

## AM15W-JZ



Encapsulated

## Features



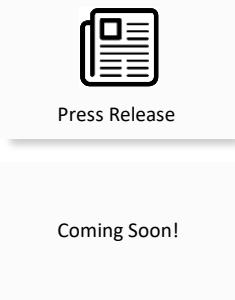
- Ultra-wide Input: 200 - 1500VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 150mV(p-p), typ.
- Output short circuit, over-current, over-voltage protection



## Training

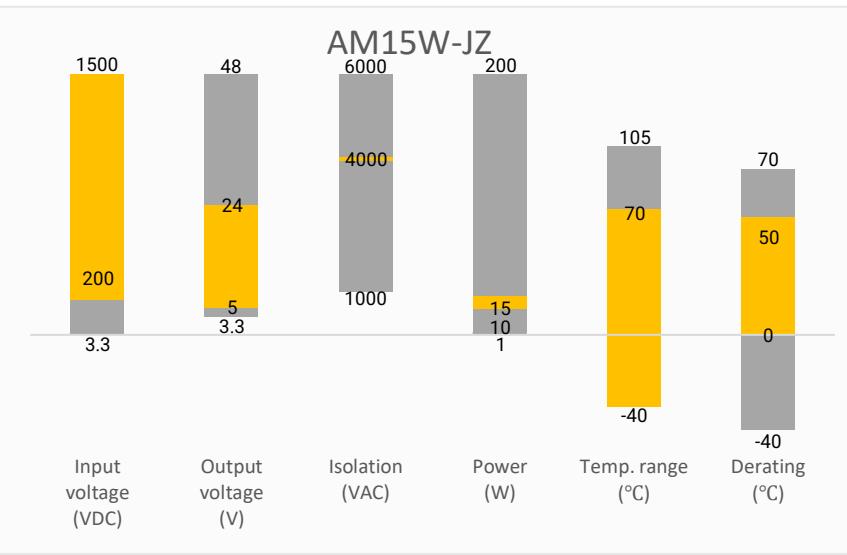


Product Training Video  
(click to open)



Application Notes

## Summary



## Applications



Industrial



Power Grid



Renewable Energy

## Models & Specifications



### Single Output

Model	Input Voltage (VDC)	Input Current max (mA)	Output Voltage (VDC)	Output Current max (A)	Isolation (VAC)	Maximum capacitive Load (μF)	Efficiency Typ. (%)
AM15W-80005SJZ	800 (200 - 1500)	30 (120 - 16)	5	2	4000	6000	64
AM15W-80012SJZ	800 (200 - 1500)	30 (120 - 16)	12	1.25	4000	2000	71
AM15W-80015SJZ	800 (200 - 1500)	30 (120 - 16)	15	1	4000	1200	80
AM15W-80024SJZ	800 (200 - 1500)	30 (120 - 16)	24	0.625	4000	470	83

Note: Use suffix “-ST” for chassis and suffix “-STD” for DIN-Rail mounting  
(ex. AM15W-80005SJZ-ST is chassis mounting and AM15W-80005SJZ-STD is DIN-Rail mounting version.)

### Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage range	Nominal 800	200 – 1500		VDC
Inrush current	200VDC/1500VDC	30/90		A
Input under voltage lockout	ON/OFF	130/155	175/200	VDC
Absolute maximum rating	Duration 10s max.		1600	VDC

### Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage of 3mA max.	4000		VAC

### Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	0-100% load	±2.0		%
Line regulation	Full load, main input range	±1.0		%
Load regulation	0-100% load	±1.0		%
Short circuit protection	Continuous, Auto recovery			
Over current protection		≥120		% of Iout
Over voltage protection	5Vout model		8	VDC
	12Vout / 15Vout models		20	VDC
	24Vout models		30	VDC
Temperature coefficient		±0.02	±0.15	%/°C
Ripple & Noise	20MHz bandwidth		150	mV pk-pk
Start-up delay time*	main input range		2	s
Hold-up time	Room temperature, full load, 800VDC	20		ms

\* Full input voltage / output load range (The cooling-time between input power-off and power-on again is greater than 15s).

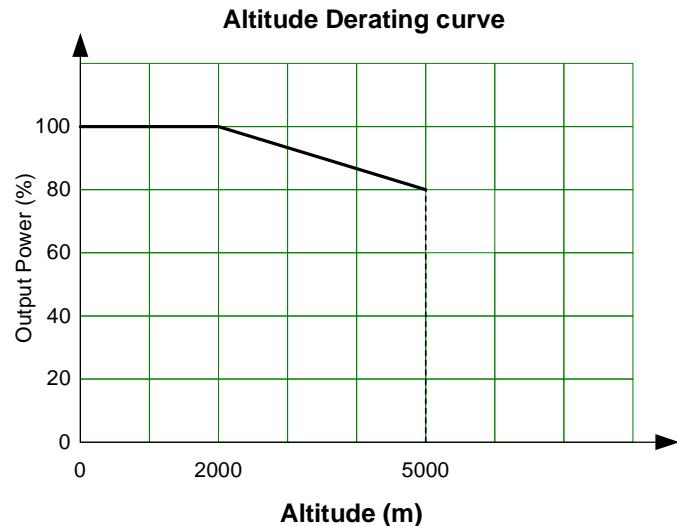
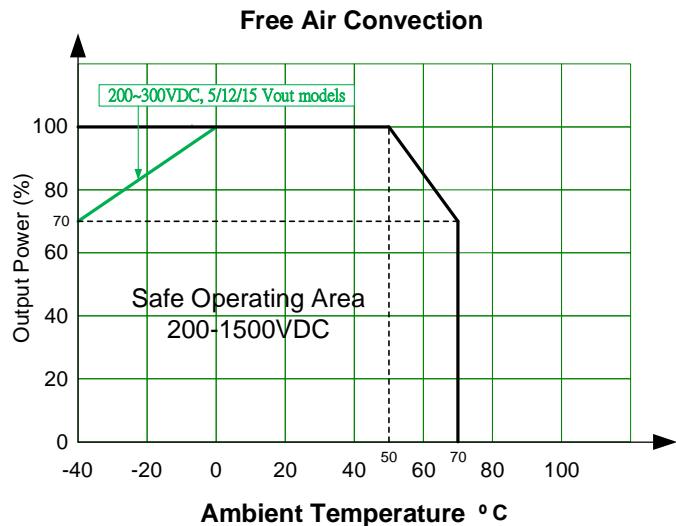
General Specifications								
Parameters	Conditions	Typical	Maximum	Units				
Switching frequency	Full load	65		KHz				
Operating temperature	See derating graph	-40 to +70		°C				
Storage temperature		-40 to +85		°C				
Storage humidity	Non-condensing		95	% RH				
Soldering temperature	Wave soldering, 5 - 10 sec.	260 ± 5		°C				
	Manual welding, 3 - 5 sec.	360 ± 10		°C				
Power derating	-40 °C ~ 0 °C, 200 ~ 300VDC, 5/12/15 Vout models	0.75		%/°C				
	50 °C ~ 70 °C	1.5		%/°C				
	2000m ~ 5000m	6.7		%/Km				
Altitude			5000	m				
Cooling	Free air convection							
Case material	Black plastic (UL94-V0)							
Weight	PCB mountable models	200		g				
	With optional -ST mounting plate	280						
	With optional -STD mounting plate	350						
Dimensions (L x W x H)	PCB mountable models	3.50 x 2.50 x 0.98 inches (89.0 x 63.5 x 25.0 mm)						
	With optional -ST mounting plate	5.32 x 2.76 x 1.32 inches (135 x 70.0 x 33.5 mm)						
	With optional -STD mounting plate	5.32 x 2.76 x 1.54 inches (135 x 70.0 x 39.0 mm)						
MTBF	> 300 000 hrs (MIL-HDBK-217F, t=+25°C)/Full Load							
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

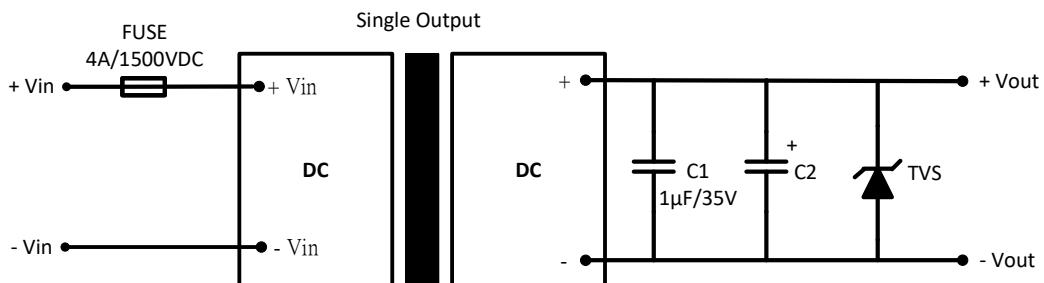
### Parameters

Standards	Information technology Equipment	Design to meet UL1741, EN62109-1, BS EN62109-1
	EMI - Conducted and Radiated Emission	CISPR32/EN55032, Class A (with the recommended EMC circuit)
	Electrostatic Discharge Immunity	IEC/EN61000-4-2, Contact ±6KV / Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC/EN61000-4-3, 10V/m, Criteria B
	Electrical Fast Transient/Burst Immunity	IEC/EN61000-4-4, ±2KV, Criteria B IEC/EN61000-4-4, ±4KV, Criteria B (with the recommended EMC circuit)
	Surge Immunity	IEC/EN61000-4-5, ±1KV, Criteria B IEC/EN61000-4-5, ±2KV, Criteria B (with the recommended EMC circuit)
	RF, Conducted Disturbance Immunity	IEC/EN61000-4-6, 10Vr.m.s, Criteria A

## Derating



## Typical Application Circuit



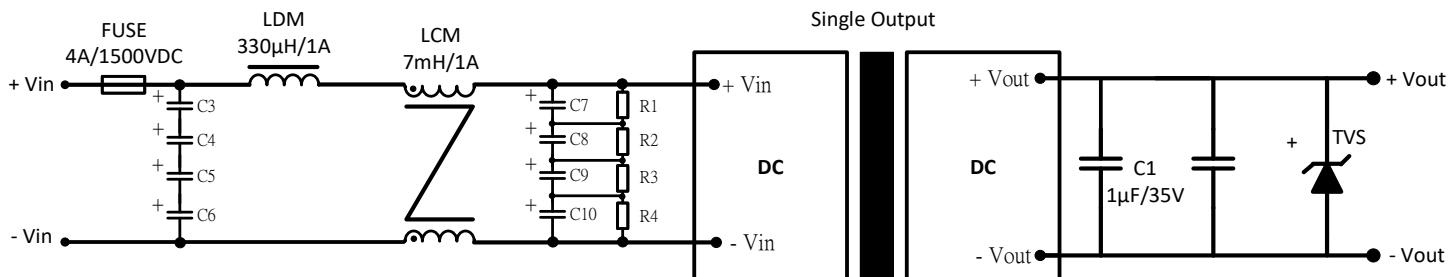
Model	C2	TVS
5Vout	120μF/35V	SMBJ7.0A
12Vout / 15Vout	120μF/35V	SMBJ20A
24Vout	68μF/35V	SMBJ30A

### Note:

We recommend using an electrolytic capacitor with high frequency and low ESR rating for C2 (refer to manufacturer's datasheet). Choose a capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C1 is a ceramic capacitor, used to filter high-frequency noise.

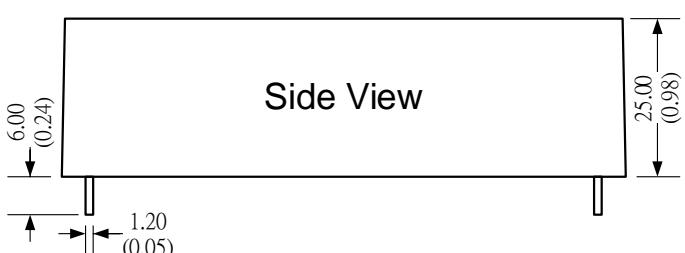
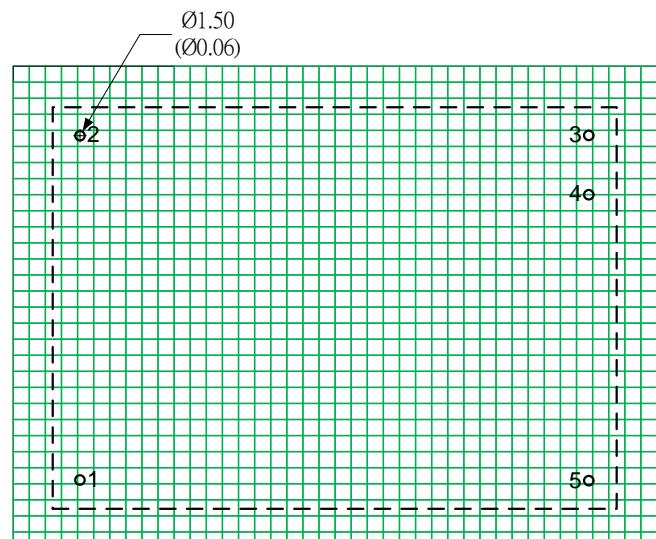
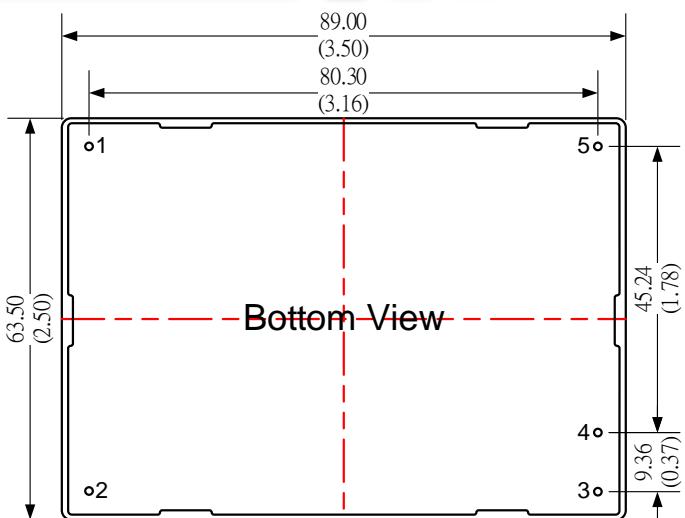
TVS is a recommended suppressor diode to protect the application in case of a converter failure.

## EMC recommended Circuit



Component	Recommended value
C3, C4, C5, C6	Safety capacitor 104K/275VAC
C7, C8, C9, C10	10μF/450VDC
R1, R2, R3, R4	1MΩ/2W
LDM	330μH/1A
LCM	7mH/1A (Three insulated wire)
Fuse	4A/1500VDC, required

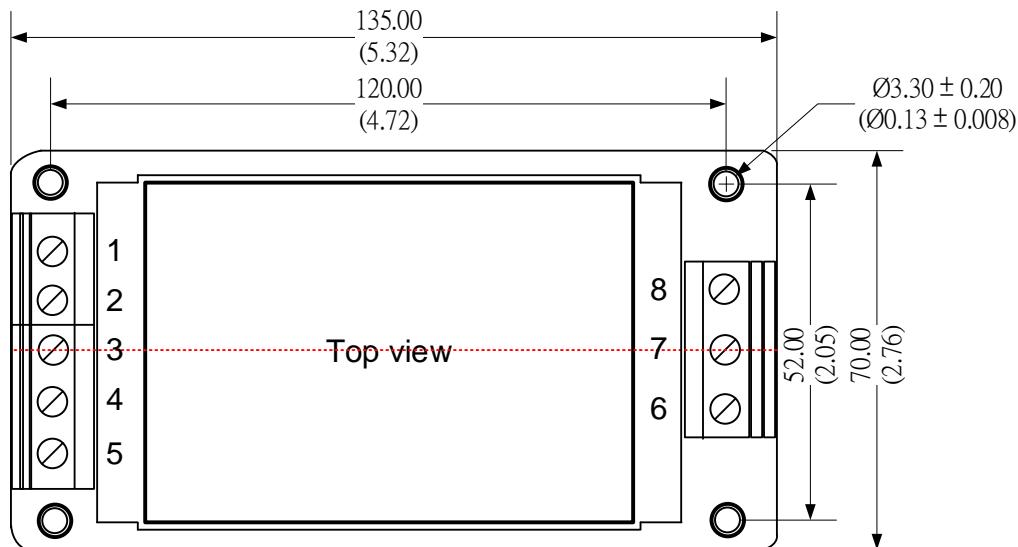
## Dimensions



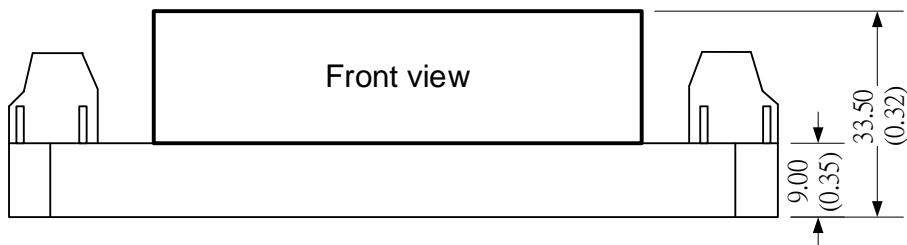
Dimensions mm (inch)  
Case Tolerance  $\pm 0.50$  ( $\pm 0.02$ )  
Pin Diameter  $\pm 0.10$  ( $\pm 0.004$ )

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

## Dimensions with -ST option

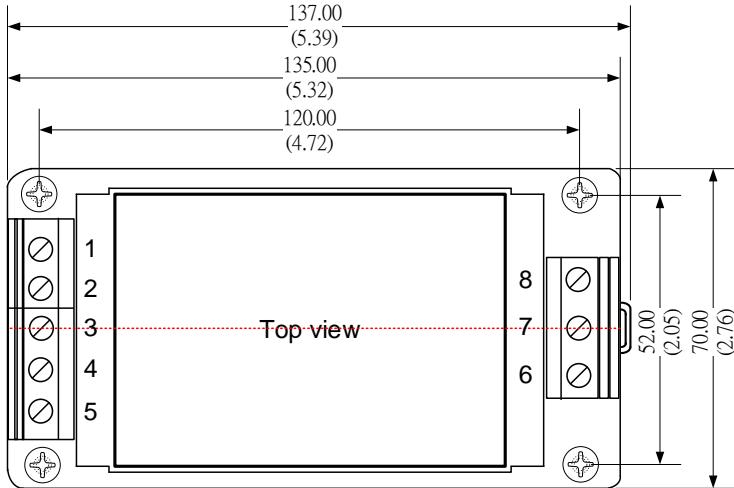


Pin Output Specifications	
Pin	Single
1	-V Input
2	NC
3	NC
4	NC
5	+V Input
6	NC
7	-V Output
8	+V Output

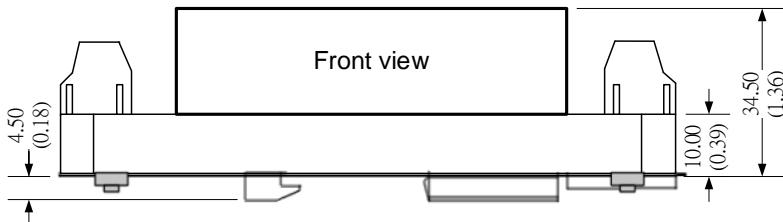


Dimensions: mm (inch)  
Case Tolerance: ±1.00 (0.04)  
Wire gauge: 24-12AWG

## Dimensions with -STD option



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



Dimensions: mm (inch)  
 General Tolerance:  $\pm 1.00$  (0.04)  
 Wire gauge: 24-12AWG  
 DIN rail type: TS35, rail need to connect safety ground.

**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 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).