



FEATURES:

- Wide 2:1 input range
- Over Voltage Protection
- High efficiency up to 88%
- Low Ripple and Noise
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1500 and 3000VDC
- No load power consumption <0.09W
- Continuous short circuit protection



Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max(mA)	Isolation (VDC)	Efficiency (%)
AM6T-1203S-NZ	9-18	3.3	1500	1500	75
AM6T-1205S-NZ	9-18	5	1200	1500	80
AM6T-1212S-NZ	9-18	12	500	1500	84
AM6T-1215S-NZ	9-18	15	400	1500	85
AM6T-1224S-NZ	9-18	24	250	1500	85
AM6T-2403S-NZ	18-36	3.3	1500	1500	78
AM6T-2405S-NZ	18-36	5	1200	1500	82
AM6T-2412S-NZ	18-36	12	500	1500	85
AM6T-2415S-NZ	18-36	15	400	1500	86
AM6T-2424S-NZ	18-36	24	250	1500	86
AM6T-4803S-NZ	36-75	3.3	1500	1500	79
AM6T-4805S-NZ	36-75	5	1200	1500	83
AM6T-4812S-NZ	36-75	12	500	1500	87
AM6T-4815S-NZ	36-75	15	400	1500	88
AM6T-4824S-NZ	36-75	24	250	1500	87
AM6T-0505SH30-NZ	4.5-9	5	1200	3000	76

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM6T-1205D-NZ	9-18	±5	±600	1500	80
AM6T-1212D-NZ	9-18	±12	±250	1500	84
AM6T-1215D-NZ	9-18	±15	±200	1500	85
AM6T-1224D-NZ	9-18	±24	±125	1500	84
AM6T-2405D-NZ	18-36	±5	±600	1500	83
AM6T-2412D-NZ	18-36	±12	±250	1500	86
AM6T-2415D-NZ	18-36	±15	±200	1500	87
AM6T-2424D-NZ	18-36	±24	±125	1500	85
AM6T-4805D-NZ	36-75	±5	±600	1500	83
AM6T-4812D-NZ	36-75	±12	±250	1500	87
AM6T-4815D-NZ	36-75	±15	±200	1500	85
AM6T-4824D-NZ	36-75	±24	±125	1500	85

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
Absolute Max Input Voltage (1 Sec. Max.)	12 Vin 24 Vin 48 Vin		25 50 100	VDC
Voltage range	12 24 48	9-18 18-36 36-75		VDC
Filter	π (Pi) Network			
Reflected ripple current		□ □		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec	1500 , 3000		VDC
Resistance	500 Vdc	> 1000		MOhm
Capacitance	100kV / 0.1V	1000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	5% to 100% Load	±1	±3	%
Short Circuit protection		Continuous		
Short circuit restart		Auto-recovery		
Line voltage regulation	Full Load, low to high	±0.5	±1	%
Load voltage regulation	5% to 100% Load	±0.5	±1.5	%
Cross Regulation (dual)	Main 50% load, Second 10 – 100% load		±5	%
Temperature coefficient		±0.03		%/°C
Transient Recovery Time	25% load step	300	500	µsec
Transient Response Deviation	25% load step	±3	±8	%
Ripple & Noise	5% to 100% Load		100	mVp-p
Over Voltage Protection (1500 VDC Isolation models only)			110 to 160	%Vout
Over current protection		140		%Iout

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency*	100% load	300		KHz
Operating temperature	Derating above +71		-40 to +85	°C
Storage temperature			-55 to +125	°C
Max Case temperature			100	°C
Cooling		Free air convection		
Humidity			95	%
Case material	1500Vdc Isolation 3000Vdc Isolation		Black Anodized Aluminum Plastic (UL94-V0)	
Weight		14		g
Dimensions(L x W x H)	1500Vdc Isolation 3000Vdc Isolation	1.26 x 0.79 x 0.42 inches 1.25 x 0.80 x 0.37 inches	32.00 x 20.00 x 10.80 mm 31.80 x 20.30 x 9.50 mm	
MTBF		>1 000000 hrs(MIL-HDBK -217F, Ground Benign, t=+25°C)		

*Bellow 50% load the switching frequency decreases with the decrease of the load.

Environment Specifications

Test	Parameters	Conditions
Vibration	Test mode	10-55Hz, speed 0.05Hz/s
	Acceleration	10g, 30min, every axis tested
	Converter operation	Before and after test, body mounted (on chassis)

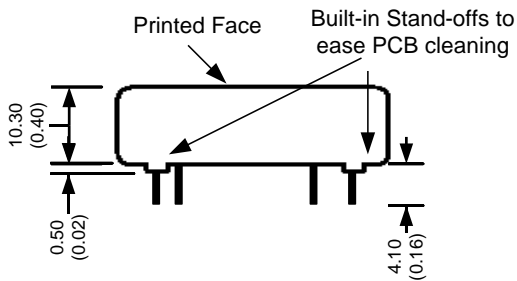
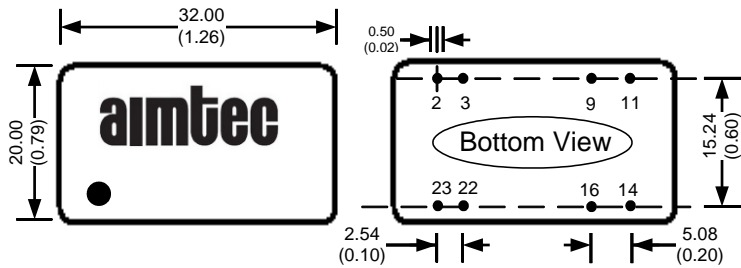
Safety Specifications

Parameters	
Standards	IEC/UL 60950-1
	EN55022, class A, (see the recommended EMC circuits)
	IEC61000-4-2 (ESD, contact ±4KV) Criteria B
	IEC61000-4-3 (Radiated immunity, 10V/m) Criteria A
	IEC61000-4-4 (EFT, ±2KV) Criteria B, (see the recommended EMC circuits)
	IEC61000-4-5(Surge, ±2KV) Criteria B, (see the recommended EMC circuits)
	IEC61000-4-6(CS, 3Vrms) Criteria A
IEC61000-4-29(IVDDSI, 0-70%) Criteria B	

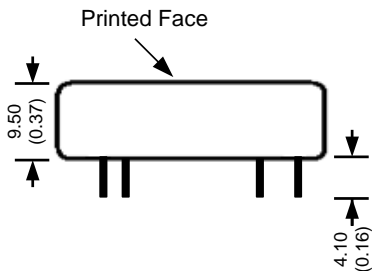
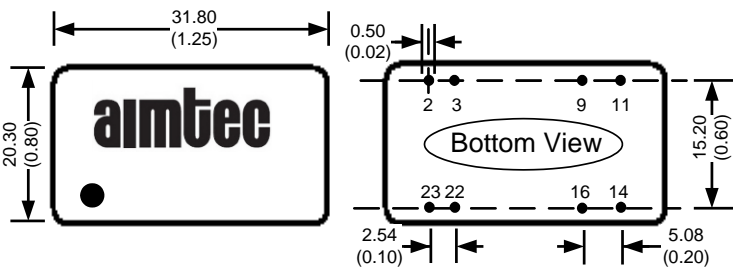
Pin Out Specifications

Pin	1500VDC	
	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

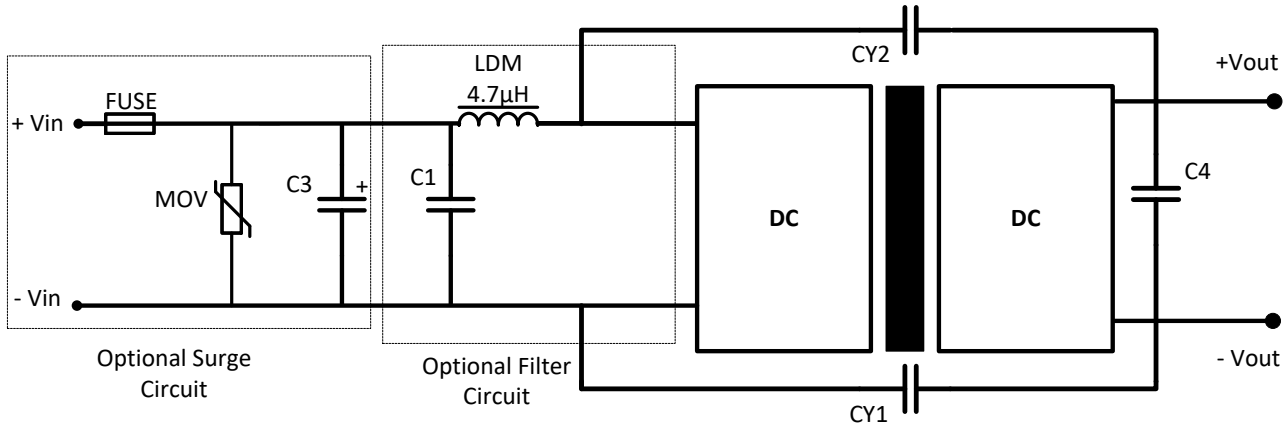
Dimensions 1500VDC



Dimensions 3000VDC



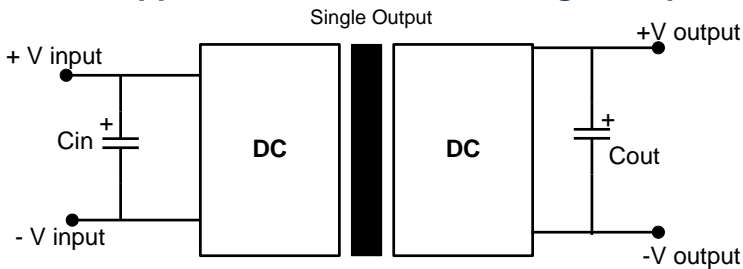
Recommended Circuit



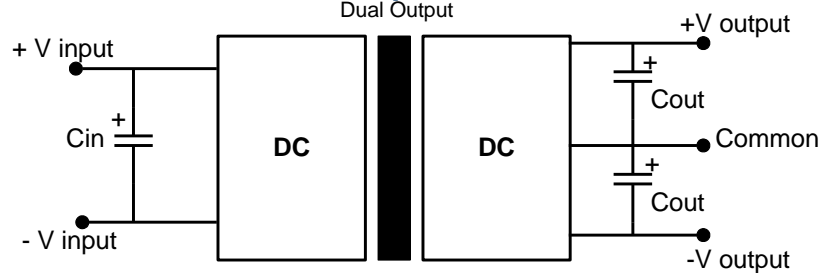
Model	MOV	C1	C3	CY1/CY2
12 Vin	S14K20	1µF / 50V	1000µF / 35V	1nF/2KV
24 Vin	S20K30	1µF / 50V	1000µF / 50V	
48 Vin	S14K60	1µF / 100V	680 µF / 100V	

Note: Fuse is user selectable

Recommended Circuit For Ripple & Noise reduction- Single Output



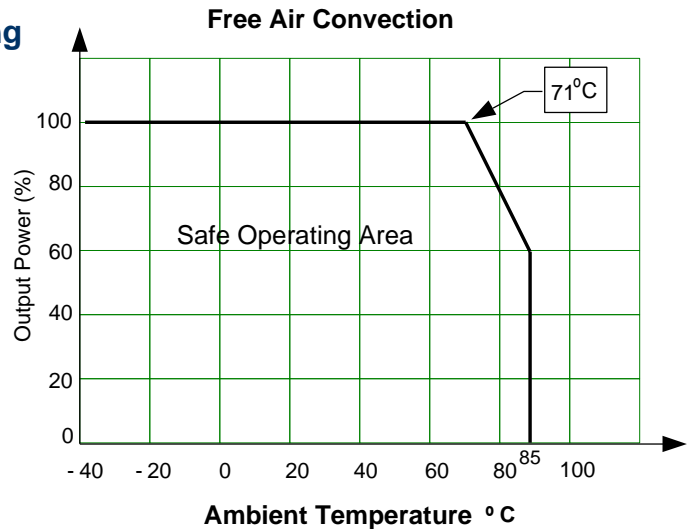
Recommended Circuit Dual Output



External Capacitor Tables

Vin (VDC)	Cin (µF)	Cout (µF)
12	100	10
24 & 48	10 ~ 47	10

Derating



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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.