

## Series AM6TI-Z

### 6 Watt | DC-DC Converter



#### FEATURES:

- Under Voltage Lockout
- High efficiency up to 84%
- 24 Pin DIP Package
- Wide 2:1 input range
- Operating temperature -40°C to + 85°C
- Continuous short circuit protection
- Input / Output Isolation 1500 and 3000VDC
- Pin compatible with multiple manufacturers



#### Models

##### Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency (%)	Capacitive load, max (µF)	Isolation (VDC)
AM6TI-1203SZ	9-18	3.3	1400	75	470	1500
AM6TI-1205SZ	9-18	5	1200	79	470	1500
AM6TI-1212SZ	9-18	12	500	83	100	1500
AM6TI-1215SZ	9-18	15	400	84	100	1500
AM6TI-1224SZ	9-18	24	250	82	47	1500
AM6TI-2403SZ	18-36	3.3	1400	74	470	1500
AM6TI-2405SZ	18-36	5	1200	79	470	1500
AM6TI-2412SZ	18-36	12	500	83	100	1500
AM6TI-2415SZ	18-36	15	400	83	100	1500
AM6TI-2424SZ	18-36	24	250	82	47	1500
AM6TI-4803SZ	36-75	3.3	1400	76	470	1500
AM6TI-4805SZ	36-75	5	1200	82	470	1500
AM6TI-4812SZ	36-75	12	500	84	100	1500
AM6TI-4815SZ	36-75	15	400	84	100	1500
AM6TI-4824SZ	36-75	24	250	84	47	1500
AM6TI-1203SH30Z	9-18	3.3	1400	75	470	3000
AM6TI-1205SH30Z	9-18	5	1200	79	470	3000
AM6TI-1212SH30Z	9-18	12	500	83	100	3000
AM6TI-1215SH30Z	9-18	15	400	84	100	3000
AM6TI-1224SH30Z	9-18	24	250	82	47	3000
AM6TI-2403SH30Z	18-36	3.3	1400	74	470	3000
AM6TI-2405SH30Z	18-36	5	1200	79	470	3000
AM6TI-2412SH30Z	18-36	12	500	83	100	3000
AM6TI-2415SH30Z	18-36	15	400	83	100	3000
AM6TI-2424SH30Z	18-36	24	250	82	47	3000
AM6TI-4803SH30Z	36-75	3.3	1400	76	470	3000
AM6TI-4805SH30Z	36-75	5	1200	82	470	3000
AM6TI-4812SH30Z	36-75	12	500	84	100	3000
AM6TI-4815SH30Z	36-75	15	400	84	100	3000
AM6TI-4824SH30Z	36-75	24	250	84	47	3000

#### Models

##### Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency (%)	Capacitive load, max (µF)	Isolation (VDC)
AM6TI-1203DZ	9-18	±3.3	±909	76	±220	1500
AM6TI-1205DZ	9-18	±5	±600	80	±220	1500
AM6TI-1212DZ	9-18	±12	±250	83	±100	1500
AM6TI-1215DZ	9-18	±15	±200	84	±100	1500
AM6TI-1224DZ	9-18	±24	±125	81	±47	1500
AM6TI-2403DZ	18-36	±3.3	±909	76	±220	1500
AM6TI-2405DZ	18-36	±5	±600	80	±220	1500
AM6TI-2412DZ	18-36	±12	±250	83	±100	1500
AM6TI-2415DZ	18-36	±15	±200	84	±100	1500

## Models

### Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency (%)	Capacitive load, max (µF)	Isolation (VDC)
AM6TI-2424DZ	18-36	±24	±125	82	±47	1500
AM6TI-4803DZ	36-75	±3.3	±909	78	±220	1500
AM6TI-4805DZ	36-75	±5	±600	82	±220	1500
AM6TI-4812DZ	36-75	±12	±250	84	±100	1500
AM6TI-4815DZ	36-75	±15	±200	84	±100	1500
AM6TI-4824DZ	36-75	±24	±125	80	±47	1500
AM6TI-1203DH30Z	9-18	±3.3	±909	76	±220	3000
AM6TI-1205DH30Z	9-18	±5	±600	80	±220	3000
AM6TI-1212DH30Z	9-18	±12	±250	83	±100	3000
AM6TI-1215DH30Z	9-18	±15	±200	84	±100	3000
AM6TI-1224DH30Z	9-18	±24	±125	81	±47	3000
AM6TI-2403DH30Z	18-36	±3.3	±909	76	±220	3000
AM6TI-2405DH30Z	18-36	±5	±600	80	±220	3000
AM6TI-2412DH30Z	18-36	±12	±250	83	±100	3000
AM6TI-2415DH30Z	18-36	±15	±200	84	±100	3000
AM6TI-2424DH30Z	18-36	±24	±125	82	±47	3000
AM6TI-4803DH30Z	36-75	±3.3	±909	78	±220	3000
AM6TI-4805DH30Z	36-75	±5	±600	82	±220	3000
AM6TI-4812DH30Z	36-75	±12	±250	84	±100	3000
AM6TI-4815DH30Z	36-75	±15	±200	84	±100	3000
AM6TI-4824DH30Z	36-75	±24	±125	80	±47	3000

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-75		
Filter	π (Pi) Network			
Start up time		20		ms
Absolute Maximum Rating	12 Vin	-0.7-25		VDC
	24 Vin	-0.7-50		
	48 Vin	-0.7-100		
Peak Input Voltage time		100		ms
Under Voltage Lockout (ON / OFF)	12 Vin	8.5 / 7.0		VDC
	24 Vin	16.5 / 14.5		
	48 Vin	35.0 / 31.5		
Input Reflected Ripple Current		20		mA p-p

## Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500 or 3000	VDC
Resistance		> 1000		MOhm
Capacitance		1000		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Vin nom, 100% load	±2		%
Voltage balance	Balanced Load	±2		%
Short Circuit protection		Continuous		
Short circuit restart		Auto recovery		
Over current protection		160% Iout		
Line voltage regulation	LL – HL, 100% load	±0.5		%

**Output Specifications (continued)**

Parameters	Conditions	Typical	Maximum	Units
Cross regulation (Dual)	1 load=25-100%, other load=100%	±5		%
Load voltage regulation	0 – 100% load	±1.2		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	60		mV p-p
Rising time		80		ms
Transient Recovery Time	Vin nom, 25% step	300		µs
Transient Response Deviation			±3	%

**General Specifications**

Parameters	Conditions	Typical	Maximum	Units
Start-up Time		20		ms
Switching frequency	100% load	330		KHz
Operating temperature			-40 to +85	°C
Storage temperature			-55 to +125	°C
Max Case temperature			+100	°C
Cooling	Free air convection			
Humidity			90	%
Case material	Non-Conductive Black Plastic (UL94V-0)			
Weight		13		g
Dimensions(L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.84 x 0.41 inches	31.75 x 21.35 x 10.50 mm	
MTBF	>800,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

NOTE: All specifications noted 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.

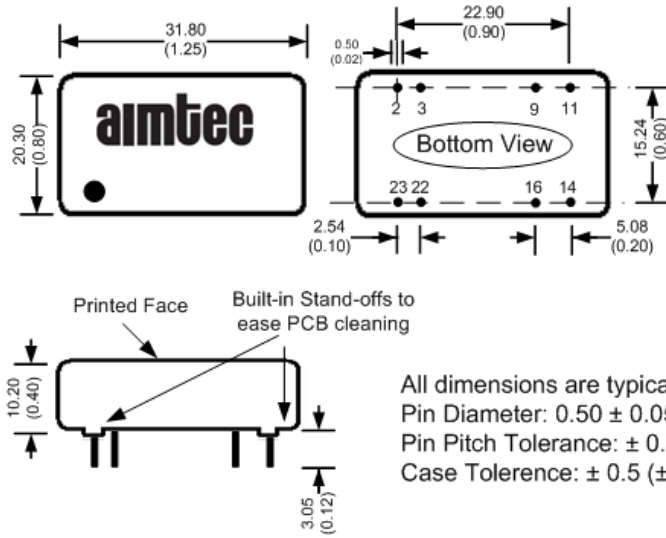
**Safety Specifications**

Parameters	
Agency Approvals	CE
Standards	EN55022 CLASS A, radiated emissions
	EN55022 CLASS A, conducted emissions
	IEC 61000-4-2 Perf. Criteria B
	IEC 61000-4-3 Perf. Criteria A
	IEC 61000-4-4 Perf. Criteria B
	IEC 61000-4-5 Perf. Criteria B
	IEC 61000-4-6 Perf. Criteria A
	IEC 61000-4-8 Perf. Criteria A
NOTE: also designed to meet IEC 60950-1:2001 An external filter capacitor to meet EN61000-4-4 and EN61000-4-5 Class B, the filter capacitor recommended is value 220uF/100V.	

**Pin Out Specifications**

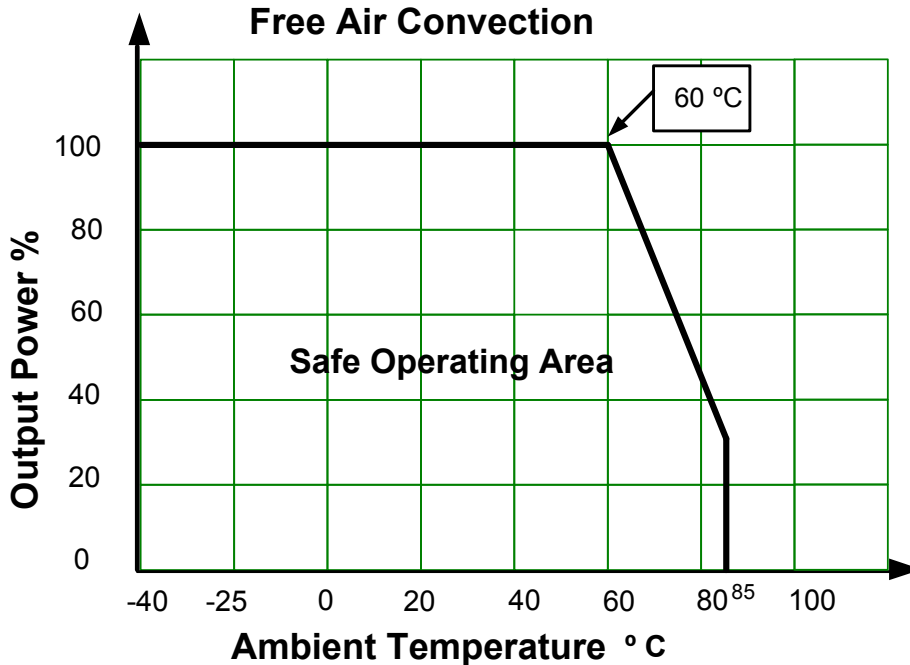
**Dimensions**

Pin	1500 & 3000VDC	
	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	NO PIN	Common
11	N. C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input



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

**Derating**



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