0.5S4B_1.5UP series

0.5Watt - 1.5kVDC - Isolated Single Output DC-DC Converters

DC-DC Converter 0.5 Watt

- RoHS compliant
- CE certification
- Operating temperature : -40°C ~ +105°C
- High efficiency for low power applications
- Custom solutions available
- UL 94V-0 package material
- Output voltage: 3.3V, 5V, 9V, 12V, 15V
- Single output rail
- SIP package style
- Footprint from 0.69cm2
- 1.5kVDC isolation
- Power density 0.36W/cm³
- Input voltage: 3.3V, 5V, 12V

The 0.5S4B_1.5UP series are miniature, isolated low power and high efficiency DC-DC converters in a SIP package. They offer the ideal solution in many space critical applications for board level power distribution. The internal SMD construction makes it possible to offer a product with high performance at low cost. The series offers smaller size, improved efficiency, lower output ripple noise and 1.5kVDC isolation. Operating temperature -40°C to 105°C.

Common specifications

Item	Test condition	Min	Typ	Max	Units
Short circuit protection:	1 second				
Cooling:	Free air convection				
Specification	Derating if the temperature ≥85°C	-40		105	°C
Storage temperature		-55		130	°C
Lead temperature	1.5mm from case for 10 seconds				300°C
Switching frequency	All input types		110		kHz

Output specifications

Item	Test condition	Min	Typ	Max	Units
Rated Power	TA= -40°C to 85°C			0.5	W
Voltage Set Point Accuracy	See tolerance envelope				
Line regulation	High VIN to low VIN			1.2	%
Load Regulation (10% load to rated load)	5V output types			16	
Load Regulation (10% load to rated load)	all other types			11	

All specifications typical at TA = 25°C, nominal input voltage and rated output current unless otherwise specified.

Input specifications

Item	Test condition	Min	Typ	Max	Units
Input voltage range	• 3.3VDC input	2.9	3.3	3.6	V
	• 5VDC input	4.5	5	5.5	V
	• 12VDC input	11	12	13.3	V

Example:
0.5S4B_0505S1.5UP
0.5 = 0.5 Watt; S4 = SIP4; B = Pinning; 05 = 5 Vin; 05 = 5Vout;
S = Single Output; 1.5 = 1.5kVDC Isolation; U = Unregulated Output;
P= Short circuit protection (SCP)

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation test voltage	Tested for 1 second	1500			VDC
Resistance	Viso=1000VDC	1			GΩ

Note:

1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
2. All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
3. Only typical models listed, other models may be different, please contact our technical person for more details.
4. In this datasheet, all the test methods of indications are based on corporate standards.

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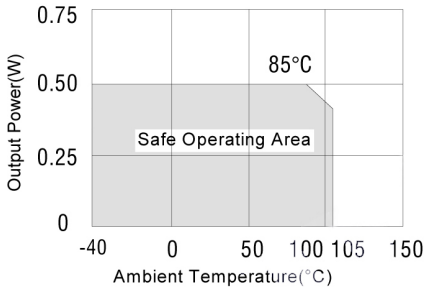
Product Selection Guide

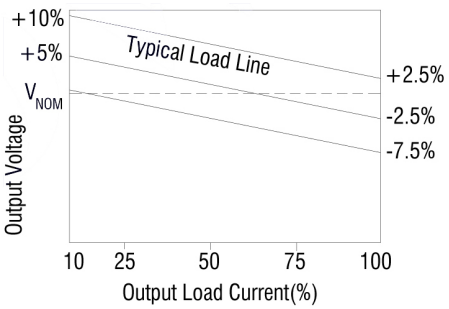
Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [mA] [Max./Min.]	Efficiency [%, typ]	Package Style
0.5S4B_0303S1.5UP	3.3	3.3	152/15.2	76	SIP
0.5S4B_0305S1.5UP	3.3	5	100/10	76	SIP
0.5S4B_0503S1.5UP	5	3.3	152/15.2	76	SIP
0.5S4B_0505S1.5UP	5	5	100/10	76	SIP
0.5S4B_0509S1.5UP	5	9	55.5/5.55	77	SIP
0.5S4B_0512S1.5UP	5	12	41.7/4.17	78	SIP
0.5S4B_0515S1.5UP	5	15	33.3/3.33	78	SIP
0.5S4B_1205S1.5UP	12	5	100/10	76	SIP
0.5S4B_1209S1.5UP	12	9	55.5/5.55	77	SIP
0.5S4B_1212S1.5UP	12	12	41.7/4.17	78	SIP
0.5S4B_1215S1.5UP	12	15	33.3/3.33	78	SIP

Typical characteristics

Temperature derating graph

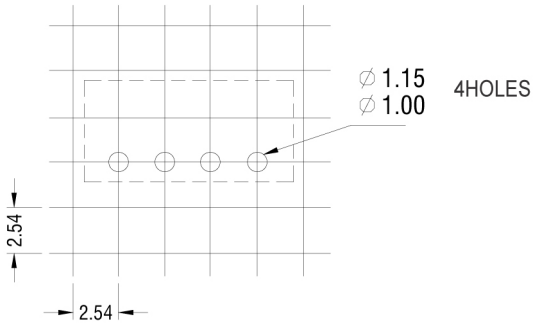


Tolerance envelope graph



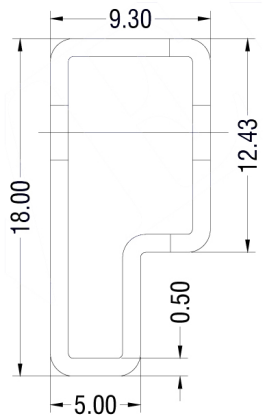
Recommended Footprint

4Pin SIP Package

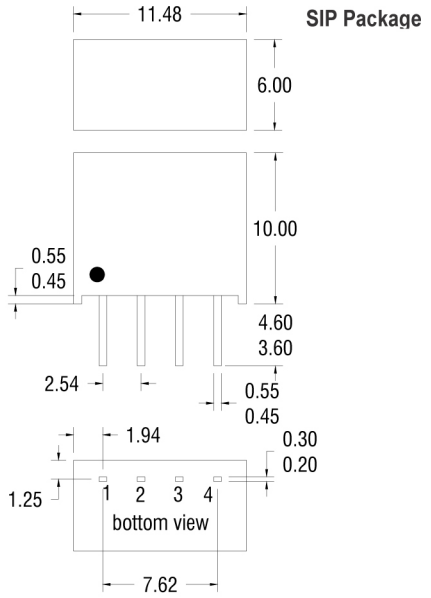


Tube Outline Dimensions

4Pin SIP Tube



Mechanical dimensions



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