aimtec
Your Power Partner

Series AM10T-NZ

10 Watt | DC-DC Converter



FEATURES:

- Short Circuit, OC & OVP Protection
- DIP 24 Package
- output short circuit protection
- Wide 2:1 input range
- Meets EN55032 Class A without external circuit
- Operating temperature -40ºC to + 85º
- Input under-voltage protection
- over-current, over-voltage protection
- Low ripple and noise
- Input/output Isolation voltage 1500VDC

RoHS

Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive Load, max(uf)	Efficiency (%)
AM10T-1203SNZ	9-18	3.3	2400	1200	87
AM10T-1205SNZ	9-18	5	2000	1000	87
AM10T-1212SNZ	9-18	12	833	470	87
AM10T-1215SNZ	9-18	15	667	330	87
AM10T-1224SNZ	9-18	24	416	100	88
AM10T-2403SNZ	18-36	3.3	2400	1200	87
AM10T-2405SNZ	18-36	5	2000	1000	88
AM10T-2412SNZ	18-36	12	833	470	87
AM10T-2415SNZ	18-36	15	667	330	87
AM10T-2424SNZ	18-36	24	416	100	88
AM10T-4803SNZ	36-75	3.3	2400	1200	87
AM10T-4805SNZ	36-75	5	2000	1000	88
AM10T-4812SNZ	36-75	12	833	470	87
AM10T-4815SNZ	36-75	15	667	330	87
AM10T-4824SNZ	36-75	24	416	100	88

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive Load, max(uf)	Efficiency (%)
AM10T-1205DNZ	9-18	±5	±1000	1000	83
AM10T-1212DNZ	9-18	±12	±416	470	87
AM10T-1215DNZ	9-18	±15	±333	330	86
AM10T-2405DNZ	18-36	±5	±1000	1000	83
AM10T-2412DNZ	18-36	±12	±416	470	87
AM10T-2415DNZ	18-36	±15	±333	330	87
AM10T-4805DNZ	36-75	±5	±1000	1000	83
AM10T-4812DNZ	36-75	±12	±416	470	87
AM10T-4815DNZ	36-75	±15	±333	330	87

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 24 48	9-18 18-36 36-75		VDC
Input current (Full load/No load)	12	3.3V Output	776/30	mA
		5V Output	980/12	
		All other output voltages	1028/15	
Input current (Full load/No load)	24	3.3V Output	388/25	mA
		5V Output	484/12	
		All other output voltages	515/12	
Input current (Full load/No load)	12 24 48	3.3V Output	195/20	mA
		5V Output	243/12	
		All other output voltages	258/8	

Input Specifications(Continued)

Parameters	Nominal	Typical	Maximum	Units
Filter	Capacitor			
Input reflected ripple Current	12 24 48	50 40 30		mA
Absolute Maximum Rating	12 Vin 24 Vin 48 Vin		25 50 100	VDC
Permissible absolute maximum duration			1	S
Remote On/Off Control	On Off	3.5-12VDC or leave open 0-1.2VDC or connect to GND, idle current 6-10mA		
	Input Current when Off	6	10	mA

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Resistance		> 1000		MOhm
Capacitance		2000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	Positive Output	±0.5		%
	Negative Output	±1		
Short Circuit protection	Continuous			
Short Circuit restart	Auto recovery			
Over voltage protection	Zener diode clamp	>110%		VDC
Line voltage regulation LL-HL	Positive Output	±0.2		%
	Negative Output	±0.5		
Load voltage regulation	5% – 100% full load	±0.5		%
	0% – 5% load	±5		%
Temperature coefficient	Full load	±0.03		%/ºC
Transient recovery time	25% load step change,	0.3	0.5	mS
Transient recovery deviation	25% load step change	3.3 and 5V output: ±5	3.3 and 5V output: ±8	%
		Others: ±3	Others: ±5	
Ripple & Noise	20Mhz bandwidth, 5%-100% load	40		mV p-p
Over Current Protection	3.3 and 5V Outputs	160	230	%Io
	Other	140	190	

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	350		KHz
Operating temperature	Derating above +71 ºC	-40 to +85		ºC
Storage temperature		-55 to +125		ºC
Cooling	Free air convection			
Humidity			95	%
Case material		Aluminum Alloy		
Weight		14		g
Dimensions (L x W x H)	Tolerance ±0.02 inch, ±0.5mm	1.26 x 0.78 x 0.42 inches	32.00 x 20.00 x 10.80 mm	
MTBF	1000 K hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)			

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.

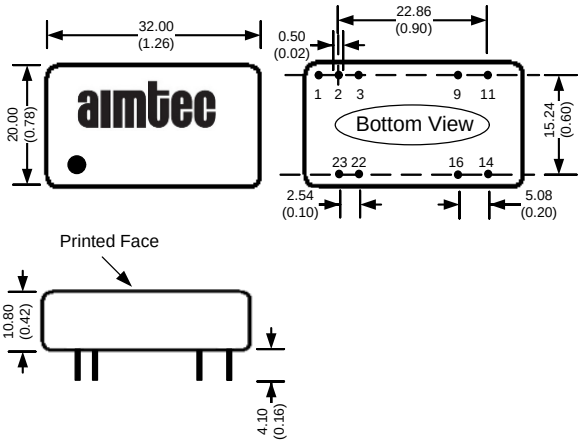
Safety Specifications

Parameters		
Standards	Designed to meet IEC/EN/UL60950-1	
	EN 55032, class A (without external circuit), EN55032 Class B with EMC recommended circuit	
	Electrostatic Discharge Immunity	IEC 61000-4-2, Contact ±4KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient / Burst Immunity	IEC 61000-4-4, ±2KV, Criteria B (with the recommended EMC circuit)
	Surge Immunity	IEC 61000-4-5, ±2KV, Criteria B (with the recommended EMC circuit)
	RF, Conducted Disturbance Immunity	IEC 61000-4-6, 10 Vrms, Criteria A
	Voltage dips, Short Interruptions & Voltage variations Immunity	IEC 61000-4-29: 0-70%, Criteria B

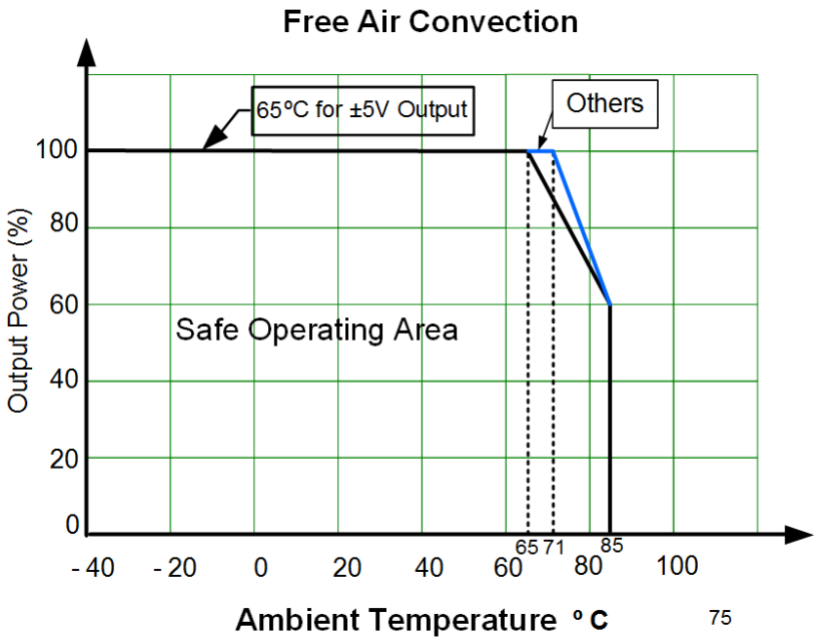
Pin Out Specifications

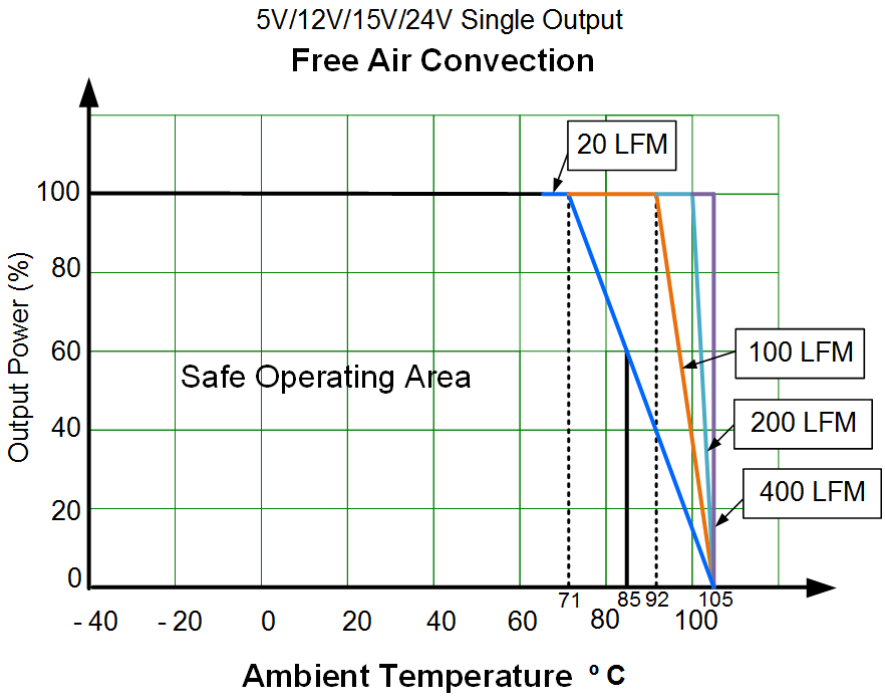
Pin	Single	Dual
1	Ctrl	Ctrl
2,3	-V Input	-V Input
9	N.C.	Common
10,15	Omitted	Omitted
11	N.C.	-V Output
14	+V Output	+ V Output
16	-V Output	Common
22,23	+V Input	+V Input

Dimensions



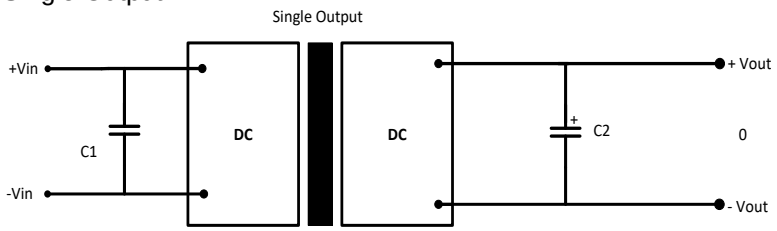
Derating



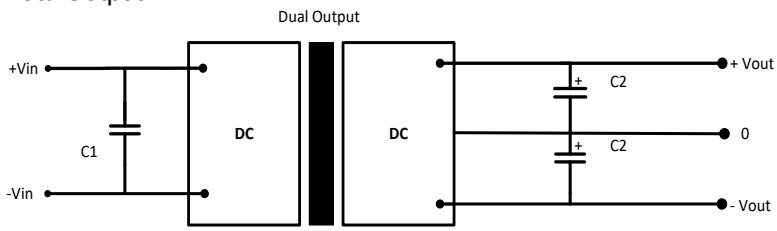


Typical Application Circuit Single Output

Single Output

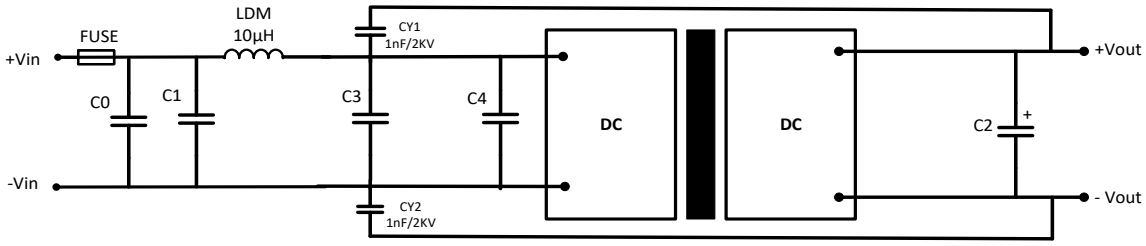


Dual Output



Vin (VDC)	C1	C2
12/24	100µF	10µF
48	10µF~47µF	10µF

EMC Recommended circuit



Vin (VDC)	C0 & C4	C1 & C3	C2	FUSE
12	470µF/35V	10µF/50V	10µF	Choose as per input current
24	330µF/50V	10µF/50V	10µF	
48	330µF/50V	10µF/100V	10µF	

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