 |
| 2S7WB_0515S3RP | 4.5-9 | 15 | 133 | 78 |
| 2S7WB_0524S3RP | 4.5-9 | 24 | 84 | 80 |
| 2S7WB_1205S3RP | 9-18 | 5 | 400 | 75 |
| 2S7WB_1209S3RP | 9-18 | 9 | 222 | 78 |
| 2S7WB_1212S3RP | 9-18 | 12 | 167 | 80 |
| 2S7WB_1215S3RP | 9-18 | 15 | 133 | 80 |
| 2S7WB_1224S3RP | 9-18 | 24 | 84 | 83 |
| 2S7WB_2405S3RP | 18-36 | 5 | 400 | 76 |
| 2S7WB_2409S3RP | 18-36 | 9 | 222 | 78 |
| 2S7WB_2412S3RP | 18-36 | 12 | 167 | 80 |
| 2S7WB_2415S3RP | 18-36 | 15 | 133 | 80 |
| 2S7WB_2424S3RP | 18-36 | 24 | 84 | 83 |

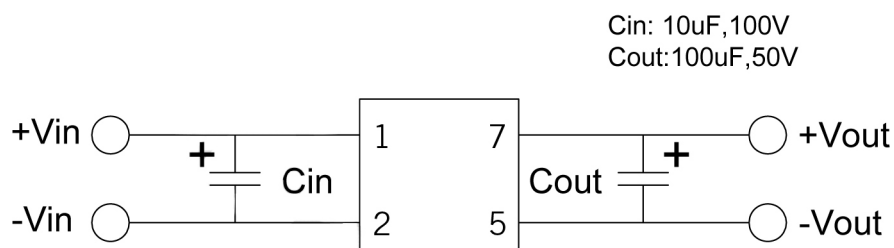
2S7WB_3RP series

2W - Single/Dual Output - Wide Input - Isolated & Regulated
SIP Package

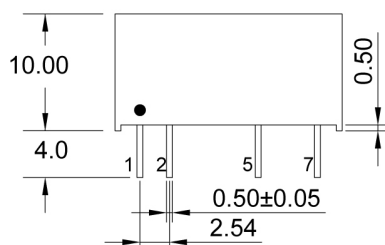
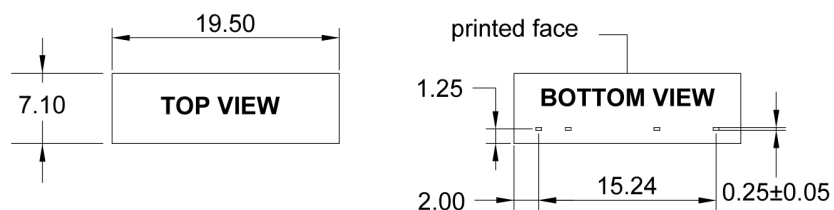
Derating graph



Recommended test circuit



Mechanical dimensions



Note:
Unit: mm[inch]
Unless otherwise specified,
all tolerances: ± 0.25mm

PIN connection:

| PIN | 1 | 2 | 5 | 7 |
|--------|------|------|-------|-------|
| Single | +Vin | -Vin | -Vout | +Vout |