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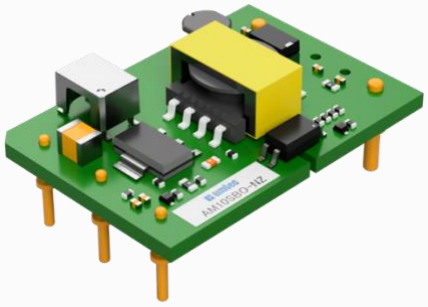
AM10SBO-NZ



Open frame 1/16 brick

The AM10SBO-NZ series is a high-performance open frame 1/16 brick DC/DC converter specifically designed for a variety of telecom applications. It features 10W of output power with no requirement for minimum load, a wide input voltage range of 36-75VDC, operating temperature up to 85°C and tested I/O isolation of 1500VDC.

Additionally, this series includes input under-voltage protection, output short-circuit, over-voltage, over-current protection, and remote On/Off control.

The AM10SBO-NZ meets EN 62368 standards and are widely used in the industrial control, electric power instrumentation and communication.

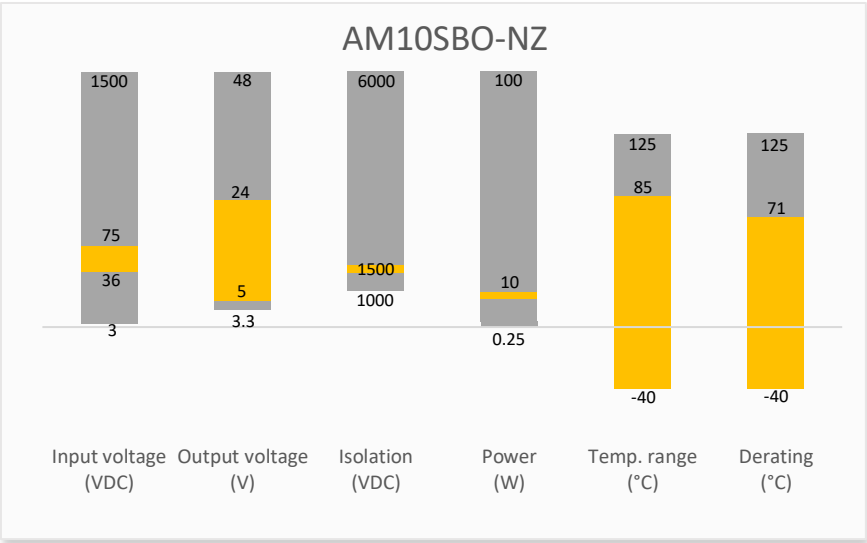
Features

- High I/O Isolation 1500VDC
- Input under voltage protection, output over current, over voltage, and short circuit protection
- Operating Temp: -40 °C to +85 °C
- Compact open frame design and high-power density
- Efficiency up to 88%

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

IoT

Industrial

Telecom

Portable Equipment

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Maximum Output Current (A)	Maximum capacitive Load (µF)	Efficiency Typ. (%)
AM10SBO-4805SNZ	48 (36-75)	5	2	2200	83
AM10SBO-4812SNZ	48 (36-75)	12	0.833	470	87
AM10SBO-4815SNZ	48 (36-75)	15	0.667	330	88
AM10SBO-4824SNZ	48 (36-75)	24	0.417	100	88

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Input current	Nominal input voltage, full load /no load	252/4	258/8	mA
Filter	Capacitor filter			
Absolute maximum rating	Maximum duration 1s	>0.7	100	VDC
Input reflected ripple current		50		mA
Start-up voltage			36	VDC
Start-up time			100	ms
UVLO		29		VDC
On/Off control	On	Control pin open or 3.5-12VDC		
	Off	Control pin short to –Vin or 0-1.2VDC		
	Idle current	6	10	mA

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 1mA	>1500		VDC
Resistance	500VDC	>1000		MΩ
Capacitance	100kHz/0.1V	1000		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	5-100% load	±1	±3	%
Line regulation	LL-HL	±0.2	±0.5	%
Load regulation	5-100% load	±0.5	±1	%
	0-100% load		±3	%
Temperature coefficient			±0.03	%/°C
Ripple & Noise*	Nominal input voltage, 5-100% load	100	120	mV pk-pk
	Nominal input voltage, 0-5% load		5	% of Vo
Transient Recovery Time	25% load step change	300	500	µs
Transient Response Deviation	25% load step change, 5V output	±5	±8	%
	25% load step change, others	±3	±5	%

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency*		300		KHz
Short circuit protection	Continuous, auto recovery			
Over current protection		≥ 110	190	% of Io
Over voltage protection		≥ 110	160	% of Vo
Operating temperature	With derating	-40 to +85		°C
Storage temperature		-55 to +125		°C
Cooling	Free air convection or forced air convection			
Humidity	Non-condensing	>5	95	% RH
Weight		5.84		g
Dimensions (L x W x H)		1.3 x 0.9 x 0.45 inches (33.02 x 22.86 x 11.4 mm)		
MTBF	1 000 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			

*** Switching frequency reduced when load < 50%.**
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.

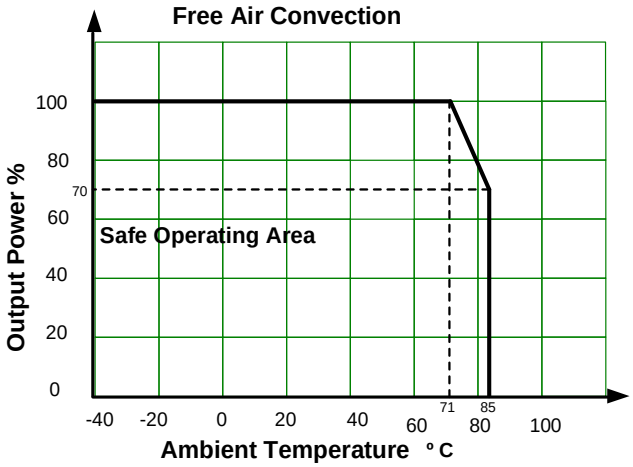
Environment Approval

Parameters	Conditions
Vibration	10-150Hz, 5G, 0.75mm, along all axis

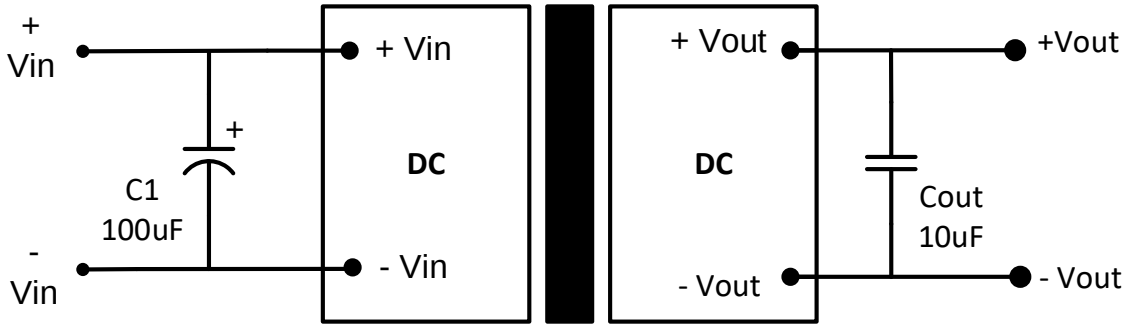
Safety Specifications

Parameters		
Standards	Information technology Equipment	Design to meet EN/UL 62368
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B with the recommended EMC circuit part B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±4KV, Criteria B
	RF, Electromagnetic Field Immunity	EN 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	EN 61000-4-4, ±2KV, Criteria B with the recommended EMC circuit part A
	Surge Immunity	EN 61000-4-5, L-L ±2KV, Criteria B with the recommended EMC circuit part A
	RF, Conducted Disturbance Immunity	EN 61000-4-6, 3Vr.m.s, Criteria A

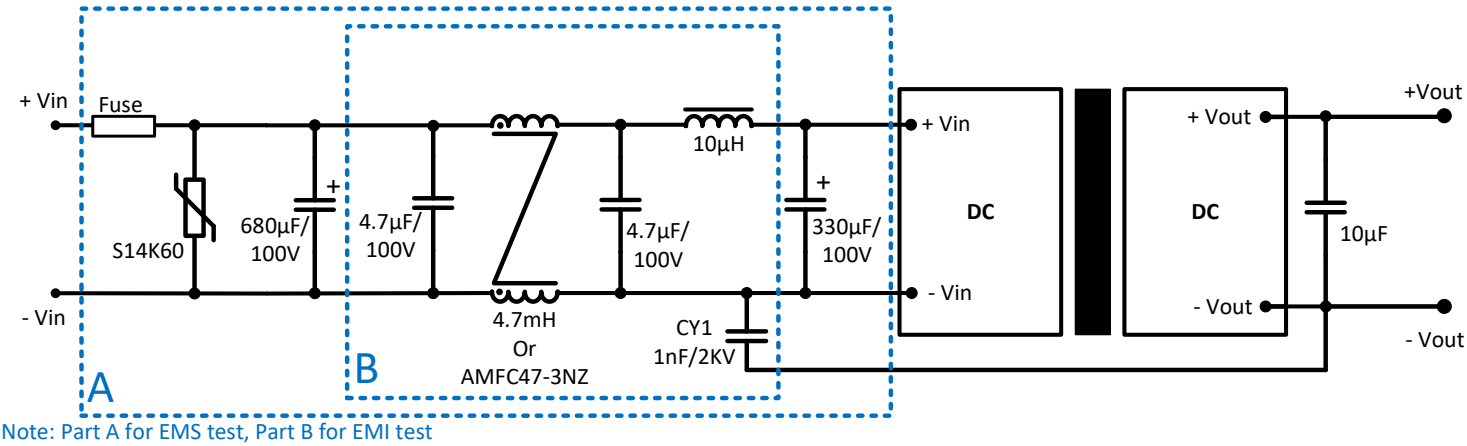
Derating



Typical application circuit

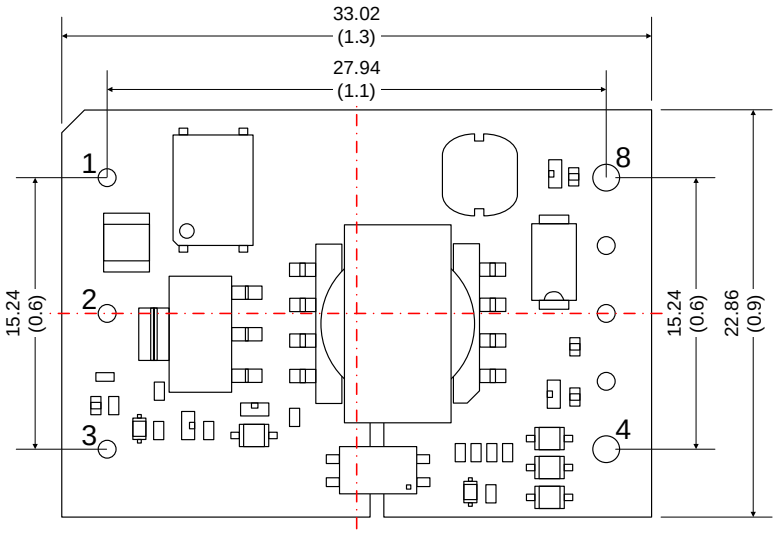


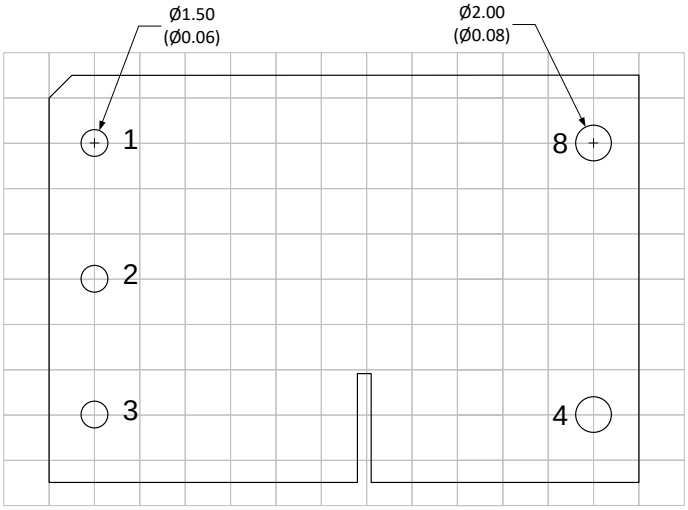
Recommended EMC circuit



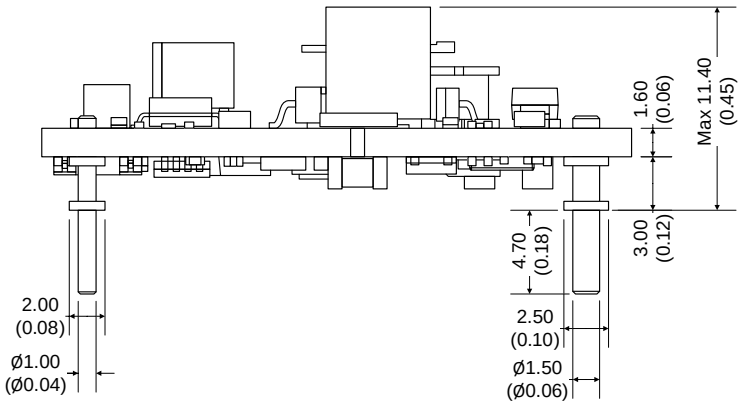
Note: Part A for EMS test, Part B for EMI test

Dimensions





Grid size: 2.54 x 2.54mm



Note:
Unit: mm(inch)
General tolerance: ±0.5 (0.02)
Pin dimension tolerance: ±0.1 (0.004)

Pin Out Specifications	
Pin	Single
1	+Vin
2	On/Off Control
3	-Vin
4	-Vout
8	+Vout

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