Click to ORDER samples

AM3DS-LPZ



SIP7 Package

The AM3DS-LPZ is a 3W SIP7 DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance while offering a standard input voltage range of 5-15VDC as well as an output voltage of 3.3-15V. This compact SIP7 design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 85°C with full power up to 60°C. Also, an isolation of 3000VDC for improved reliability and system safety as well as a great 3,500,000h MTBF come standard.

The AM3DS-LPZ is suitable for instrumentation, industrial controls, industrial applications, communication and IoT applications.

Features

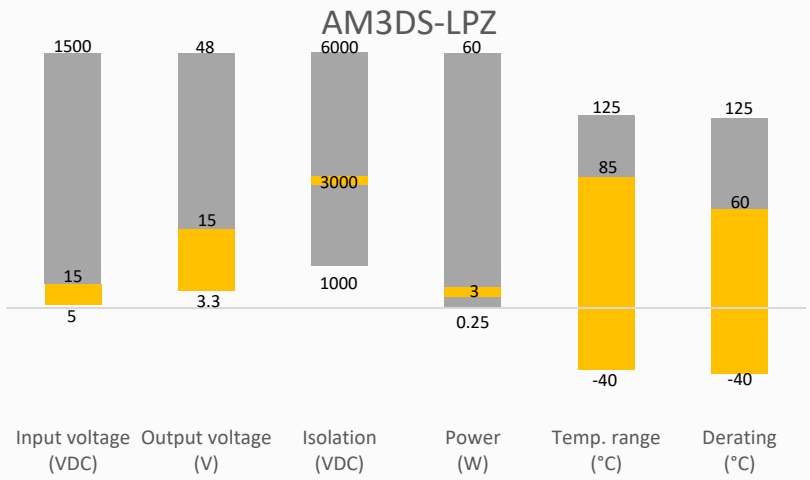
- High I/O Isolation of 3000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP7 pin-out
- Efficiency up to 85%
- Unregulated output

RoHS

3yr Warranty

CE

Summary



Training



Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

IoT

Industrial

Telecom

Portable Equipment

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Full | No load typ. (mA)	Output Current max | min (mA)*	Isolation (VDC)	Maximum capacitive Load (µF)	Efficiency Typ. (%)
AM3DS-0503SH30LPZ	5 (4.5-5.5)	3.3	506 / 10	600 / 60	3000	220	80
AM3DS-0505SH30LPZ	5 (4.5-5.5)	5	714 / 10	600 / 60	3000	220	83
AM3DS-0509SH30LPZ	5 (4.5-5.5)	9	714 / 10	333 / 33	3000	220	83
AM3DS-1205SH30LPZ	12 (10.8-13.2)	5	284 / 15	600 / 60	3000	220	83
AM3DS-1212SH30LPZ	12 (10.8-13.2)	12	284 / 15	250 / 25	3000	220	83
AM3DS-1515SH30LPZ	15 (13.5-16.5)	15	230 / 20	200 / 20	3000	220	85

* Performance will be degraded if the load is not within the output current range.

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitor			
Absolute maximum rating	Maximum duration 1s, 5Vin	> -0.7	9	VDC
	Maximum duration 1s, 12Vin	> -0.7	18	VDC
	Maximum duration 1s, 15Vin	> -0.7	21	VDC
Input reflected ripple current		15		mA

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 1mA	>3000		VDC
Resistance	500VDC	>1000		MΩ
Capacitance	100kHz/0.1V	20		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See output voltage tolerance	10	16	%
Line regulation	Per 1% Vin change, 3.3Vout models		1.5	%
	Per 1% Vin change, other models		1.2	%
Load regulation	10-100% load, 3.3Vout models	14	20	%
	10-100% load, others	10	15	%
Ripple & Noise*		60	150	mV pk-pk
Temperature coefficient		±0.03		%/°C

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

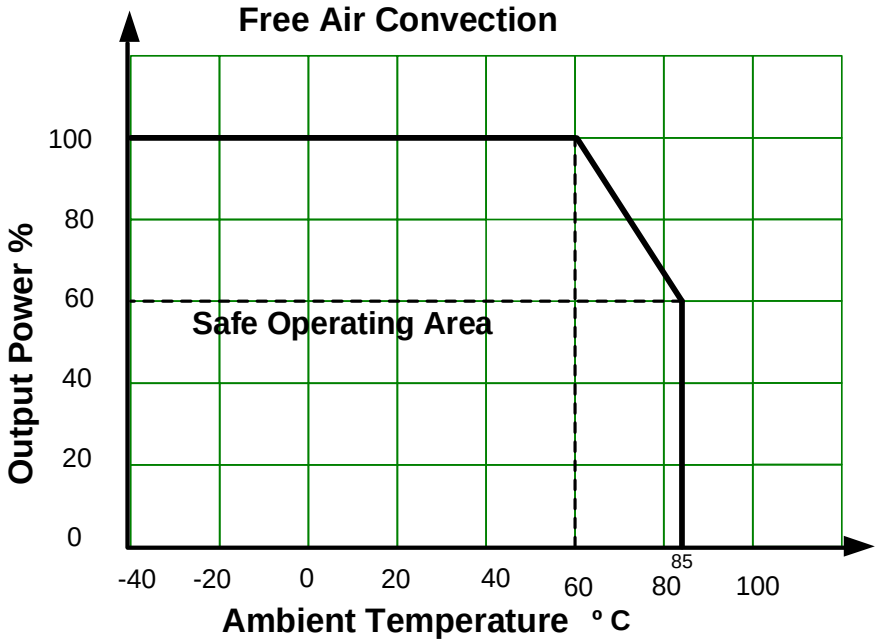
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	Full load, nominal input	220		KHz
Short circuit protection	Continuous, Auto recovery			
Operating temperature	With derating	-40 to +85		°C
Storage temperature		-55 to +125		°C

Case temperature rise	Ta = 25°C, 12/15/24Vin	25		°C
Manual soldering temperature	1.5mm away from case, duration ≤ 10sec		300	°C
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Vibration	10-150Hz, 5G, 0.75mm, along all axis			
Case material	Black plastic (flammability to UL 94V-0)			
Weight		1.8		g
Dimensions (L x W x H)	0.77 x 0.28 x 0.40 inches (19.65 x 7.05 x 10.10 mm)			
MTBF	3 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.				

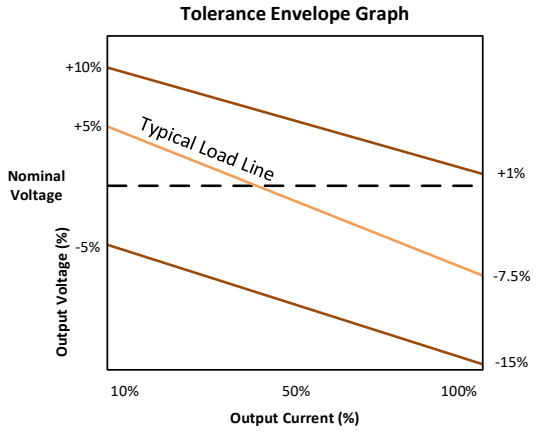
Safety Specifications		
Parameters		
Standards	Information technology Equipment	Designed to meet IEC/EN/UL62368-1
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B with the recommended EMI circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2 Air ±8KV, Contact ±6KV, Criteria B

Derating

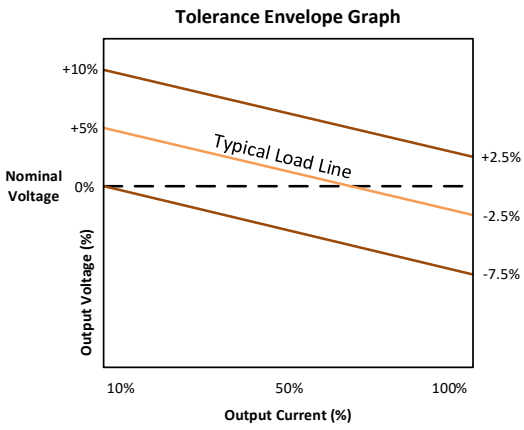


Output voltage tolerance

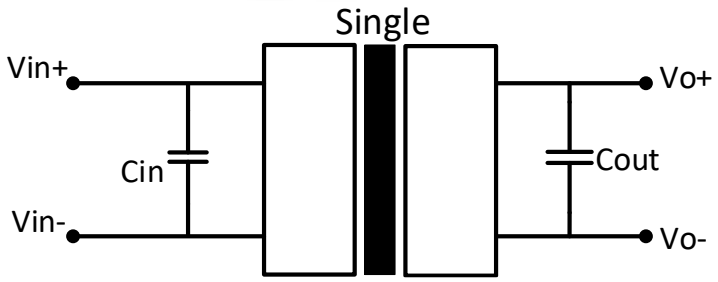
3.3Vout models



Others

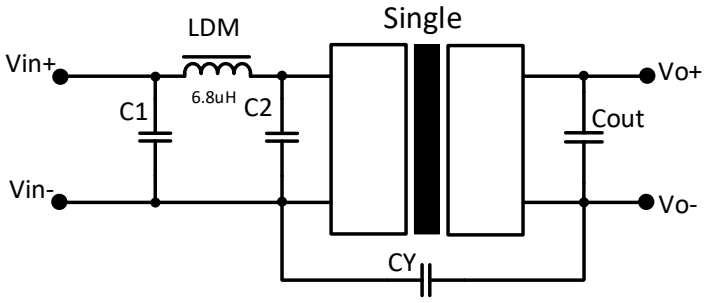


Typical application circuit



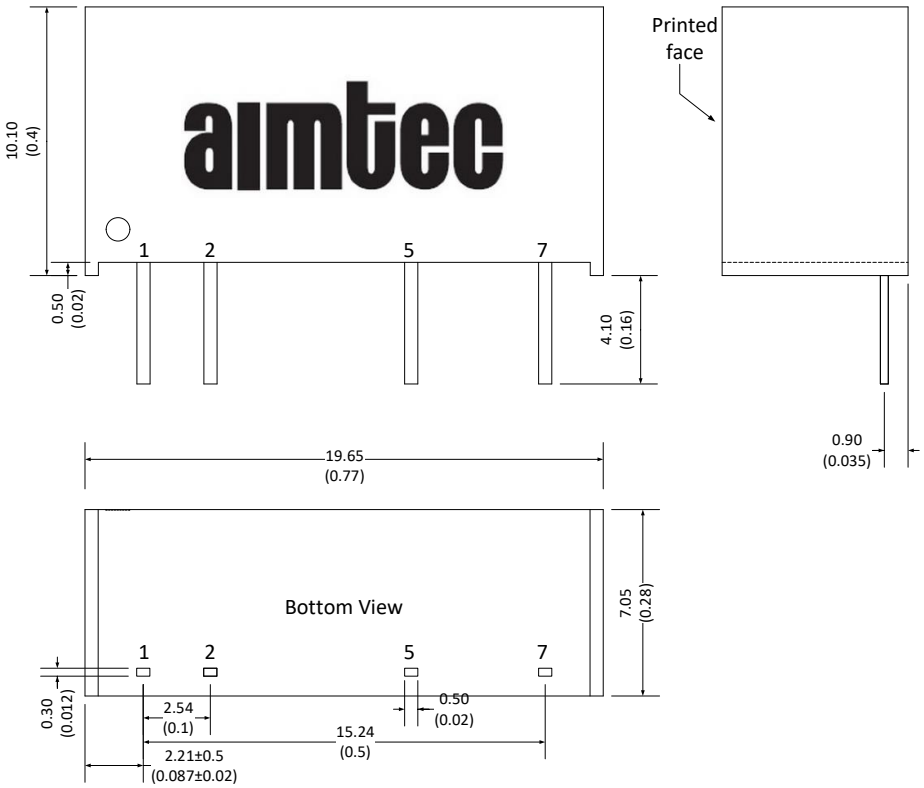
Vin	Cin	Vout	Cout
5V	4.7µF/16V	3.3V	10µF/16V
12V	2.2µF/25V	5V	10µF/16V
15V	2.2µF/25V	9V	2.2µF/25V
		12V	2.2µF/25V
		15V	1µF/50V

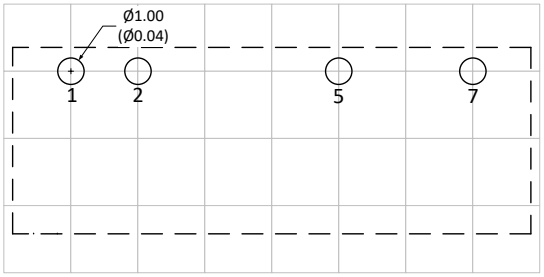
Recommended EMI circuit



Vin	C1/C2	Vout	CY	Cout
All inputs	4.7µF/50V	All outputs	1nF/4kVdc	Refer to Cout in typical circuit

Dimensions





Grid size: 2.54*2.54mm

Note:
Unit: mm(inch)
General tolerance: ±0.50 (0.02)
Pin tolerance: ±0.1 (0.004)

Pin Out Specifications	
Pin	3KV isolation Single output
1	+V Input
2	-V Input
5	-V Output
7	+V Output

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.