



**FEATURES:**

- RoHS compliant
- 24 Pin DIP Package
- Ultra-wide 4:1 input range
- High efficiency up to 83%
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection



**Models**  
**Single output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max. Cap. Load (µF)	Efficiency (%)
AM3TW-2403S-NZ	9-36	3.3	909	1500	2700	75
AM3TW-2405S-NZ	9-36	5	600	1500	2200	80
AM3TW-2409S-NZ	9-36	9	333	1500	1000	80
AM3TW-2412S-NZ	9-36	12	250	1500	680	81
AM3TW-2415S-NZ	9-36	15	200	1500	680	82
AM3TW-2424S-NZ	9-36	24	125	1500	470	82
AM3TW-4803S-NZ	18-75	3.3	909	1500	2700	76
AM3TW-4805S-NZ	18-75	5	600	1500	2200	79
AM3TW-4809S-NZ	18-75	9	333	1500	1000	81
AM3TW-4812S-NZ	18-75	12	250	1500	680	82
AM3TW-4815S-NZ	18-75	15	200	1500	680	83
AM3TW-4824S-NZ	18-75	24	125	1500	470	81

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

**Input Specifications**

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 Vin	9-36		VDC
	48 Vin	18-75		
Filter	π (Pi) Network			
Absolute maximum (1sec max)	24 Vin		-0.7 - 50	VDC
	48 Vin		-0.7 - 100	
Full load Input current	24 Vin	156		mA
	48 Vin	79		
Quiescent Input current	24 Vin	10		mA
	48 Vin	8		
Input Reflected Ripple current		30		mA

**Isolation Specifications**

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, <1mA	1500		VDC
Resistance	Isolation Voltage 500VDC	> 1000		MOhm
Capacitance	I/O 100KHz, 0.1V	120		pF

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1	±3	%
Short Circuit protection	Continuous			
Short circuit restart	Auto-recovery			
Line voltage regulation	LL-HL, full load	±0.2	±0.5	%
Load voltage regulation	5% - 100% load	±0.2	±1	%
Temperature coefficient		±0.02	±0.03	%/°C

### Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Ripple	20MHz bandwidth	45		mV p-p
Noise	20MHz bandwidth	85		mV p-p
Transient Recovery Time	25% Load Step	0.5	3	m sec
Transient Deviation	25% Load Step	±2	±5	%
Over load protection		>120		%

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load, PFM	250		KHz
Operating temperature	With derating above +71C		-40 to +85	°C
Storage temperature			-55 to +125	°C
Max Case temperature			100	°C
Temperature Rise	Full Load, 25°C	25°C		°C
Lead Temperature	1.5mm from case for 10 Seconds		300	°C
Cooling		Free air convection		
Humidity			95	% RH
Case material		Black Aluminum Alloy		
Weight		14		g
Dimensions (L x W x H)		1.26 x 0.80 x 0.42 inches	32.00 x 20.00 x 10.80mm	
MTBF		>1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		

### Safety Specifications

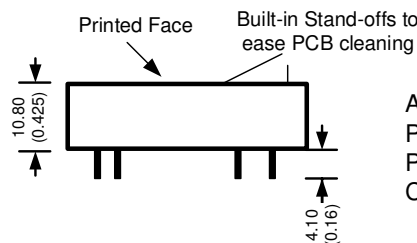
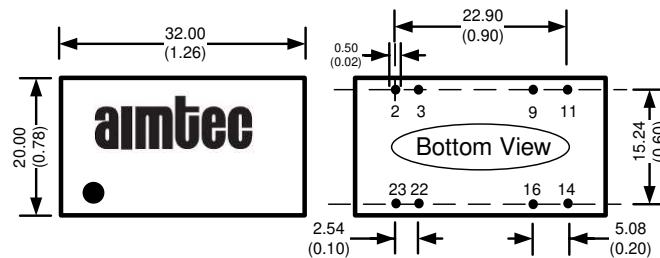
Parameters	
Standards	Designed to meet EN 55022, Class B, with external filter & EN 55024: 2010 IEC 61000-4-2, Contact ±4KV/Air ±8KV, Criteria B IEC 61000-4-3, 10V/m, Criteria A IEC 61000-4-4, ±2KV, Criteria B, with external filter IEC 61000-4-5, ±2KV, Criteria B, with external filter IEC 61000-4-6, 3Vrms, Criteria A IEC 61000-4-29, 0-70%, Criteria B

### Pin Out Specifications

Pin	Single
2	-V Input
3	-V Input
9	No pin
11	N.C.
14	+V Output
16	-V Output
22	+V Input
23	+V Input

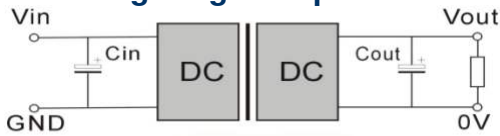
N.C.: not connected

### Dimensions



All dimensions are typical: millimeters (inches)  
 Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)  
 Pin Pitch Tolerance: ± 0.35 (±0.014)  
 Case Tolerance: ± 0.5 (±0.02)

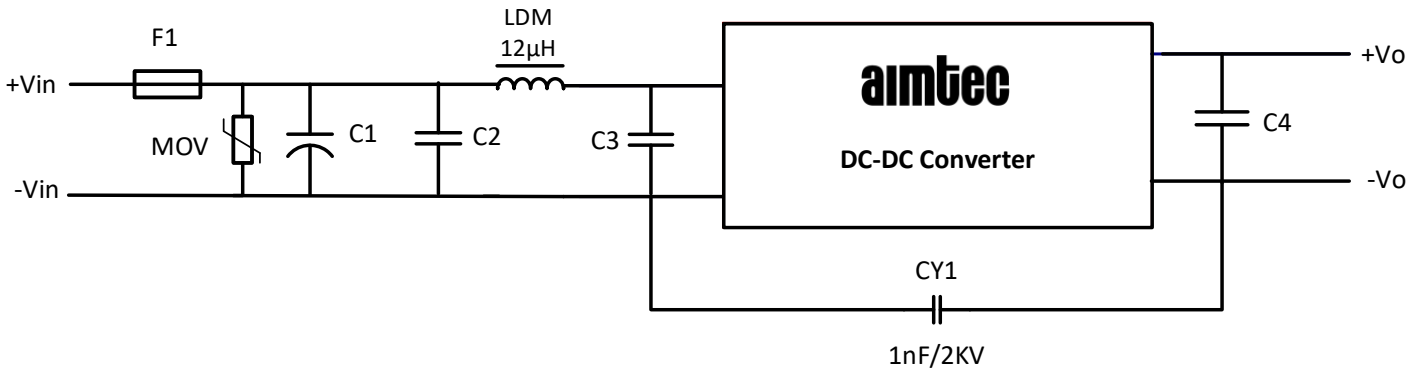
### Filtering Single output



### External capacitors

Vin (VDC)	Cin (uF)	Cout (uF)
24 & 48	10-47	10

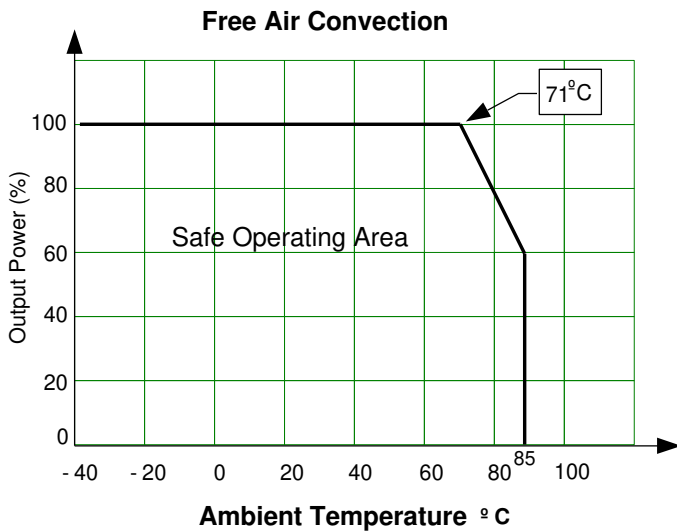
### Recommended Circuit



Model	MOV	C1	C2 & C3	C4
24 Vin	S14K35	330 µF / 50V	4.7 µF / 50V	10µF
48 Vin	S14K60	330 µF / 100V	4.7 µF / 100V	10µF

Note: Fuse is user selectable

### Derating



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