AM3S-Z

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SIP4

Aimtec is pleased to introduce its latest 3W single output high isolation DC/DC converter in a compact SIP4 package. With various input voltage options like 5V, 12V and 24VDC, 3000VDC isolation and an unregulated output, the AM3S-Z will offer benefits to your new system design. This is the smallest high isolation 3W DC/DC converter in the Aimtec's SIP4 package family!

This compact design comes with a high efficiency up to 91%, no minimum load requirement and continuous short circuit protection. Furthermore, the ambient operating temperature is from -40°C to +100°C with full power up to 90°C.

This innovative series can be used for applications that have limited board space such as mobile device chargers, portable electronics, IoT and wireless applications.

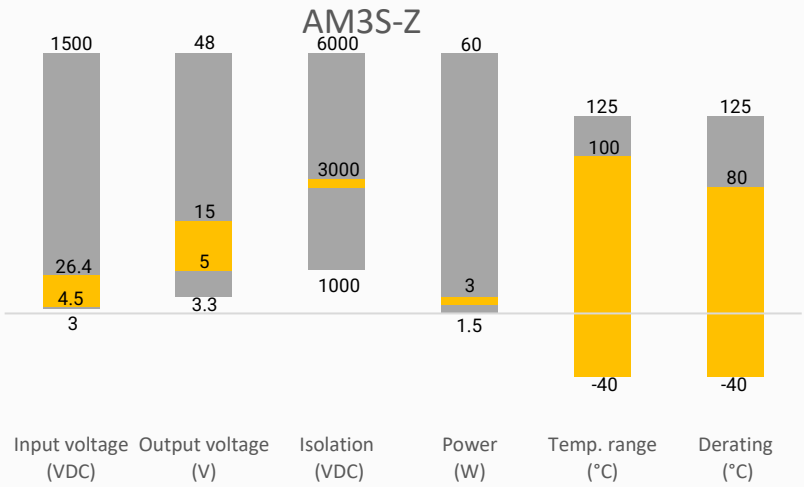
Features

- Operating Temp: -40 °C to +100 °C
- High isolation voltage: 3000VDC
- Low ripple & noise, 100mV(p-p), max.
- Unregulated Output
- Efficiency up to 91%
- SIP4 type package

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Instrumentation

Models & Specifications

Single Output							
Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Max (mA)		Output Current Max (mA)	Maximum Capacitive Load (µF)	Efficiency (%) Full Load
			No Load	Full Load			
AM3S-0505SH30Z	5 (4.5-5.5)	5	50	723	600	3300	83
AM3S-0509SH30Z	5 (4.5-5.5)	9	60	690	333	1200	87
AM3S-0512SH30Z	5 (4.5-5.5)	12	55	682	250	1000	88
AM3S-0515SH30Z	5 (4.5-5.5)	15	60	682	200	820	88
AM3S-1205SH30Z	12 (10.8-13.2)	5	25	294	600	3300	85
AM3S-1209SH30Z	12 (10.8-13.2)	9	30	281	333	1200	89
AM3S-1212SH30Z	12 (10.8-13.2)	12	30	278	250	1000	90
AM3S-1215SH30Z	12 (10.8-13.2)	15	30	275	200	820	91
AM3S-2405SH30Z	24 (21.6-26.4)	5	15	147	600	3300	85
AM3S-2409SH30Z	24 (21.6-26.4)	9	15	141	333	1200	89
AM3S-2412SH30Z	24 (21.6-26.4)	12	15	139	250	1000	90
AM3S-2415SH30Z	24 (21.6-26.4)	15	15	138	200	820	91

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitors			
Start-up time	Nominal input, Constant resistive load	20		ms
Input reflected ripple current*		20		mA pk-pk
Absolute maximum rating (100ms)	5Vin model		7	VDC
	12Vin model		15	VDC
	24Vin model		28	VDC
* Measured with a simulated source inductance of 12µH and a source capacitor 10µF with ESR<1Ω at 100KHz.				

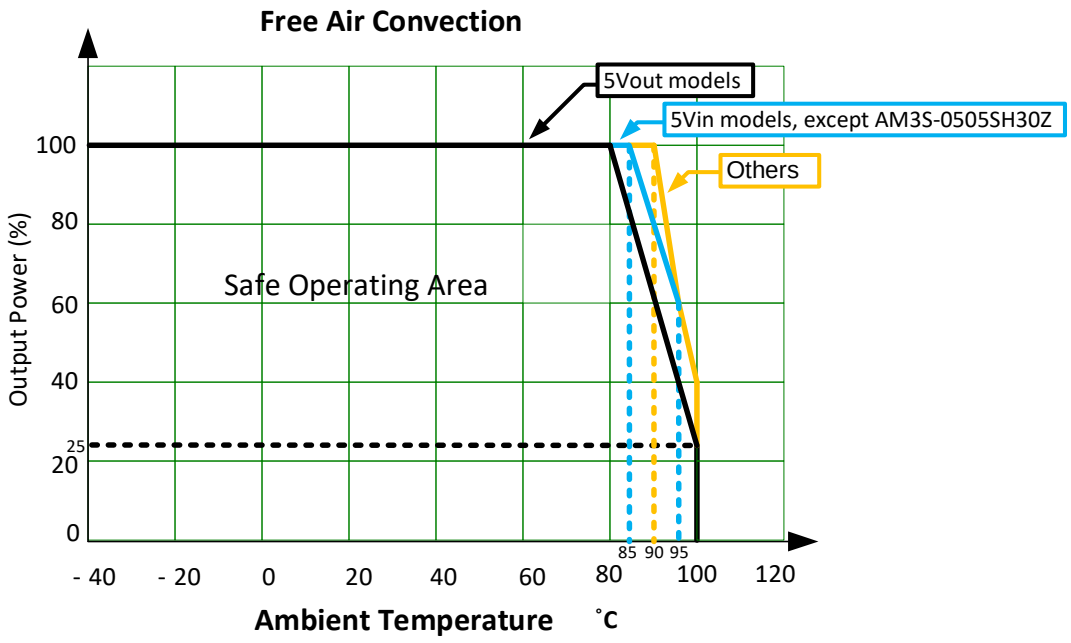
Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec	3000		VDC
Resistance		≥1000		MΩ
Capacitance			65	pF

Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			± 3	%
Line regulation			± 1.2	%/1%Vin change
Load regulation	10 ~ 100% load		± 10	%
Ripple & Noise*	20MHz bandwidth		100	mV pk-pk
* Ripple and Noise are measured at 20MHz bandwidth by using a 0.1µF (M/C) and 10µF (E/C) capacitor				

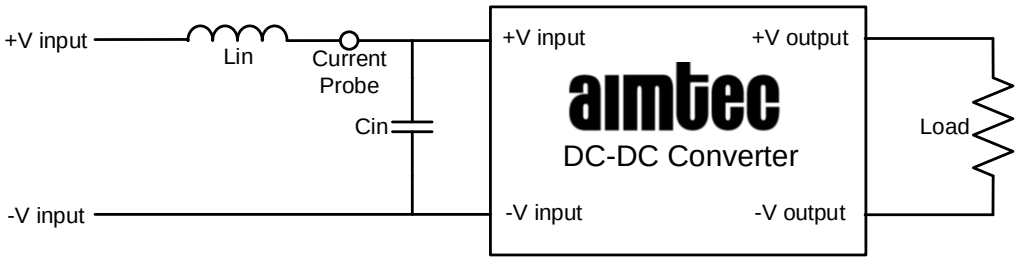
General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Switching frequency		40 to 70		KHz
Operating temperature	With derating	-40 to +100		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			115	°C
Reflow temperature			260	°C
Temperature coefficient		± 0.02		%/ °C
Cooling	Nature Convection (30-65LFM)			
Humidity	Non-condensing		95	% RH
Base material	Plastic (UL94V-0)			
Weight		2.2		g
Dimensions (L x W x H)	0.46 x 0.29 x 0.40 inches (11.68 x 7.5 x 10.15mm)			
MTBF	> 6 700 000 hrs (MIL-HDBK -217F, t=+25°C)			

Safety Specifications		
Parameters		
Standards	Design to meet IEC/EN/UL 60950-1,62368-1	
	EMI - Conducted and radiated emission	EN55032, CLASS B with recommended circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2, Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4, Criteria A with recommended circuit
	Surge Immunity	IEC 61000-4-5, Criteria A with recommended circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6, Criteria A
	Power Frequency Magnetic Field Immunity	IEC 61000-4-8, Criteria A

Derating

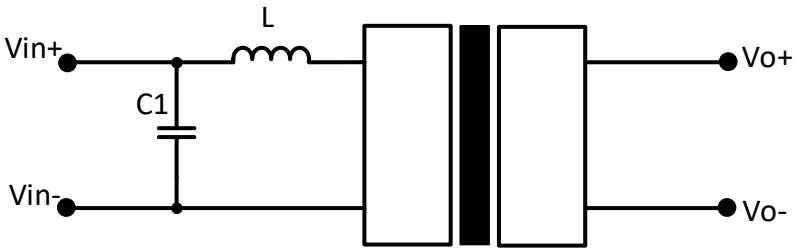


Input Reflected Ripple Current



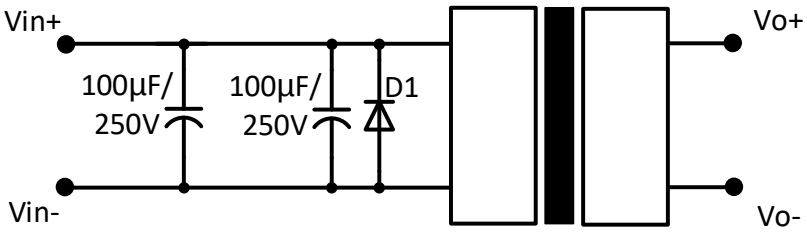
Lin: 12µH / Cin: 10µF, ESR<1.0Ω at 100KHz

EMI Application Circuit (Conducted Emissions)



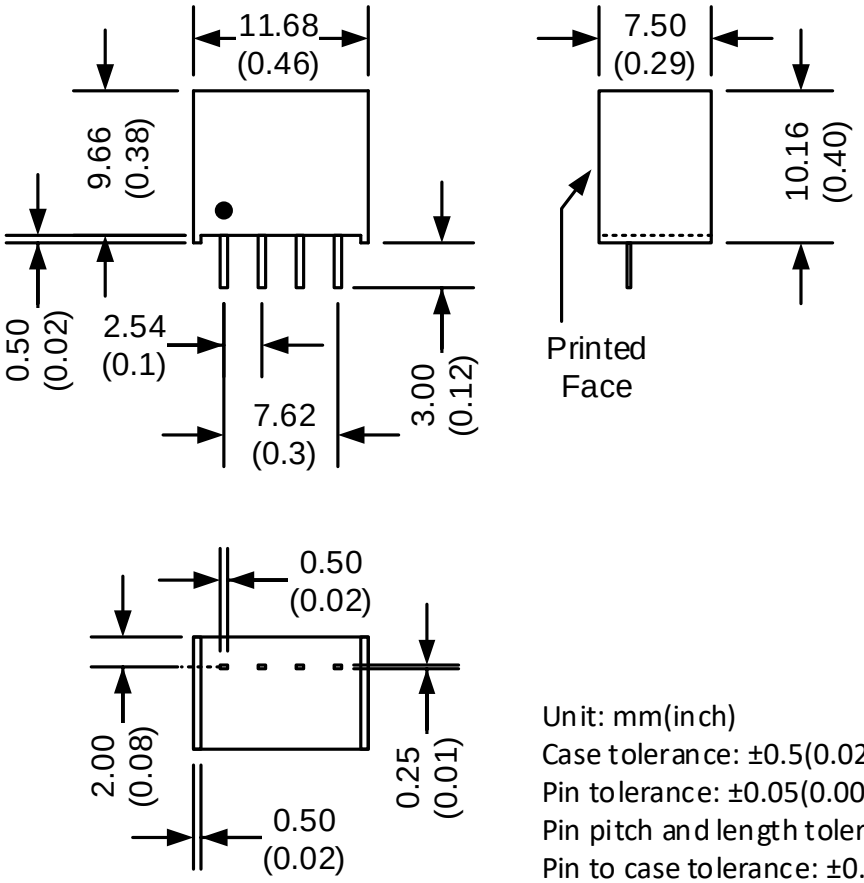
Model	C1	L
5VDC input	1206, 2.2µH, 50V	2.2 µH
12/24VDC input	1206, 4.7µH, 50V	4.7 µH

EFT & Surge Application Circuit



Model	D1
5VDC input	SMDJ8.0A
12VDC input	SMDJ16A
24VDC input	SMDJ30A

Dimensions



Pin Out Specifications	
Pin	Single
1	-V Input
2	+V Input
3	-V Output
4	+V Output

Unit: mm(inch)
Case tolerance: ±0.5(0.02)
Pin tolerance: ±0.05(0.002)
Pin pitch and length tolerance: ±0.35(0.014)
Pin to case tolerance: ±0.5(0.02)