Click to ORDER samples

AM2LS-LPZ



SMD Package

The AM2LS-LPZ is a 2W SMD 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, 12, 15, 24VDC as well as an output voltage of 3.3-24V. This compact SMD design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 105°C with full power up to 71 or 85°C. Also, an isolation of 1500VDC & 3000VDC for improved reliability and system safety as well as a great 3,500,000h MTBF come standard.

The AM2LS-LPZ is suitable for instrumentation, industrial controls, industrial applications, communication interface and IoT applications.

Features

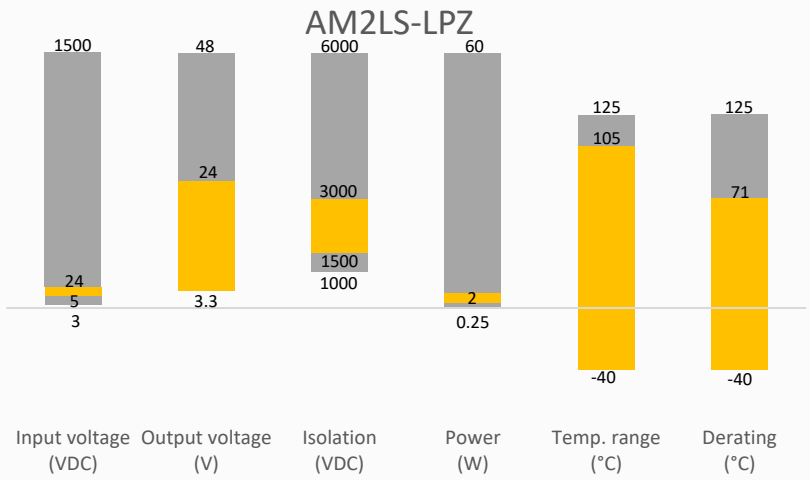
- High I/O Isolation 1500VDC & 3000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +105 °C
- Low profile case height: 7.25mm
- Compact footprint and high-power Density
- Efficiency up to 85%
- Unregulated output

RoHS

3yr Warranty

CE

Summary



Training



Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

IoT

Industrial

Telecom

Portable Equipment

Downloaded from Arrow.com.

Models & Specifications

Single Output							
Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Full load typ. (mA)	Output Current max (mA)	Isolation (VDC)	Maximum capacitive Load (µF)	Efficiency Typ. (%)
AM2LS-0503SLPZ	5 (4.5-5.5)	3.3	482	400	1500	2400	82
AM2LS-0505SLPZ	5 (4.5-5.5)	5	482	400	1500	2400	83
AM2LS-0507SLPZ	5 (4.5-5.5)	7	482	286	1500	1000	84
AM2LS-0509SLPZ	5 (4.5-5.5)	9	482	222	1500	1000	84
AM2LS-0512SLPZ	5 (4.5-5.5)	12	482	167	1500	560	84
AM2LS-0515SLPZ	5 (4.5-5.5)	15	482	133	1500	560	84
AM2LS-0524SLPZ	5 (4.5-5.5)	24	482	83	1500	220	84
AM2LS-1203SLPZ	12 (10.8-13.2)	3.3	201	400	1500	2400	82
AM2LS-1205SLPZ	12 (10.8-13.2)	5	201	400	1500	2400	83
AM2LS-1209SLPZ	12 (10.8-13.2)	9	201	222	1500	1000	84
AM2LS-1212SLPZ	12 (10.8-13.2)	12	201	167	1500	560	84
AM2LS-1215SLPZ	12 (10.8-13.2)	15	201	133	1500	560	84
AM2LS-1224SLPZ	12 (10.8-13.2)	24	201	83	1500	220	84
AM2LS-1503SLPZ	15 (13.5-16.5)	3.3	161	400	1500	2400	82
AM2LS-1505SLPZ	15 (13.5-16.5)	5	161	400	1500	2400	83
AM2LS-1509SLPZ	15 (13.5-16.5)	9	161	222	1500	1000	84
AM2LS-1512SLPZ	15 (13.5-16.5)	12	161	167	1500	560	84
AM2LS-1515SLPZ	15 (13.5-16.5)	15	161	133	1500	560	84
AM2LS-1524SLPZ	15 (13.5-16.5)	24	161	83	1500	220	84
AM2LS-2403SLPZ	24 (21.6-26.4)	3.3	99	400	1500	2400	82
AM2LS-2405SLPZ	24 (21.6-26.4)	5	99	400	1500	2400	84
AM2LS-2409SLPZ	24 (21.6-26.4)	9	99	222	1500	1000	84
AM2LS-2412SLPZ	24 (21.6-26.4)	12	99	167	1500	560	84
AM2LS-2415SLPZ	24 (21.6-26.4)	15	99	133	1500	560	84
AM2LS-2424SLPZ	24 (21.6-26.4)	24	99	83	1500	220	84
AM2LS-0503SH30LPZ	5 (4.5-5.5)	3.3	482	400	3000	2400	82
AM2LS-0505SH30LPZ	5 (4.5-5.5)	5	482	400	3000	2400	83
AM2LS-0507SH30LPZ	5 (4.5-5.5)	7	482	286	3000	1000	84
AM2LS-0509SH30LPZ	5 (4.5-5.5)	9	482	222	3000	1000	84
AM2LS-0512SH30LPZ	5 (4.5-5.5)	12	482	167	3000	560	84
AM2LS-0515SH30LPZ	5 (4.5-5.5)	15	482	133	3000	560	84
AM2LS-0524SH30LPZ	5 (4.5-5.5)	24	482	83	3000	220	84
AM2LS-1203SH30LPZ	12 (10.8-13.2)	3.3	201	400	3000	2400	82
AM2LS-1205SH30LPZ	12 (10.8-13.2)	5	201	400	3000	2400	83
AM2LS-1209SH30LPZ	12 (10.8-13.2)	9	201	222	3000	1000	84
AM2LS-1212SH30LPZ	12 (10.8-13.2)	12	201	167	3000	560	84
AM2LS-1215SH30LPZ	12 (10.8-13.2)	15	201	133	3000	560	84
AM2LS-1224SH30LPZ	12 (10.8-13.2)	24	201	83	3000	220	84
AM2LS-1503SH30LPZ	15 (13.5-16.5)	3.3	161	400	3000	2400	82
AM2LS-1505SH30LPZ	15 (13.5-16.5)	5	161	400	3000	2400	83
AM2LS-1509SH30LPZ	15 (13.5-16.5)	9	161	222	3000	1000	84
AM2LS-1512SH30LPZ	15 (13.5-16.5)	12	161	167	3000	560	84
AM2LS-1515SH30LPZ	15 (13.5-16.5)	15	161	133	3000	560	84

Downloaded from Arrow.com.

AM2LS-1524SH30LPZ	15 (13.5-16.5)	24	161	83	3000	220	84
AM2LS-2403SH30LPZ	24 (21.6-26.4)	3.3	99	400	3000	2400	82
AM2LS-2405SH30LPZ	24 (21.6-26.4)	5	99	400	3000	2400	83
AM2LS-2409SH30LPZ	24 (21.6-26.4)	9	99	222	3000	1000	84
AM2LS-2412SH30LPZ	24 (21.6-26.4)	12	99	167	3000	560	84
AM2LS-2415SH30LPZ	24 (21.6-26.4)	15	99	133	3000	560	84
AM2LS-2424SH30LPZ	24 (21.6-26.4)	24	99	83	3000	220	84

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Input current	No load	3~10		mA
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
	Maximum duration 1s, 24Vin	> -0.7	30	VDC
Input reflected ripple current		15		mA

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 1mA	>1500		VDC
	60 sec, leakage ≤ 1mA for H30 models	>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 curves			
Line regulation	Per 1% Vin change, 3.3Vout	±1.5		%
	Per 1% Vin change, others	±1.2		%
Load regulation	10-100% load, 3.3/5Vout	10		%
	10-100% load, 7/9/12/15Vout	8		%
	10-100% load, 24Vout	6		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz bandwidth	45	120	mV pk-pk
Minimum load*		10		%

* Operating with less than 10% of rated load will not cause permanent damage to the converters, but the performance data may not fall into the specifications, and reliable operating is not assured.

General Specifications

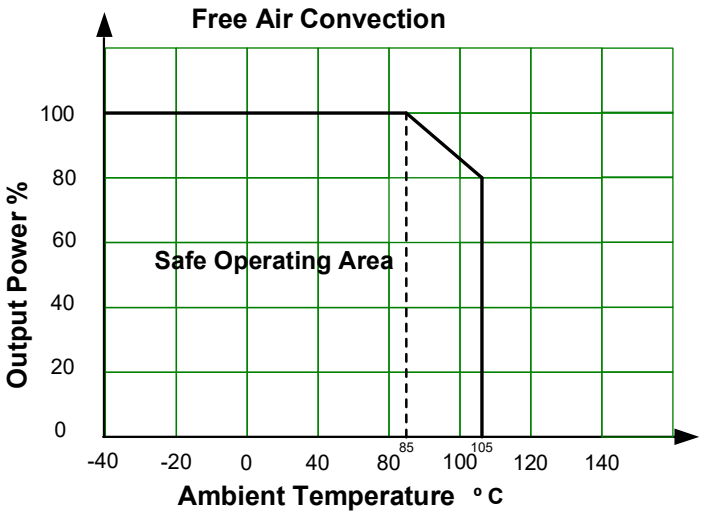
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	Full load	220		KHz
Short circuit protection	Continuous, Auto recovery			
Operating temperature	With derating at 85°C, see derating graph	-40 to +105		°C
Storage temperature		-55 to +125		°C
Maximum Case temperature		130		°C

Downloaded from Arrow.com.

Reflow soldering temperature	Maximum duration 60s when over 217°C		245	°C
Soldering method	IPC/JEDEC J-STD-020D.1.			
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Moisture sensitivity level	Level 1			
Case material	Black plastic (flammability to UL 94V-0)			
Weight		1.2		g
Dimensions (L x W x H)		0.53 x 0.43 x 0.29 inches (13.50 x 11.00 x 7.25 mm)		
MTBF	3 500 000 hrs (MIL-HDBK -217F, t=+25ºC) / 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 EMC circuit
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2 Contact ±6KV, Criteria B

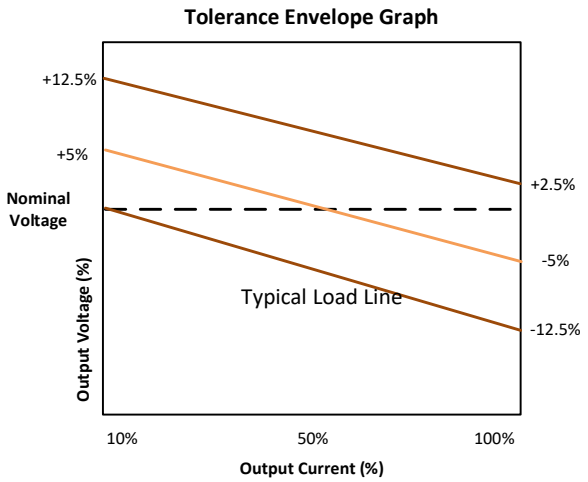
Derating



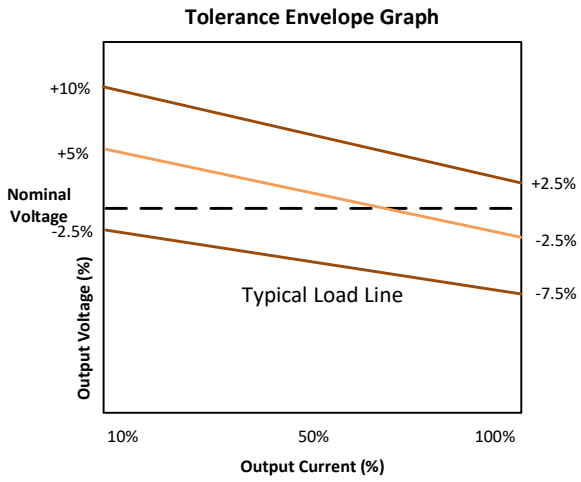
Downloaded from Arrow.com.

Output voltage tolerance

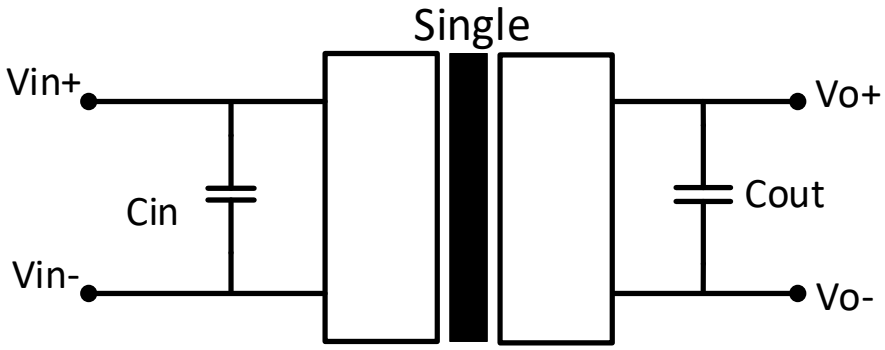
3.3Vout models



Others



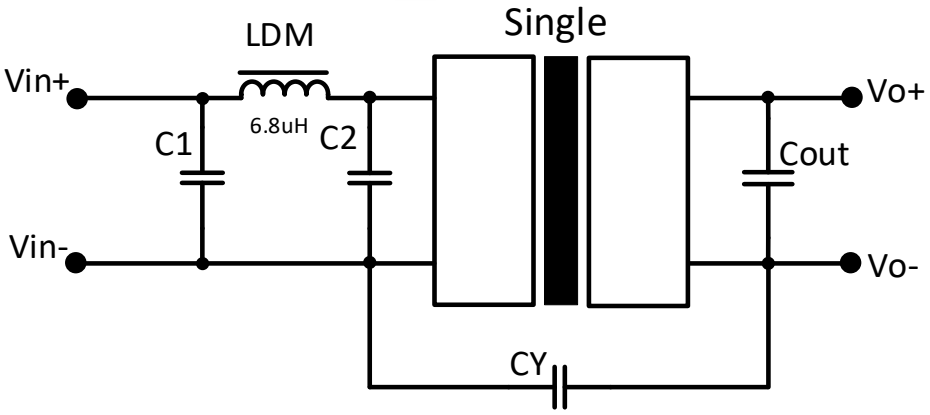
Typical application circuit



Vin	Cin	Vout	Cout
5	4.7µF/16V	3.3V/5V	10µF/16V
12	2.2µF/25V	9V	4.7µF/25V
15	1µF/25V	12V	4.7µF/25V
24	1µF/50V	15V	1µF/25V
		24V	0.47µF/50V

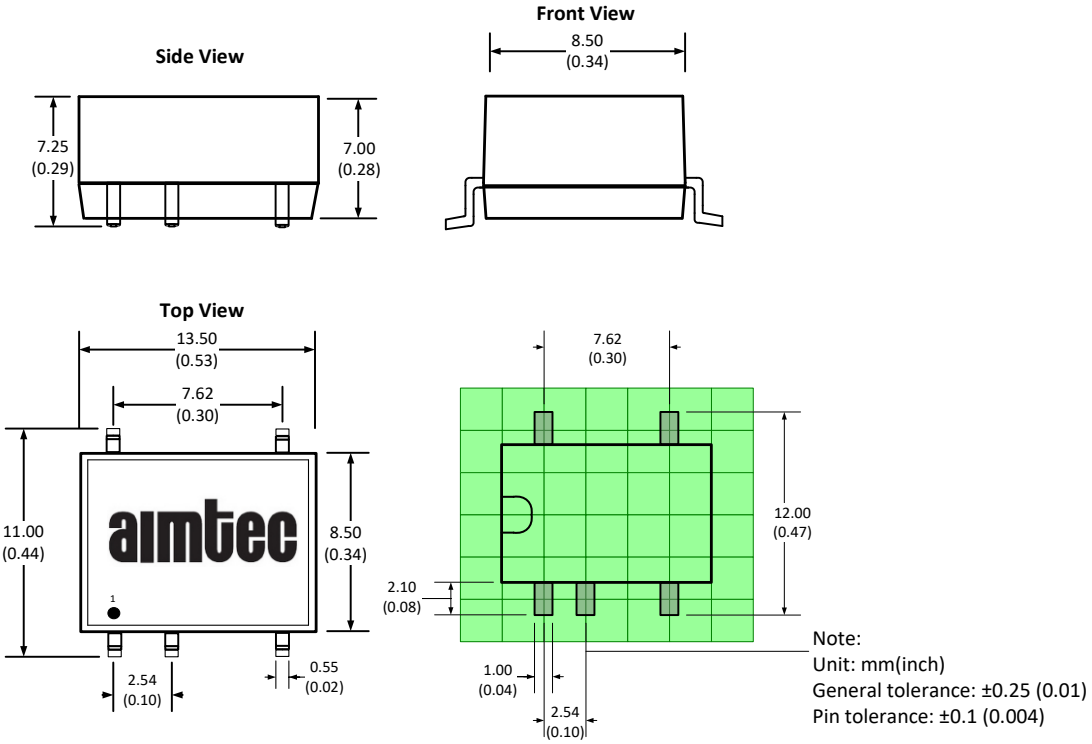
Downloaded from Arrow.com.

EMC Recommended circuit



Models	C1/C2	CY	Cout
1500VDC	4.7μF/50V	1000pF/2kVdc	Refer to Cout in typical circuit
3000VDC	4.7μF/50V	1000pF/4kVdc	Refer to Cout in typical circuit

Dimensions



Pin Out Specifications	
Pin	Single
1	-V Input
2	+V Input
4	-V Output
5	+V Output
8	NC

Note:
Unit: mm(inch)
General tolerance: ±0.25 (0.01)
Pin tolerance: ±0.1 (0.004)

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.

Downloaded from Arrow.com.