



**FEATURES:**

- RoHS Compliant
- Low ripple and noise
- High efficiency up to 87%
- UL94-VO case
- Input / Output Isolation 1000, 3000VDC
- Operating temperature -40°C to + 75°C
- Pin compatible with multiple manufacturers
- 7 pin SIP package

**Models**  
**Single output**



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0505S-NZ	4.5-5.5	5	400	1000	81
AM2D-0509S-NZ	4.5-5.5	9	222	1000	82
AM2D-0512S-NZ	4.5-5.5	12	167	1000	84
AM2D-0515S-NZ	4.5-5.5	15	134	1000	84
AM2D-1205S-NZ	10.8-13.2	5	400	1000	82
AM2D-1209S-NZ	10.8-13.2	9	222	1000	83
AM2D-1212S-NZ	10.8-13.2	12	167	1000	85
AM2D-1215S-NZ	10.8-13.2	15	134	1000	85
AM2D-2405S-NZ	21.6-26.4	5	400	1000	83
AM2D-2409S-NZ	21.6-26.4	9	222	1000	84
AM2D-2412S-NZ	21.6-26.4	12	167	1000	86
AM2D-2415S-NZ	21.6-26.4	15	134	1000	86
AM2D-0505SH30-NZ	4.5-5.5	5	400	3000	80
AM2D-0509SH30-NZ	4.5-5.5	9	222	3000	81
AM2D-0512SH30-NZ	4.5-5.5	12	167	3000	82
AM2D-0515SH30-NZ	4.5-5.5	15	134	3000	84
AM2D-1205SH30-NZ	10.8-13.2	5	400	3000	80
AM2D-1209SH30-NZ	10.8-13.2	9	222	3000	83
AM2D-1212SH30-NZ	10.8-13.2	12	167	3000	84
AM2D-1215SH30-NZ	10.8-13.2	15	134	3000	85
AM2D-2405SH30-NZ	21.6-26.4	5	400	3000	81
AM2D-2409SH30-NZ	21.6-26.4	9	222	3000	84
AM2D-2412SH30-NZ	21.6-26.4	12	167	3000	85
AM2D-2415SH30-NZ	21.6-26.4	15	134	3000	86

**Models**  
**Dual output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0505D-NZ	4.5-5.5	±5	±200	1000	82
AM2D-0509D-NZ	4.5-5.5	±9	±111	1000	83
AM2D-0512D-NZ	4.5-5.5	±12	±83	1000	85
AM2D-0515D-NZ	4.5-5.5	±15	±67	1000	85
AM2D-1205D-NZ	10.8-13.2	±5	±200	1000	83
AM2D-1209D-NZ	10.8-13.2	±9	±111	1000	84
AM2D-1212D-NZ	10.8-13.2	±12	±83	1000	86
AM2D-1215D-NZ	10.8-13.2	±15	±67	1000	86
AM2D-2405D-NZ	21.6-26.4	±5	±200	1000	84
AM2D-2409D-NZ	21.6-26.4	±9	±111	1000	85
AM2D-2412D-NZ	21.6-26.4	±12	±83	1000	87
AM2D-2415D-NZ	21.6-26.4	±15	±67	1000	87
AM2D-0505DH30-NZ	4.5-5.5	±5	±200	3000	82
AM2D-0509DH30-NZ	4.5-5.5	±9	±111	3000	83

## Models

### Dual output (continue)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0512DH30-NZ	4.5-5.5	±12	±83	3000	85
AM2D-0515DH30-NZ	4.5-5.5	±15	±67	3000	85
AM2D-1205DH30-NZ	10.8-13.2	±5	±200	3000	83
AM2D-1209DH30-NZ	10.8-13.2	±9	±111	3000	84
AM2D-1212DH30-NZ	10.8-13.2	±12	±83	3000	86
AM2D-1215DH30-NZ	10.8-13.2	±15	±67	3000	86
AM2D-2405DH30-NZ	21.6-26.4	±5	±200	3000	84
AM2D-2409DH30-NZ	21.6-26.4	±9	±111	3000	85
AM2D-2412DH30-NZ	21.6-26.4	±12	±83	3000	87
AM2D-2415DH30-NZ	21.6-26.4	±15	±67	3000	87

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	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 and 3000	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		See tolerance graph		
Voltage balance	Dual output	±1		%
Short Circuit protection		Momentary (1 sec)		
Line voltage regulation (Single)	For 1.0% of Vin	±1.2		%
Line voltage regulation (Dual)	For 1.0% of Vin	±1.2		%
Load voltage regulation (Single)	Load 10~100%	±8		%
Load voltage regulation (Dual)	Load 10~100%	±8		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20MHz Bandwidth	100		mV p-p

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	85		KHz
Operating temperature		-40 to +75		°C
Storage temperature		-55 to +125		°C
Max Case temperature			+95	°C
Cooling	Free air convection			
Humidity			90	%
Case material	Plastic UL94-V0			
Weight		2.5		g
Dimensions (L x W x H)	1000VDC isolation	0.76 x 0.24 x 0.37 inch	19.50 x 6.00 x 9.50 mm	
	3000VDC isolation	0.76 x 0.28 x 0.37 inch	19.50 x 7.05 x 9.50 mm	
MTBF	>800 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°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.

## Safety Specifications

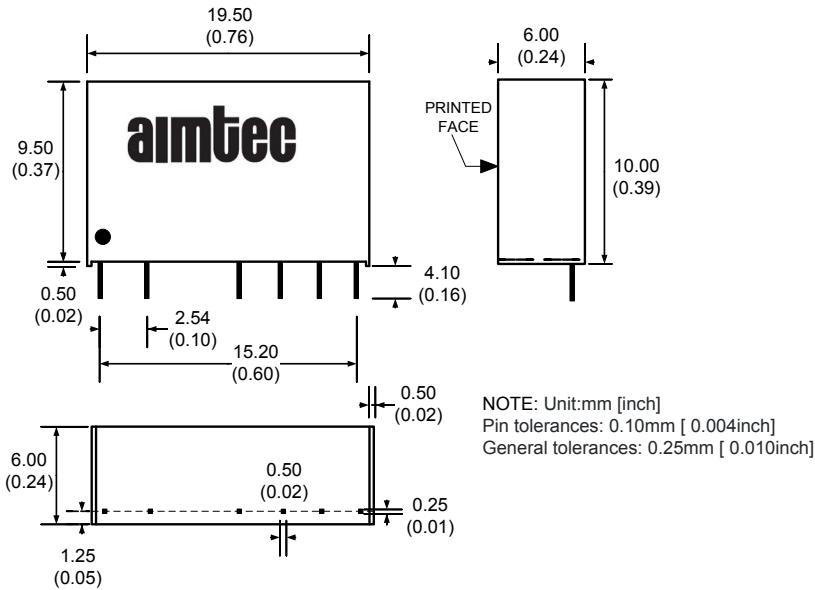
Parameters	
Agency approvals	cULus,(entire series) CE (for 3000 Isolated models and dual output models 1000VDC isolation)
Standards	IEC60950-1 :2001

## Pin Out Specifications

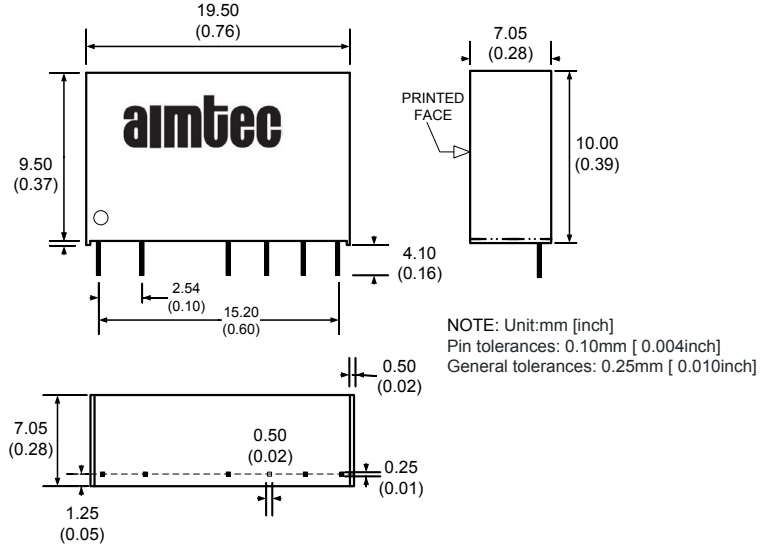
Pin	1000VDC		3000VDC	
	Single	Dual	Single	Dual
1	+ V Input	+ V Input	+ V Input	+ V Input
2	- V Input	- V Input	- V Input	- V Input
4	-V Output	- V Output	No pin	No pin
5	No pin	Common	-V Output	-V Output
6	+ V Output	+ V Output	No pin	Common
7	No pin	No pin	+V Output	+V Output

## Dimensions

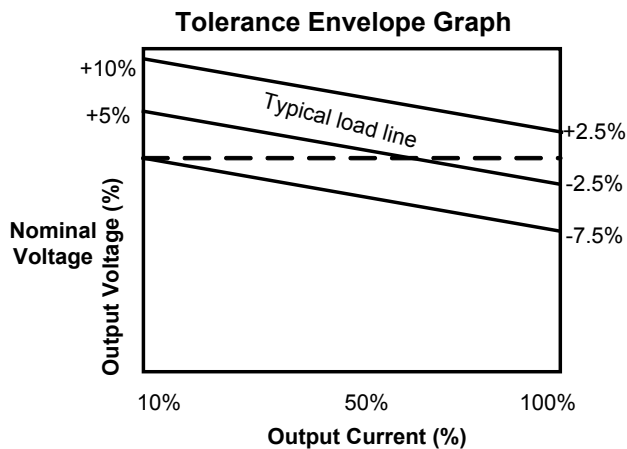
### 1000Vdc Isolation



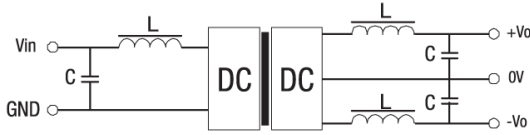
### 3000Vdc Isolation



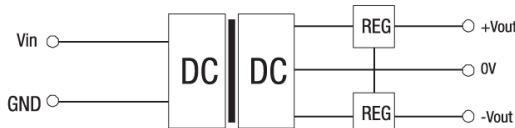
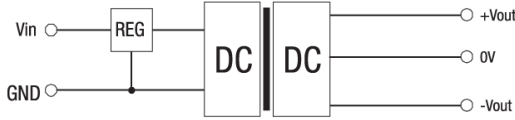
## Typical characteristics



### Filtering Single

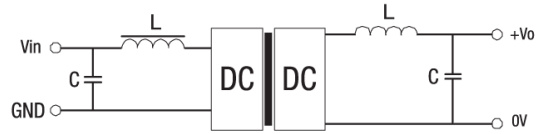


<Figure 1>

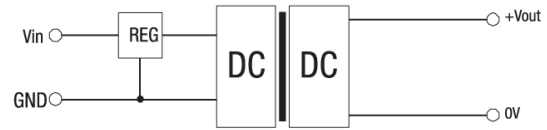


<Figure 2>

### Filtering Dual



<Figure 1>



<Figure 2>

### External capacitor – Single output

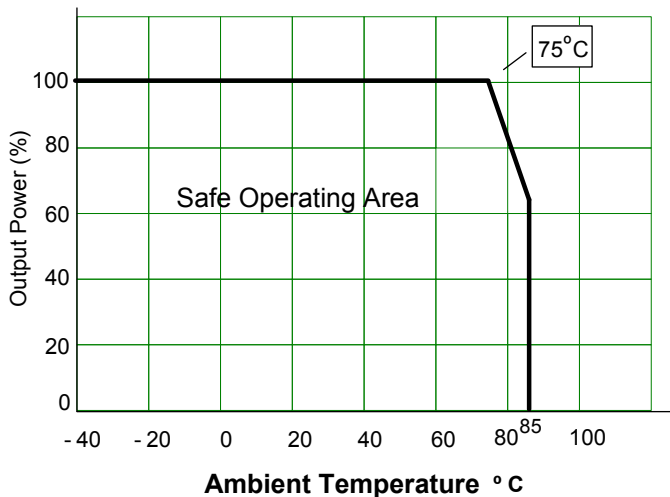
Vin (VDC)	External capacitor (uF)	Vout (VDC)	External capacitor (uF)
5	4.7	5	10
12	2.2	9	4.7
24	1	12	2.2
-	-	15	1

### External capacitor – Dual output

Vin (VDC)	External capacitor (uF)	Vout (VDC)	External capacitor (uF)
5	4.7	5	4.7
12	2.2	9	2.2
24	1	12	1
-	-	15	0.47

### Derating

#### Free Air Convection



**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](http://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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).