aimtec
Your Power Partner

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	76	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	85	100	1500
AM6TIW-4824S-RZ	18-75	24	250	85	47	1500
AM6TIW-2403SH30-RZ	9-36	3.3	1400	76	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	85	100	3000
AM6TIW-4824SH30-RZ	18-75	24	250	85	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	79	±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	81	±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	79	±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	81	±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		%/ºC
Ripple & Noise	At 20MHz Bandwidth	80		mV p-p
Ripple & Noise (Dual 24V output models)	At 20MHz Bandwidth	100		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		**ºC**
Storage temperature		-55 to +125		**ºC**
Max Case temperature			+100	**ºC**
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 ±0.5 mm or ±0.02 inches	1.25 x 0.80 x 0.40 inches	31.75 x 20.32 x 10.16 mm	
MTBF	>800,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)			

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.

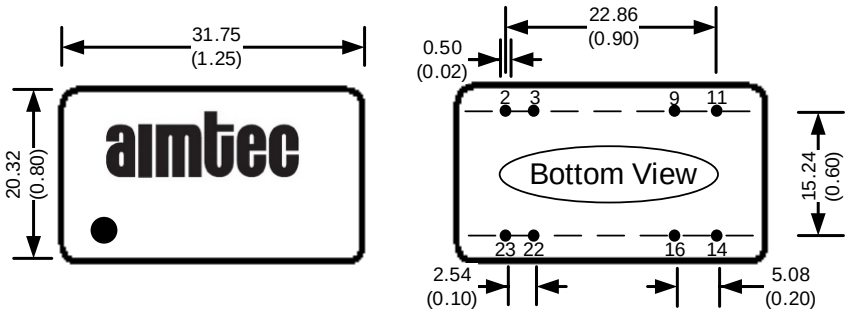
Safety Specifications

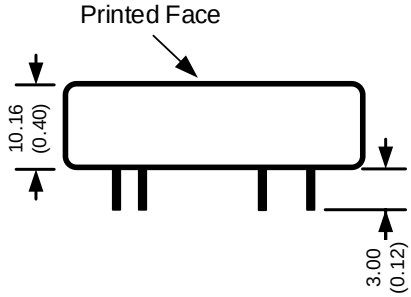
Parameters	
Agency Approval	CE/UL 60950-1, 62368-1
Standards	EN 55032 Class A
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A
	IEC61000-4-5, Perf. Criteria A
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

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

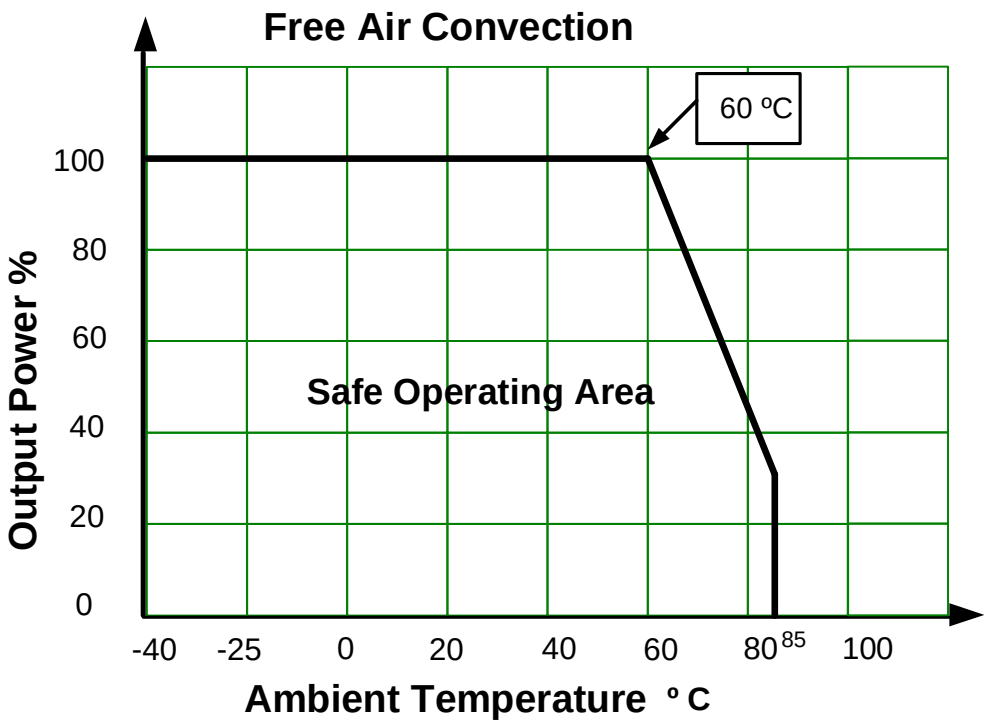
Dimensions





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

Derating



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