

Click to
ORDER
samples

AM2LS-EZ



SMD Package

The AM2LS-EZ 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 5-24VDC 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 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.

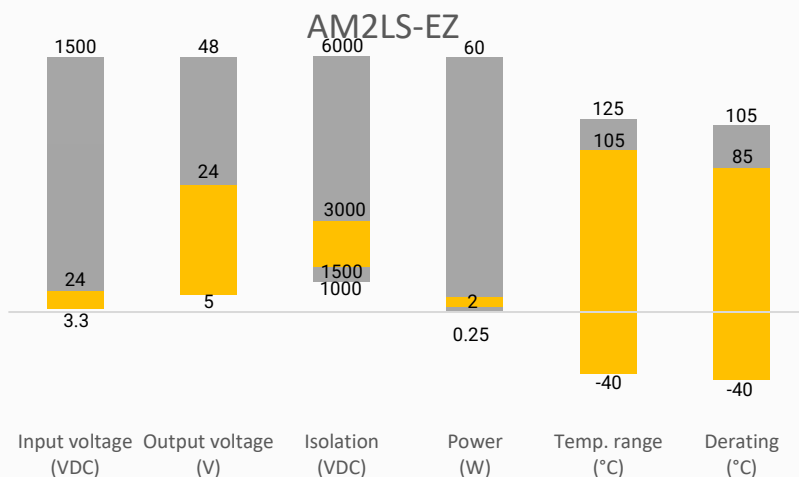
The AM2LS-EZ is suitable for instrumentation, industrial control, industrial applications, communication and IoT applications.

Features

- High I/O Isolation 1500VDC & 3000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +105 °C
- Low profile case height: 6.25mm
- Compact footprint and high-power Density
- Efficiency up to 89%
- Unregulated output
- Made in Taiwan



Summary



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



IoT



Industrial



Telecom



Portable Equipment

Models & Specifications



Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max (mA)	Isolation (VDC)	Maximum capacitive Load (μF)	Efficiency Typ. (%)
AM2LS-0503SEZ	5 (4.5-5.5)	3.3	600	1500	2400	78
AM2LS-0505SEZ	5 (4.5-5.5)	5	400	1500	2400	85
AM2LS-0509SEZ	5 (4.5-5.5)	9	223	1500	820	87
AM2LS-0512SEZ	5 (4.5-5.5)	12	167	1500	470	87
AM2LS-0515SEZ	5 (4.5-5.5)	15	133	1500	220	88
AM2LS-0524SEZ	5 (4.5-5.5)	24	84	1500	100	89
AM2LS-1203SEZ	12 (10.8-13.2)	3.3	600	1500	2400	80
AM2LS-1205SEZ	12 (10.8-13.2)	5	400	1500	2400	85
AM2LS-1209SEZ	12 (10.8-13.2)	9	223	1500	820	87
AM2LS-1212SEZ	12 (10.8-13.2)	12	167	1500	470	87
AM2LS-1215SEZ	12 (10.8-13.2)	15	133	1500	220	88
AM2LS-1224SEZ	12 (10.8-13.2)	24	84	1500	100	89
AM2LS-1503SEZ	15 (13.5-16.5)	3.3	600	1500	2400	80
AM2LS-1505SEZ	15 (13.5-16.5)	5	400	1500	2400	85
AM2LS-1509SEZ	15 (13.5-16.5)	9	223	1500	820	87
AM2LS-1512SEZ	15 (13.5-16.5)	12	167	1500	470	87
AM2LS-1515SEZ	15 (13.5-16.5)	15	133	1500	220	88
AM2LS-1524SEZ	15 (13.5-16.5)	24	84	1500	100	89
AM2LS-2403SEZ	24 (21.6-26.4)	3.3	600	1500	2400	80
AM2LS-2405SEZ	24 (21.6-26.4)	5	400	1500	2400	85
AM2LS-2409SEZ	24 (21.6-26.4)	9	223	1500	820	87
AM2LS-2412SEZ	24 (21.6-26.4)	12	167	1500	470	87
AM2LS-2415SEZ	24 (21.6-26.4)	15	133	1500	220	88
AM2LS-2424SEZ	24 (21.6-26.4)	24	84	1500	100	89
AM2LS-0503SH30EZ	5 (4.5-5.5)	3.3	600	3000	2400	78
AM2LS-0505SH30EZ	5 (4.5-5.5)	5	400	3000	2400	85
AM2LS-0509SH30EZ	5 (4.5-5.5)	9	223	3000	820	87
AM2LS-0512SH30EZ	5 (4.5-5.5)	12	167	3000	470	87
AM2LS-0515SH30EZ	5 (4.5-5.5)	15	133	3000	220	88
AM2LS-0524SH30EZ	5 (4.5-5.5)	24	84	3000	100	89
AM2LS-1203SH30EZ	12 (10.8-13.2)	3.3	600	3000	2400	80
AM2LS-1205SH30EZ	12 (10.8-13.2)	5	400	3000	2400	85
AM2LS-1209SH30EZ	12 (10.8-13.2)	9	223	3000	820	87
AM2LS-1212SH30EZ	12 (10.8-13.2)	12	167	3000	470	87
AM2LS-1215SH30EZ	12 (10.8-13.2)	15	133	3000	220	88
AM2LS-1224SH30EZ	12 (10.8-13.2)	24	84	3000	100	89
AM2LS-1503SH30EZ	15 (13.5-16.5)	3.3	600	3000	2400	80
AM2LS-1505SH30EZ	15 (13.5-16.5)	5	400	3000	2400	85
AM2LS-1509SH30EZ	15 (13.5-16.5)	9	223	3000	820	87
AM2LS-1512SH30EZ	15 (13.5-16.5)	12	167	3000	470	87
AM2LS-1515SH30EZ	15 (13.5-16.5)	15	133	3000	220	88
AM2LS-1524SH30EZ	15 (13.5-16.5)	24	84	3000	100	89
AM2LS-2403SH30EZ	24 (21.6-26.4)	3.3	600	3000	2400	80
AM2LS-2405SH30EZ	24 (21.6-26.4)	5	400	3000	2400	85
AM2LS-2409SH30EZ	24 (21.6-26.4)	9	223	3000	820	87

AM2LS-2412SH30EZ	24 (21.6-26.4)	12	167	3000	470	87
AM2LS-2415SH30EZ	24 (21.6-26.4)	15	133	3000	220	88
AM2LS-2424SH30EZ	24 (21.6-26.4)	24	84	3000	100	89

Note: Use suffix "TR" for tape & reel packing (ex. AM2LS-0505SEZTR).

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitor			

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage $\leq 0.5\text{mA}$	>1500	--	VDC
	60 sec, leakage $\leq 0.5\text{mA}$ for H30 models	>3000	--	VDC
Resistance	500VDC	>1000	--	M Ω
Capacitance	I/O 100kHz/0.1V	20	--	pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	100% load	--	± 5	%
Line regulation	Per 1% Vin change	1.2	--	%
Load regulation	10-100% load, 3.3Vout models		20	%
	10-100% load, 5Vout models	8	15	%
	10-100% load, 9Vout models	6	10	%
	10-100% load, 12Vout models	5	10	%
	10-100% load, 15Vout models	4	10	%
	10-100% load, 24Vout models	3	10	%
Ripple & Noise*		75	150	mV pk-pk
Minimum load**	--	10	--	%

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

** If the required power is less than 10% of the rated converter output, connect a bleeder resistor in parallel with the load to satisfy the minimum load requirement.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	Full load, nominal input, 5Vin models	215	--	KHz
	Full load, nominal input, others	250	--	KHz
Short circuit protection	Continuous			
Operating temperature	With derating at 85°C	-40 to +105	--	°C
Storage temperature	--	-55 to +125	--	°C
Cooling	Free air convection			
Humidity	Non-condensing		95	% RH
Case material	Black plastic (flammability to UL 94V-0)			
Weight	24V input/output models	1.28	--	g
	Others	1.2	--	g
Dimensions	24V input/output models	0.51 x 0.43 x 0.27 inches (12.80 x 10.8 x 6.9 mm)		
	Others	0.50 x 0.30 x 0.25 inches (12.70 x 7.6 x 6.25 mm)		
MTBF	3 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			

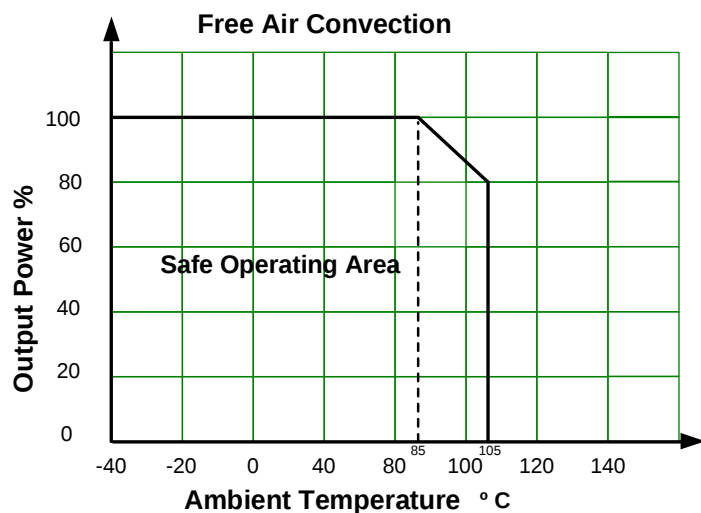
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

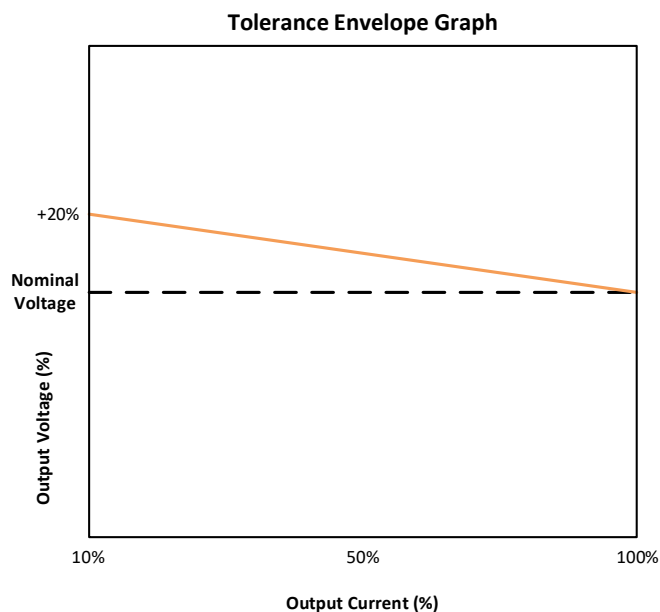
Parameters

Agency approvals	IEC/EN/UL 62368-1	
Standards	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B with the recommended EMI circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2 Air $\pm 8\text{KV}$, Contact $\pm 6\text{KV}$, Criteria B

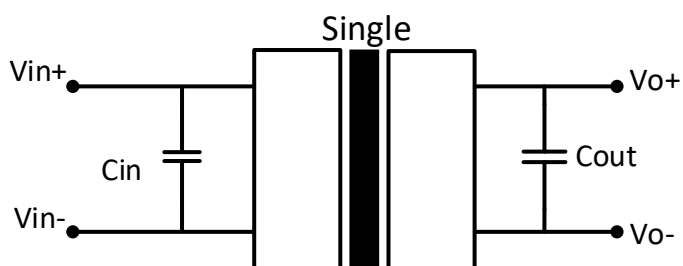
Derating



Output voltage tolerance

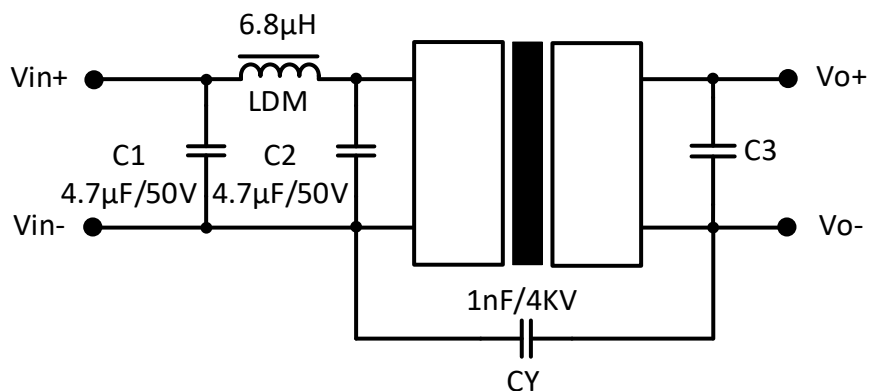


Typical application circuit



Vin	Cin	Vout	Cout
5V	4.7 μ F/25V	5V	10 μ F/16V
12V	2.2 μ F/25V	9V	2.2 μ F/16V
15V	2.2 μ F/25V	12V	2.2 μ F/25V
24V	1 μ F/50V	15V	1 μ F/25V
		24V	1 μ F/50V

EMI Recommended circuit

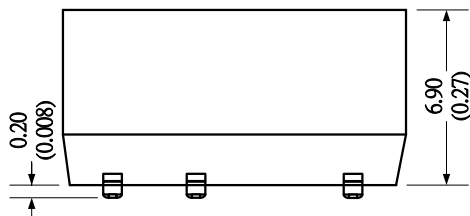


C3: Refer to Cout in typical circuit.

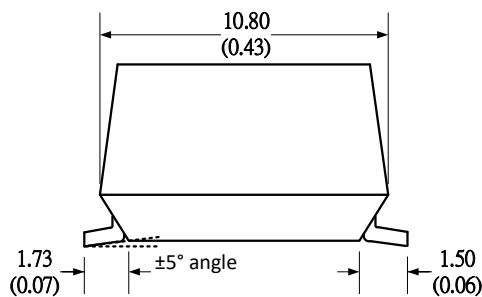
Dimensions

For 24Vin/Vout models

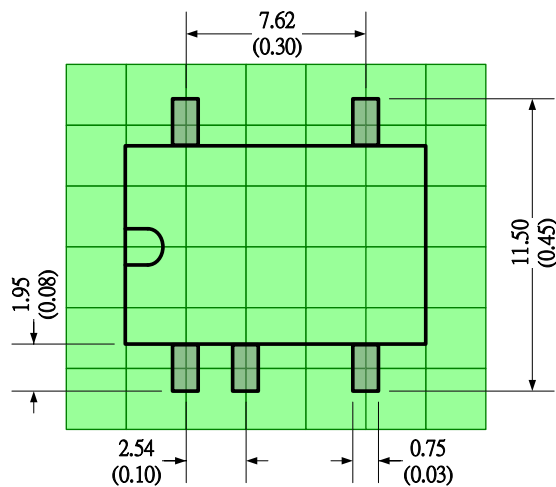
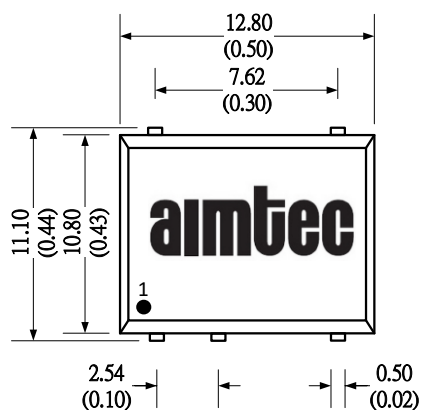
Side View



Front View



Top View



Pin Out Specifications

Pin	Single
1	-V Input
2	+V Input
3	-
4	-V Output
5	+V Output
6	-
7	-
8	NC

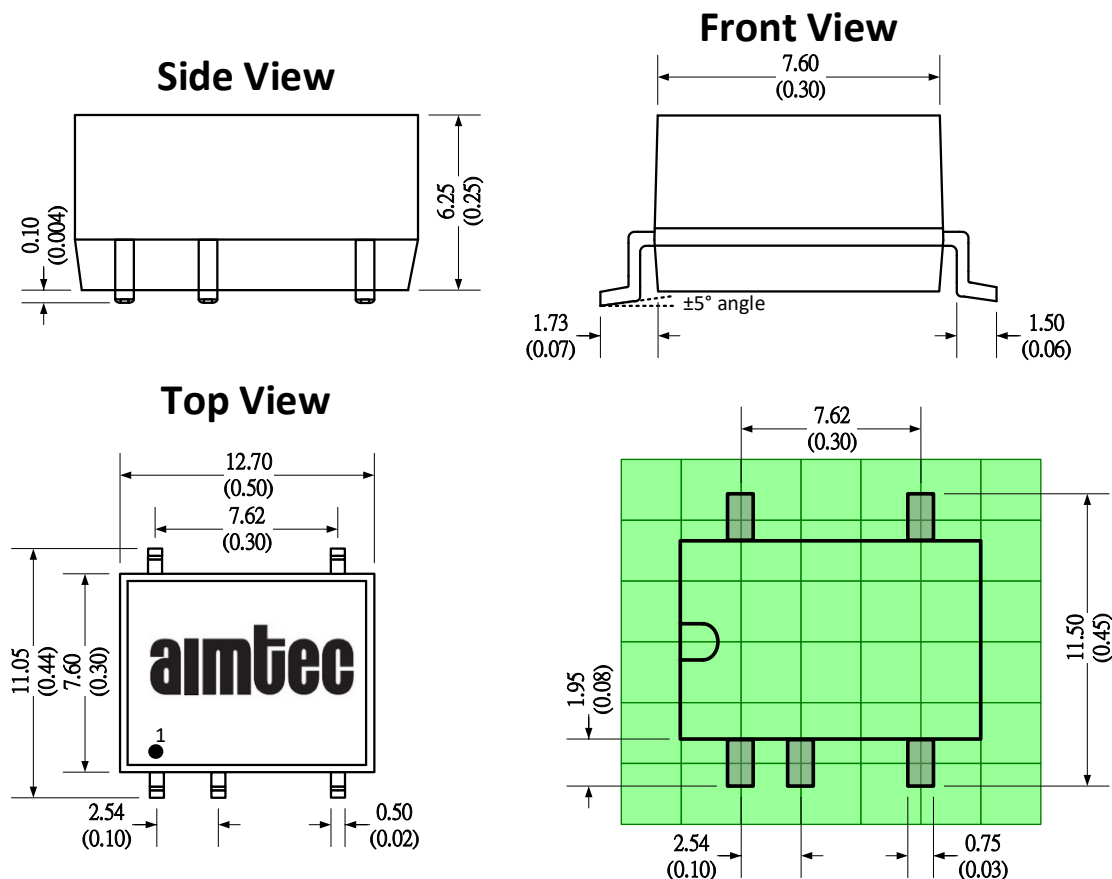
Note:

Unit: mm(inch)

General tolerance: ± 0.25 (0.01)

Pin tolerance: ± 0.1 (0.004)

Other models



Pin Out Specifications	
Pin	Single
1	-V Input
2	+V Input
3	-
4	-V Output
5	+V Output
6	-
7	-
8	NC

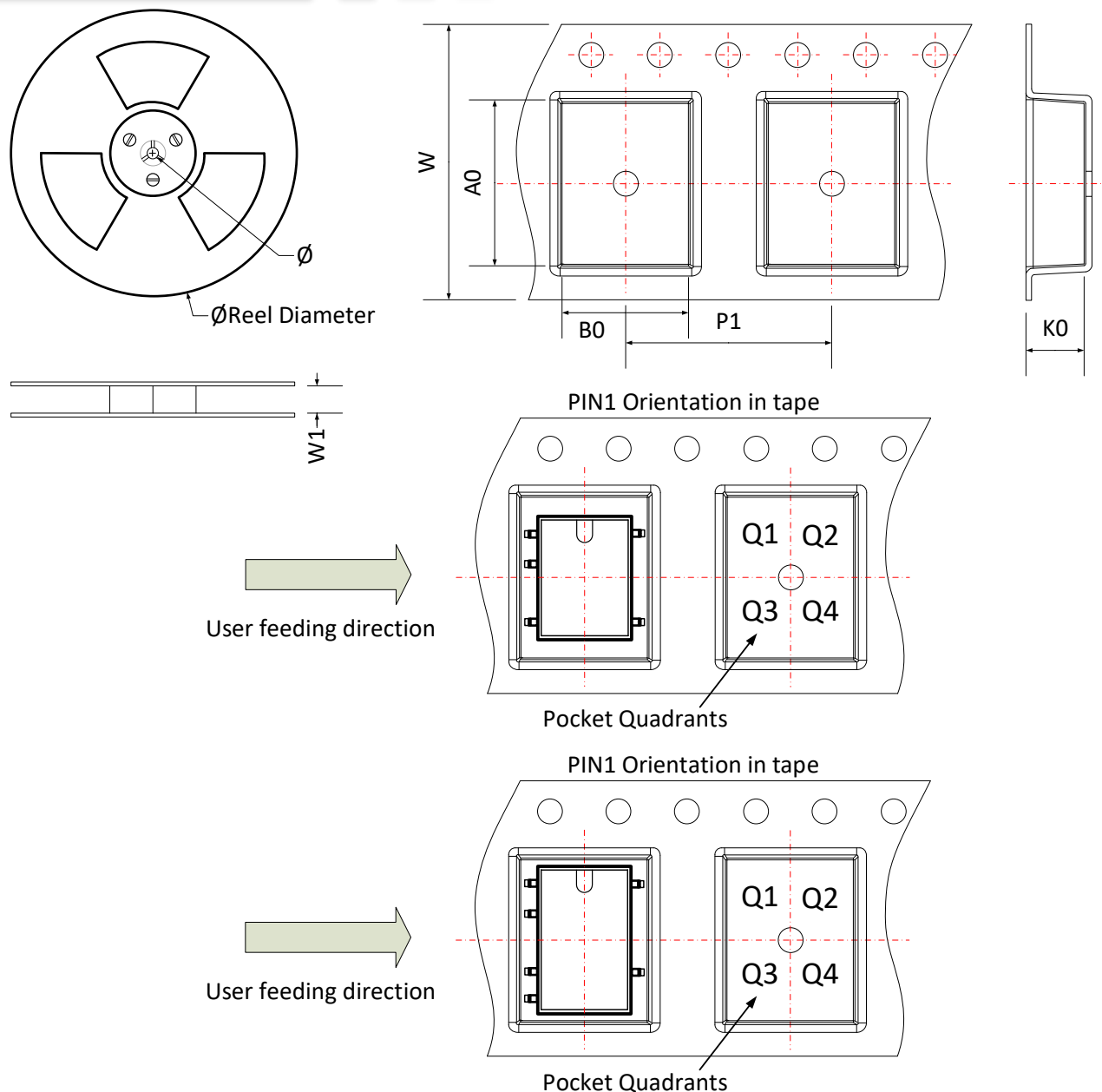
Note:

Unit: mm(inch)

General tolerance: ± 0.25 (0.01)

Pin tolerance: ± 0.1 (0.004)

Packing Information



Device	Package Type	Pin	MPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0	B0	K0	P1	W	P1 Quadrant
AM2LS-EZ Single output	SMD	5	350			13.3	12.36	7.6	20.0	24.0	Q1

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 label shown, including safety agency certifications on label, 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 chemical I 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.