



3MS4B_3UP series

3W - Single Output - Micro Size Fixed Input - Isolated & Unregulated

DC-DC Converter

3 Watt

- ⊕ Single isolated output
- ⊕ 3kVDC isolation
- ⊕ Efficiency up to 86%
- ⊕ Operating temperature: -40°C to 105°C
- ⊕ Power density 2.0W/cm³
- ⊕ UL 94V-0 package material
- ⊕ Footprint from 1.05cm²
- ⊕ Industry standard pinout
- ⊕ Input voltage: 5V, 12V Output voltage: 3.3V, 5V, 9V, 12V, 15V
- ⊕ Custom solutions available
- ⊕ RoHS compliant

The 3MS4B_3UP series are miniature, isolated 3W 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.



Common specifications

Operation temperature range:	-40°C~+105°C (Derating if the temperature ≥85°C)	
Storage temperature range:	-50°C ~+130°C	
Lead temperature range:	300°C MAX, 1.5mm from case for 10 sec	
Temperature rise at full load:	5V output types All other output types	46°C 38°C
Internal power dissipation	800mW	
Input voltage Vin	• 05V 7V • 12V 15V	
Material:	UL 94V-0 package material	
Cooling:	Free air convection	
Weight:	2.0 g	

Input specifications

Item	Test condition	Min	Typ	Max	Units
Input voltage	• 5V input • 12V input	4.5 11	5.0 12.0	5.5 13.3	VDC VDC
Reflected ripple current	• 5V input • 12V input		35 40		mAp-p mAp-p

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute and 1mA max	3000			VDC
Isolation resistance	at 500VDC	1500			MΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Rated Power	TA= -40°C to 85°C		3.0		W
Voltage Set Point Accuracy	See tolerance envelope				
Line regulation	High VIN to low VIN (voltage variation +/-5%)			1.2	%
Load regulation	10% load to rated load • 3.3V & 5V output • 9V output • 12V output • 15V output			9 5 6 9	% % % %
Output voltage accuracy			±5		%
Temperature coefficient	100% full load			0.03	%/°C
Switching frequency	• 5V input • 12V input		95 95		kHz kHz
Output ripple and noise	20MHz Bandwidth		50	100	mVp-p

Example:

3MS4B_2403S3UP

3 = 3Watt; M = Micro size; S4 = SIP4; B = Pinout; 24 = 24Vin;
03 = 3.3Vout; S = Single Output; 3 = 3000VDC Isolation;
U = Unregulated Output; P = Short Circuit Protection

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.

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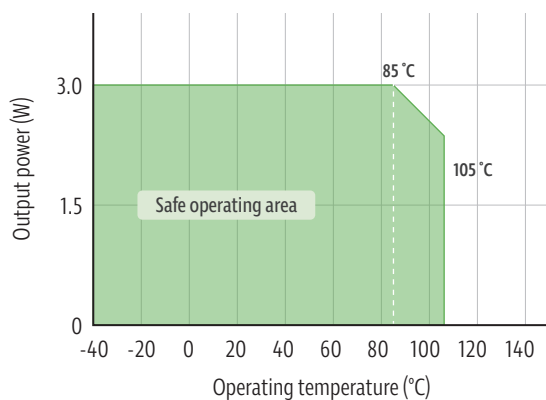
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Product Selection Guide

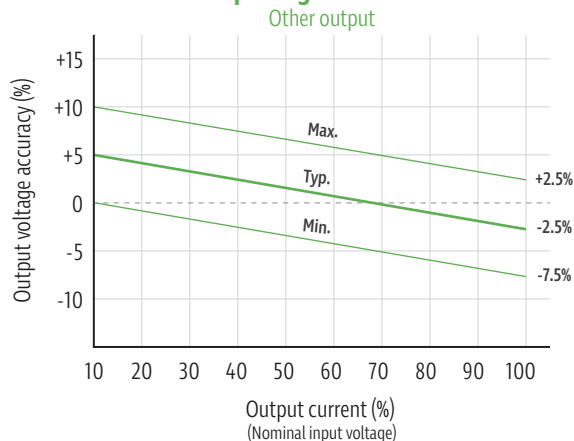
Part Number	Input Voltage [V]	Output Voltage [VDC]	Current [mA]	Efficiency [%, max]
3MS4B_0503S3UP	5	3.3	909/90.9	80
3MS4B_0505S3UP	5	5	600/60	77
3MS4B_0509S3UP	5	9	333/33.3	80
3MS4B_0512S3UP	5	12	250/25	83
3MS4B_0515S3UP	5	15	200/20	82
3MS4B_1203S3UP	12	3.3	909/90.9	80
3MS4B_1205S3UP	12	5	600/60	80
3MS4B_1209S3UP	12	9	333/33.3	84
3MS4B_1212S3UP	12	12	250/25	86
3MS4B_1215S3UP	12	15	200/20	85
3MS4B_2405S3UP	24	5	600/60	75
3MS4B_2409S3UP	24	9	333/33.3	75
3MS4B_2412S3UP	24	12	250/25	75

Product characteristic curve

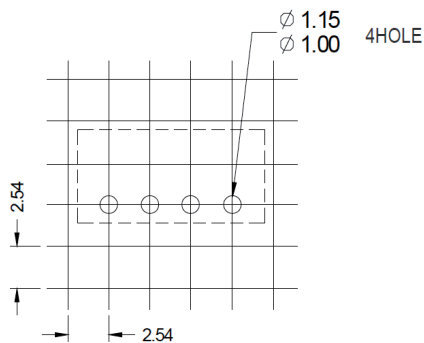
Temperature derating graph



Output regulation curve

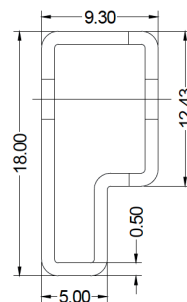


Recommended footprint



Unless otherwise stated all dimensions in mm ±0.5mm.

Tube outline dimensions

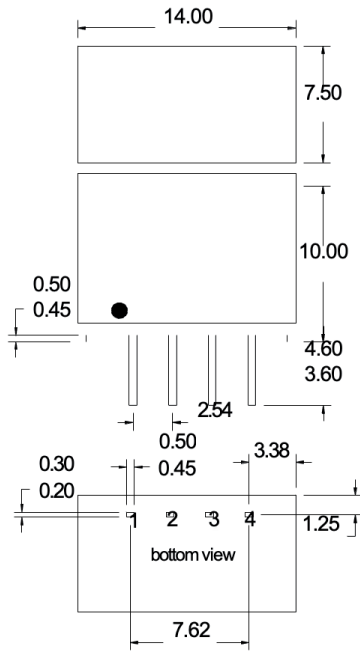


Note:
 Tube length : 520mm ±2mm.
 Tube Quantity : 35pcs/17pcs
 Unless otherwise stated all dimensions in mm ±0.5mm.

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Mechanical dimensions



All dimensions in mm ± 0.25 mm. All pins on a 2.54mm pitch and within ± 0.25 mm of true position.

4 PIN SIP	
Pin	Function
1	-Vin
2	+Vin
3	-Vout
4	+Vout