

## Series AM6TIW-RZ

### 6 Watt | DC-DC Converter

#### FEATURES:



- Under Voltage Lockout
- High efficiency up to 84%
- 24 Pin DIP Package
- Wide 4:1 input range
- Over Load Protection
- Operating temperature -40°C to + 85°C
- Continuous short circuit protection
- Input / Output Isolation 1500 and 3000VDC
- Pin compatible with multiple manufacturers
- Input Under Voltage Protection

#### Models Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency (%)	Capacitive load, max (µF)	Isolation (VDC)
AM6TIW-2403S-RZ	9-36	3.3	1400	78	470	1500
AM6TIW-2405S-RZ	9-36	5	1200	80	470	1500
AM6TIW-2412S-RZ	9-36	12	500	84	100	1500
AM6TIW-2415S-RZ	9-36	15	400	84	100	1500
AM6TIW-2424S-RZ	9-36	24	250	84	47	1500
AM6TIW-4803S-RZ	18-75	3.3	1400	76	470	1500
AM6TIW-4805S-RZ	18-75	5	1200	82	470	1500
AM6TIW-4812S-RZ	18-75	12	500	84	100	1500
AM6TIW-4815S-RZ	18-75	15	400	84	100	1500
AM6TIW-4824S-RZ	18-75	24	250	84	47	1500
AM6TIW-2403SH30-RZ	9-36	3.3	1400	78	470	3000
AM6TIW-2405SH30-RZ	9-36	5	1200	80	470	3000
AM6TIW-2412SH30-RZ	9-36	12	500	84	100	3000
AM6TIW-2415SH30-RZ	9-36	15	400	84	100	3000
AM6TIW-2424SH30-RZ	9-36	24	250	84	47	3000
AM6TIW-4803SH30-RZ	18-75	3.3	1400	76	470	3000
AM6TIW-4805SH30-RZ	18-75	5	1200	82	470	3000
AM6TIW-4812SH30-RZ	18-75	12	500	84	100	3000
AM6TIW-4815SH30-RZ	18-75	15	400	84	100	3000
AM6TIW-4824SH30-RZ	18-75	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)
AM6TIW-2403D-RZ	9-36	±3.3	±909	78	±220	1500
AM6TIW-2405D-RZ	9-36	±5	±600	82	±220	1500
AM6TIW-2412D-RZ	9-36	±12	±250	84	±100	1500
AM6TIW-2415D-RZ	9-36	±15	±200	84	±100	1500
AM6TIW-2424D-RZ	9-36	±24	±125	82	±47	1500
AM6TIW-4803D-RZ	18-75	±3.3	±909	78	±220	1500
AM6TIW-4805D-RZ	18-75	±5	±600	82	±220	1500
AM6TIW-4812D-RZ	18-75	±12	±250	84	±100	1500
AM6TIW-4815D-RZ	18-75	±15	±200	84	±100	1500
AM6TIW-4824D-RZ	18-75	±24	±125	80	±47	1500
AM6TIW-2403DH30-RZ	9-36	±3.3	±909	78	±220	3000
AM6TIW-2405DH30-RZ	9-36	±5	±600	82	±220	3000
AM6TIW-2412DH30-RZ	9-36	±12	±250	84	±100	3000
AM6TIW-2415DH30-RZ	9-36	±15	±200	84	±100	3000
AM6TIW-2424DH30-RZ	9-36	±24	±125	82	±47	3000
AM6TIW-4803DH30-RZ	18-75	±3.3	±909	78	±220	3000

## Models

### Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency (%)	Capacitive load, max (μF)	Isolation (VDC)
AM6TIW-4805DH30-RZ	18-75	±5	±600	82	±220	3000
AM6TIW-4812DH30-RZ	18-75	±12	±250	84	±100	3000
AM6TIW-4815DH30-RZ	18-75	±15	±200	84	±100	3000
AM6TIW-4824DH30-RZ	18-75	±24	±125	80	±47	3000

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24	9-36		VDC
	48	18-75		
Filter	π (Pi) Network			
Start up time		20		ms
Absolute Maximum Rating	24 Vin	-0.7-50		VDC
	48 Vin	-0.7-100		
Peak Input Voltage time		100		ms
Under Voltage Lockout (ON / OFF)	24 Vin	8.5 / 7.0		VDC
	48 Vin	16.5 / 14.5		
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		%
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	(See Derating Chart)		-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

**General Specifications (continued)**

Parameters	Conditions	Typical	Maximum	Units
Dimensions(L x W x H)	Tolerance $\pm 0.5$ mm or $\pm 0.02$ 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, $t=+25^{\circ}\text{C}$ )			

NOTE: All specifications noted in this datasheet are measured at an ambient temperature of  $25^{\circ}\text{C}$ , humidity < 75%, nominal input voltage and at rated output load unless otherwise specified.

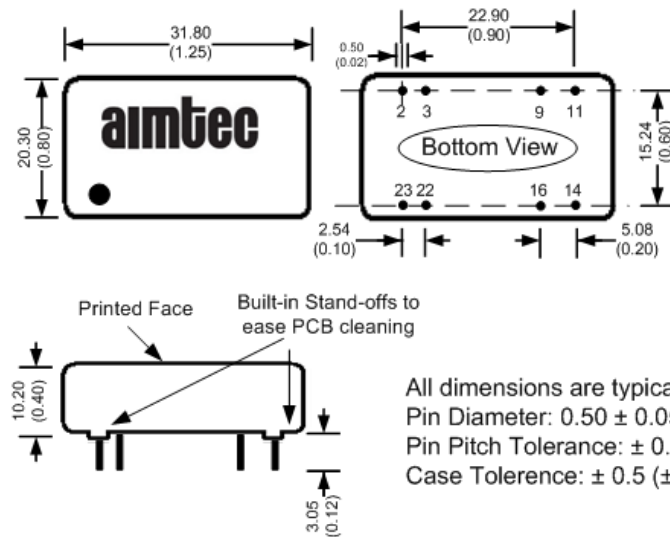
**Safety Specifications**

Parameters	
Agency Approval	CE, UL
Standards	IEC/EN 60950-1
	EN 55022 Class A
	EN 55024 Class A
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A
	IEC61000-4-5, Perf. Criteria A
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

**Pin Out Specifications**

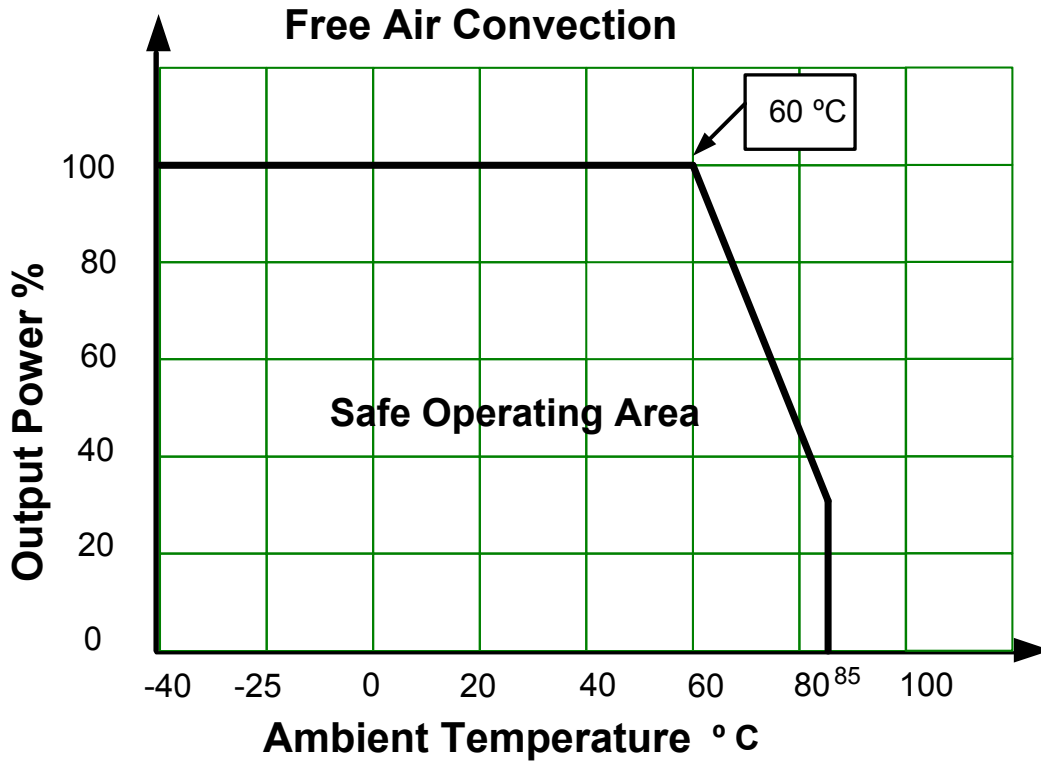
Pin	1500 & 3500VDC	
	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	NO PIN	Common
11	N. C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

**Dimensions**



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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