

Series AM15CW-FZ

15Watt | DC-DC Converter



FEATURES:

- Ultra-Compact Footprint 1"x1"
- Ultra-Wide Input Range 4:1
- 1500 VDC Isolation
- Remote ON / OFF Function
- Output Short Circuit Protection
- Operating Temperature -40°C to +85°C
- Over Voltage, Over Load Protection
- Efficiency up to 89%



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (A)	Isolation (VDC)	Input Current Full No Load (mA)		Max Capacitive Load (uF)	Efficiency (%)
AM15CW-2403S-FZ	9-36	3.3	4	1500	671	59	12000	86
AM15CW-2405S-FZ	9-36	5	3	1500	744	53	6000	88
AM15CW-2412S-FZ	9-36	12	1.3	1500	783	56	2000	87
AM15CW-2415S-FZ	9-36	15	1	1500	753	59	1200	87
AM15CW-4803S-FZ	18-75	3.3	4	1500	335	27	12000	86
AM15CW-4805S-FZ	18-75	5	3	1500	368	24	6000	89
AM15CW-4812S-FZ	18-75	12	1.3	1500	382	28	2000	89
AM15CW-4815S-FZ	18-75	15	1	1500	368	29	1200	89

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (A)	Isolation (VDC)	Input Current Full No Load (mA)		Max Capacitive Load (uF)	Efficiency (%)
AM15CW-2405D-FZ	9-36	±5	±1.5	1500	772	49	±3000	85
AM15CW-2412D-FZ	9-36	±12	±0.625	1500	753	58	±1000	87
AM15CW-2415D-FZ	9-36	±15	±0.5	1500	753	60	±600	87
AM15CW-4805D-FZ	18-75	±5	±1.5	1500	386	23	±3000	85
AM15CW-4812D-FZ	18-75	±12	±0.625	1500	372	28	±1000	88
AM15CW-4815D-FZ	18-75	±15	±0.5	1500	368	30	±600	89

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	24 48	9-36 18-75		VDC
Filter	π			
Start up time	Nominal Vin with constant resistive load		72	ms
Absolute Maximum Rating	24 Vin 48 Vin		50 100	VDC
Peak Input Voltage time			100	ms
On/Off control	ON 3.5 to 12VDC (or open) ; OFF 0 to 0.7 VDC or short to Vin pin 2 On source current <0.2mA, OFF idle current – <12mA			
Under voltage lockout	24 Vin ON/OFF 48Vin ON/OFF	8.5 /7 17/15		VDC
Input reflected ripple current		60		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500	VDC
Resistance		>1000		MOhm
Capacitance		550		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Over voltage protection	Zener Diode Clamp	120		%
Over load protection	% of Full Load at Nominal Input	110		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation	HL-LL	±1.0		%
Load voltage regulation (Single)	25% to 100% load	±1.0		%
Load voltage regulation (Dual)	balanced load	±0.5		%
	Unbalanced 25% to 100%	±5.0		
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	80		mV p-p
Voltage adjustment range	Trim - Single output models only	10		%
Transient recovery time	Load step change 50%	560		µS
Transient recovery deviation	di/dt = 0.8A/µsec	±5		%of Vo
	3.3V models	±6		

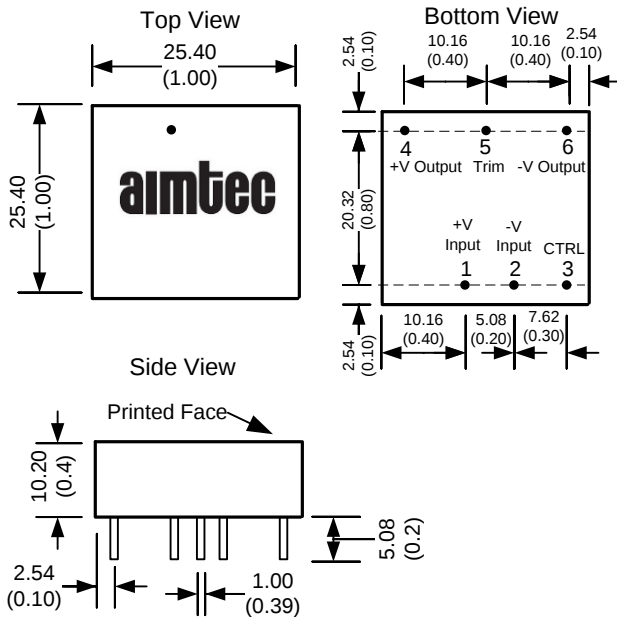
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	With derating above +63°C	-40 to +85		°C
Storage temperature	-55 to +125			°C
Maximum case temperature			105	°C
Cooling	Free air convection			
Humidity			95	% RH
Case material	Nickel-coated copper			
Potting Material	Silicon Rubber (UL94V-0)			
Weight	19.2			g
Dimensions (L x W x H)	1.00 x 1.00 x 0.40 inches	25.40 x 25.40 x 10.20 mm		
MTBF	> 1,580,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C

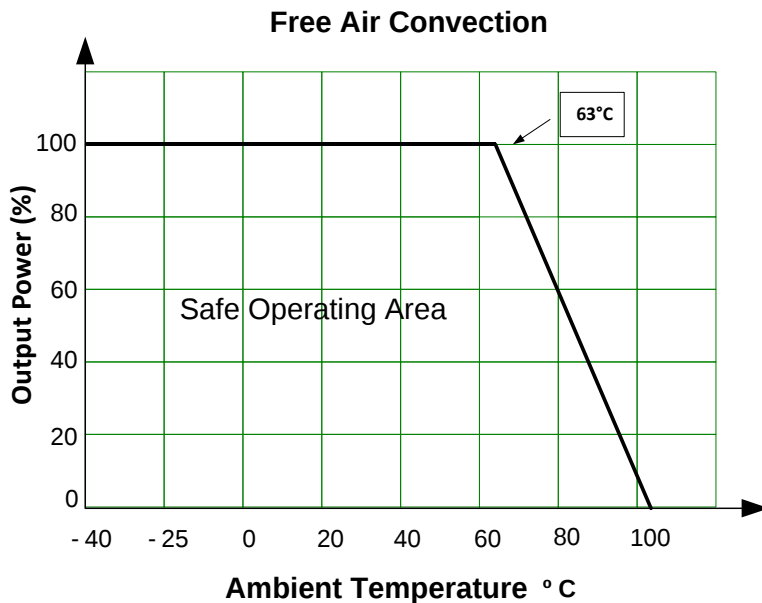
Pin Out Specifications

Pin	Single	Dual
1	+ V input	+ V input
2	- V input	- V input
3	On/Off Control	On/Off Control
4	+ V output	+ V output
5	Trim	Common
6	- V output	- V output

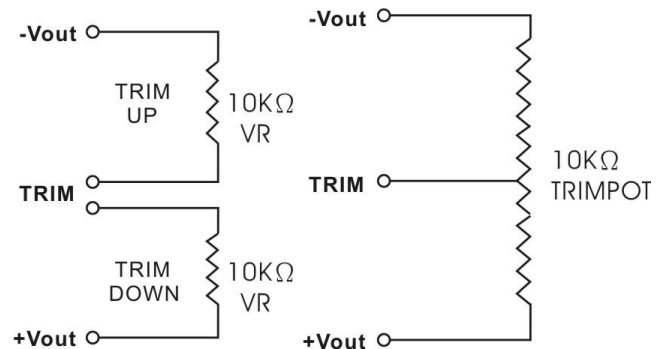
Dimensions



Derating



Trimming



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.