Series AM1/4L-NZ

1/4 Watt | DC-DC Converter

FEATURES:

- RoHS Compliant
- SMD Package
- Low ripple and noise
- High efficiency up to 68%
- Operating temperature -40°C to + 85°C
- Input/Output Isolation 1000 and 3000VDC
- Pin compatible with multiple manufacturers
- UL94-VO Package

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1/4L-0303S-NZ	3-3.6	3.3	75	1000	60
AM1/4L-0305S-NZ	3-3.6	5	50	1000	60
AM1/4L-0312S-NZ	3-3.6	12	20	1000	63
AM1/4L-0315S-NZ	3-3.6	15	16	1000	64
AM1/4L-0503S-NZ	4.5-5.5	3.3	75	1000	61
AM1/4L-0505S-NZ	4.5-5.5	5	50	1000	64
AM1/4L-0509S-NZ	4.5-5.5	9	27	1000	65
AM1/4L-0512S-NZ	4.5-5.5	12	20	1000	66
AM1/4L-0515S-NZ	4.5-5.5	15	16	1000	67
AM1/4L-0524S-NZ	4.5-5.5	24	10	1000	64
AM1/4L-1203S-NZ	10.8-13.2	3.3	75	1000	60
AM1/4L-1205S-NZ	10.8-13.2	5	50	1000	65
AM1/4L-1212S-NZ	10.8-13.2	12	20	1000	66
AM1/4L-2405S-NZ	21.6-26.4	5	50	1000	60
AM1/4L-2412S-NZ	21.6-26.4	12	20	1000	64
AM1/4L-2415S-NZ	21.6-26.4	15	16	1000	63
AM1/4L-0303SH30-NZ	3-3.6	3.3	75	3000	60
AM1/4L-0305SH30-NZ	3-3.6	5	50	3000	60
AM1/4L-0505SH30-NZ	4.5-5.5	5	50	3000	64
AM1/4L-1205SH30-NZ	10.8-13.2	5	50	3000	66
AM1/4L-1212SH30-NZ	10.8-13.2	12	20	3000	67

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1/4L-0505D-NZ	4.5-5.5	±5	±25	1000	63
AM1/4L-0512D-NZ	4.5-5.5	±12	±11	1000	65
AM1/4L-0515D-NZ	4.5-5.5	±15	±9	1000	67
AM1/4L-0524D-NZ	4.5-5.5	±24	±5	1000	64
AM1/4L-1205D-NZ	10.8-13.2	±5	±25	1000	66
AM1/4L-1212D-NZ	10.8-13.2	±12	±11	1000	67
AM1/4L-1215D-NZ	10.8-13.2	±15	±9	1000	67
AM1/4L-2405D-NZ	21.6-26.4	±5	±25	1000	62
AM1/4L-2412D-NZ	21.6-26.4	±12	±11	1000	68
AM1/4L-2415D-NZ	21.6-26.4	±15	±9	1000	67
AM1/4L-0505DH30-NZ	4.5-5.5	±5	±25	3000	64
AM1/4L-1205DH30-NZ	10.8-13.2	±5	±25	3000	66

NOTE: Add suffix “TR” to a part number when ordering in tape and reel package

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	3	3-3.6		VDC
	5	4.5-5.5		
	12	10.8-13.2		
	24	21.6-26.4		
Filter	Capacitor			

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1000 & 3000	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See the tolerance graph	±5		%
Voltage balance	Dual Output	±2		%
Line voltage regulation (Single)	For 1% change of Vin	±1.2		%
Line voltage regulation (Dual)	For 1% change of Vin	±1.2		%
Load voltage regulation (Single)	Load 10 – 100%	10		%
Load voltage regulation (Dual)	Load 10 – 100%	10		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load single	100		KHz
	100% load dual	150		KHz
Short circuit protection	Momentary (1sec)			
Operating temperature	Without derating	-40 to +85		°C
Storage temperature		-55 to +125		°C
Cooling	Free air convection			
Humidity			95	%
Case material	Plastic UL94-VO			
Weight		1.5		g
Dimensions (L x W x H)	Single 1000VDC	0.50 x 0.44 x 0.26 inch	12.70 x 11.20 x 6.70 mm	
	Dual 1000VDC	0.60 x 0.44 x 0.26 inch	15.24 x 11.20 x 6.70 mm	
	Single and Dual 3000 VDC	0.60 x 0.44 x 0.26 inch	15.24 x 11.20 x 6.70 mm	
MTBF	>3 500 000hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Max Case Temperature			95	°C

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

Pin Out Specifications
Single and Dual 1000VDC

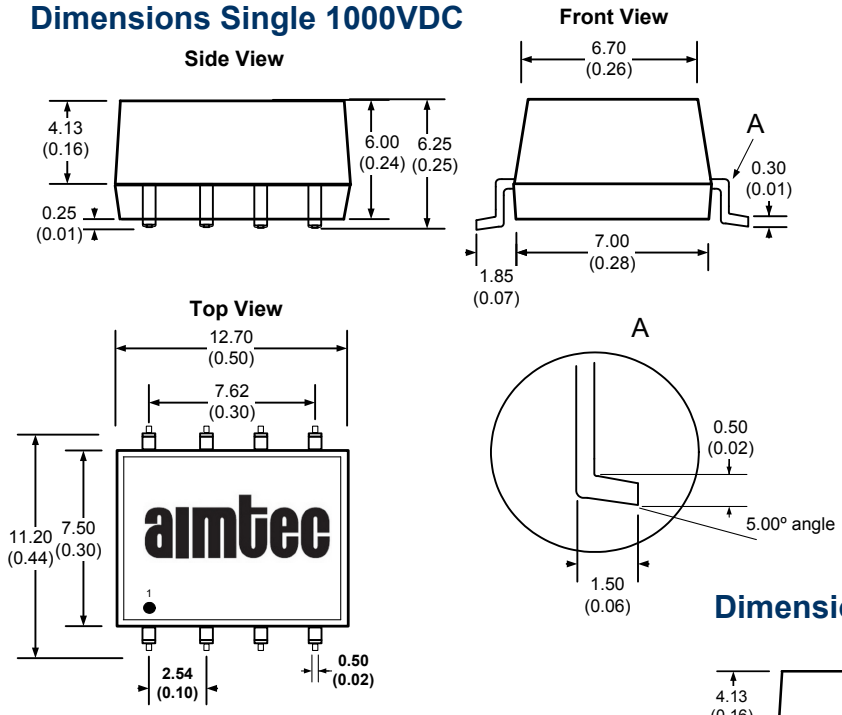
Pin	Single
1	- V Input
2	+ V Input
3	N.C.
4	- V Output
5	+ V Output
6	N.C.
7	N.C.
8	N.C.

Pin	Dual
1	- V Input
2	+ V Input
3	N.C.
4	Common
5	- V Output
6	N.C.
7	+ V Output
8	N.C.
9	N.C.
10	N.C.

Pin Out Specifications
Single and Dual 3000VDC

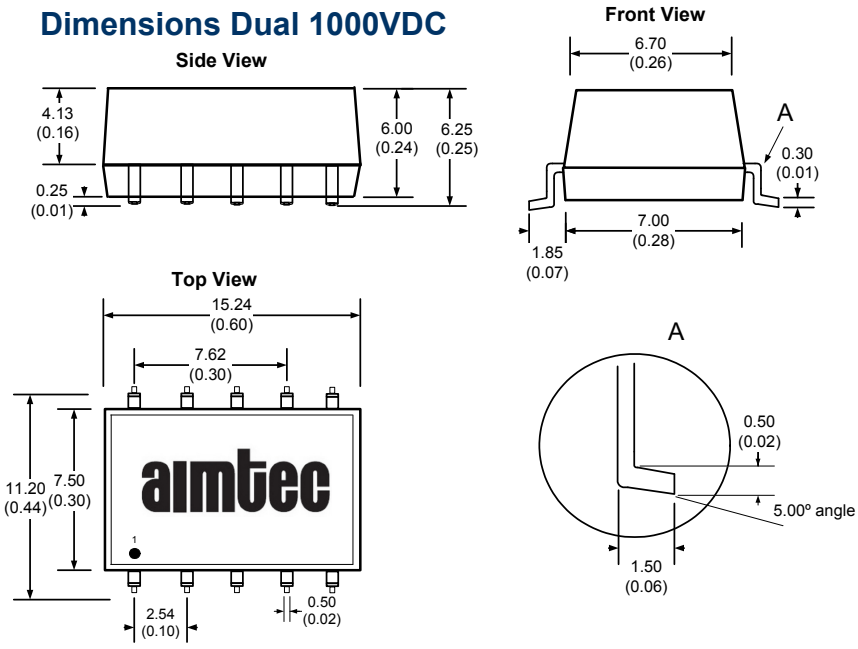
Pin	Single	Dual
1	- V Input	- V Input
2	+ V Input	+ V Input
3	N.C.	N.C.
5	-V Output	Common
6	N.C.	-V Output
7	N.C.	N.C.
8	+V Output	+V Output
10	N.C.	N.C.
11	N.C.	N.C.
12	N.C.	N.C.

Dimensions Single 1000VDC



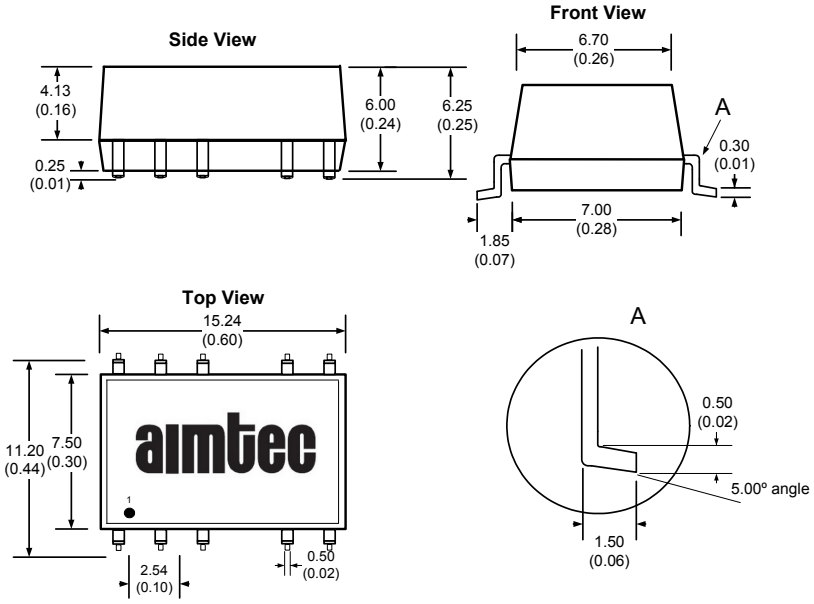
All dimensions are in mm (inch)
All Pins are on a 2.54mm (0.10inch) pitch
with tolerance of ±0.25mm (0.01inch)

Dimensions Dual 1000VDC



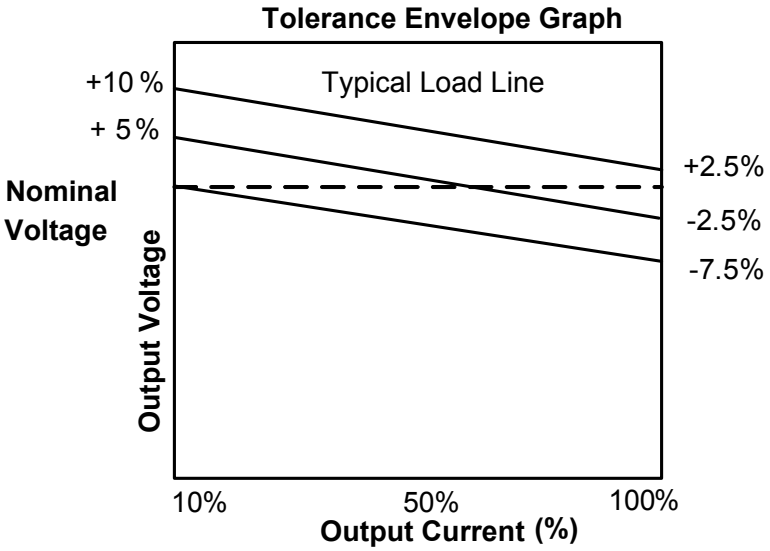
All dimensions are in mm (inch)
All Pins are on a 2.54mm (0.10inch) pitch
with tolerance of ±0.25mm (0.01inch)

Dimensions single and dual 3000VDC



All dimensions are in mm (inch)
All Pins are on a 2.54mm (0.10inch) pitch
with tolerance of ±0.25mm (0.01inch)

Typical characteristics



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