Series AM15T-Z

15Watt | DC-DC Converter



FEATURES:

- Wide Input Range 2:1
- 1600 Vdc Isolation
- Efficiency up to 91%
- Soft Start
- Remote On/Off Function
- No Minimum Load Required
- -40ºC to +85ºC Operating Temperature Range
- Short Circuit & Over Voltage Protection
- DIP 24 Package
- Low No Load Input Current

RoHS CE

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Maximum Capacitive load (µF)	Efficiency (%)
AM15T-1203SZ	9-18	3.3	4000	1600	4700	86
AM15T-12051SZ	9-18	5.1	3000	1600	3300	89
AM15T-1212SZ	9-18	12	1250	1600	600	89
AM15T-1215SZ	9-18	15	1000	1600	400	90
AM15T-2403SZ	18-36	3.3	4000	1600	4700	87
AM15T-24051SZ	18-36	5.1	3000	1600	3300	89
AM15T-2412SZ	18-36	12	1250	1600	600	90
AM15T-2415SZ	18-36	15	1000	1600	400	91
AM15T-4803SZ	36-75	3.3	4000	1600	4700	86
AM15T-48051SZ	36-75	5.1	3000	1600	3300	88
AM15T-4812SZ	36-75	12	1250	1600	600	89
AM15T-4815SZ	36-75	15	1000	1600	400	89

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Maximum Capacitive load (µF)	Efficiency (%)
AM15T-1205DZ	9-18	±5	±1500	1600	±1500	86
AM15T-1212DZ	9-18	±12	±625	1600	±288	90
AM15T-1215DZ	9-18	±15	±500	1600	±200	90
AM15T-2405DZ	18-36	±5	±1500	1600	±1500	86
AM15T-2412DZ	18-36	±12	±625	1600	±288	90
AM15T-2415DZ	18-36	±15	±500	1600	±200	90
AM15T-4805DZ	36-75	±5	±1500	1600	±1500	86
AM15T-4812DZ	36-75	±12	±625	1600	±288	89
AM15T-4815DZ	36-75	±15	±500	1600	±200	90

NOTE: 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

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-48		
Filter	π (Pi) Network			
Turn on Transient process time		250		µs
Transient response deviation			±3	%
Start up time	Nominal Vin and constant resistive load	20		ms
Absolute Maximum Rating	12 Vin models	-0.7-36		VDC
	24 Vin models	-0.7-50		
	48 Vin models	-0.7-100		

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Peak Input Voltage time			1000	ms
Input reflected ripple current			20	mA p-p
Quiescent Current		15		mA
On/Off Control	ON – High (3.0 ... 12Vdc) or open circuit; OFF – Low (0 ... 1.2Vdc) or Short circuit pin1 and pin 2/3 OFF idle current: 5.0 mA typ			

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Tested Case/Input and Output		1600		VDC
Resistance		>1000		MOhm
Capacitance		2000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Voltage balance	Dual output	±5		%
Line voltage regulation	HL-LL	±0.5		%
Load voltage regulation (Single)	0% Load to Full Load	±0.5		%
Load voltage regulation (Dual)	0% Load to Full Load	±1.0		%
Over voltage protection	Zener diode clamp			
Over current protection	Full Load	150		%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Ripple & Noise		60		m Vp-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	Full Load with Derating above 60ºC	-40 to +85		^{o}C
Storage temperature		-40 to +125		^{o}C
Max Case temperature			100	^{o}C
Temperature coefficient		±0.02		%/^{o}C
Derating	Above 60ºC	2.5 % per 1ºC		
Cooling	Free air convection			
Humidity			95	% RH
Case material	Nickel-coated Copper			
Potting material	UL94V-0 rated			
Weight		20.0		g
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.80 x 0.40 inches	31.80 x 20.30 x 10.20 mm	
MTBF	> 460 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

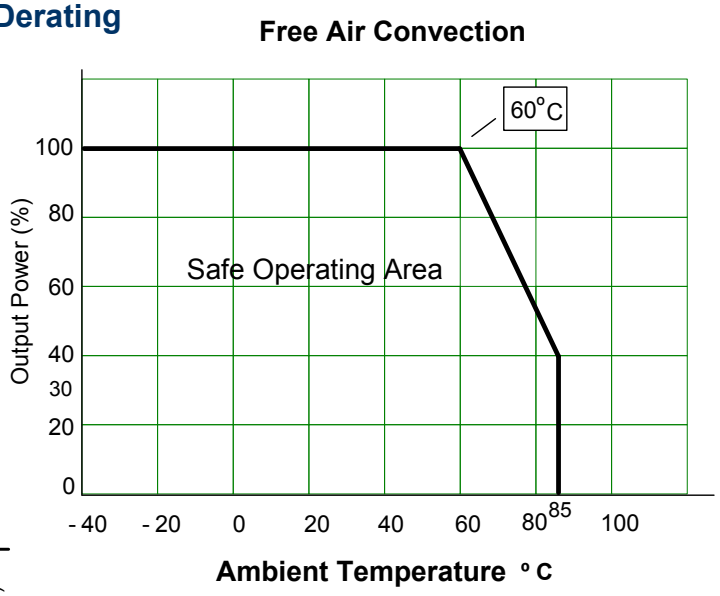
Safety Specifications

Parameters	
Agency Approval	CE
Standards	IEC 60950-1:2005 (2nd Edition); EN 60950-1: 2006
	EN55022 Class A
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (requires 2 external cap 330uF/100V or 1 cap 680 uF/100V for parallel connection)
	IEC61000-4-5, Perf. Criteria B (requires 2 external cap 330uF/100V or 1 cap 680 uF/100V for parallel connection)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	Note: also meets IEC 60950-1:2001

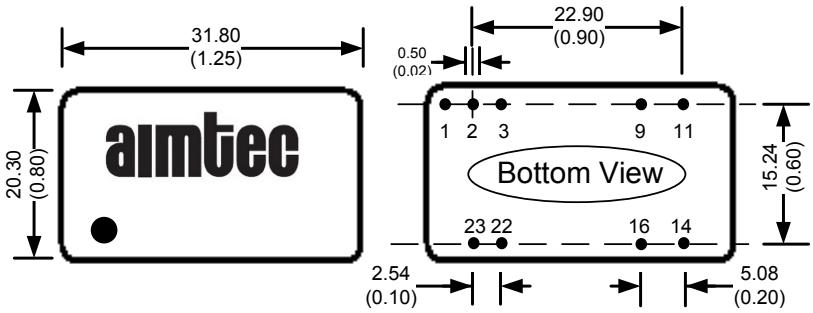
Pin Out Specifications

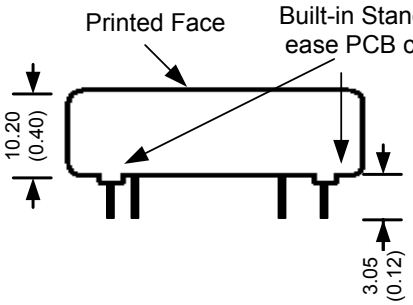
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	-V Input	-V Input
9	No Pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

Derating



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 Tolerence: ± 0.5 (±0.02)

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 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.