Series AM5W-NZ
5 Watt | DC-DC Converter

FEATURES:

- Super wide 10:1 Input range
- Extremely High Input range up to 1000VDC
- Operating temperature of -40 to +70°C
- Over current and Over Voltage protection
- No minimum load required
- High efficiency of up to 72%
- I/O Isolation of 4000VAC
- Reversed connection protection

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VAC)	Max Capacitive Load(uF)	Efficiency (200VDC) (%)
AM5W-60005S-NZ	100-1000	5	1	4000	6000	72

Add suffix "-STD" for optional DIN Rail screw terminal bottom plate.

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	Conditions	Typical	Maximum	Units
Voltage range			100-1000	VDC
Input Current	200VDC		38	mA
	600VDC		15	
	1000VDC		10	
Inrush current <2ms	200VDC	7		A
	600VDC	20		
	1000VDC	30		
External fuse	Slow blow	1		A
Startup time	200-1000VDC		1	s

Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	1 min	4000		VAC

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1	±2	%
Line voltage regulation	LL-HL	±0.5	±1	% of Vin
Load voltage regulation	0-100% load	±0.5	±1	%
Over voltage protection	Zener diode clamp			
Over current protection			110	% of Iout
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	100	200	mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load		75	KHz
Operating temperature	Without derating	-40 to 70		°C
Storage temperature	-40 to 105			°C
Maximum case temperature			95	°C
Cooling	Natural convection			
Humidity			95	% RH
Case material	Black plastic (UL94-V0)			
Weight	95 With optional -STD mounting plate: 190			g

Dimensions (L x W x H)	2.76 x 1.89 x 0.93 inches 70.00 x 48.00 x 23.50 mm With optional -STD mounting plate: 3.78 x 2.13 x 1.44 inches 96.10 x 54.00 x 36.60 mm			
MTBF	>300,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)			
Maximum soldering temperature	1.5mm from case for 5-10 sec		260	ºC

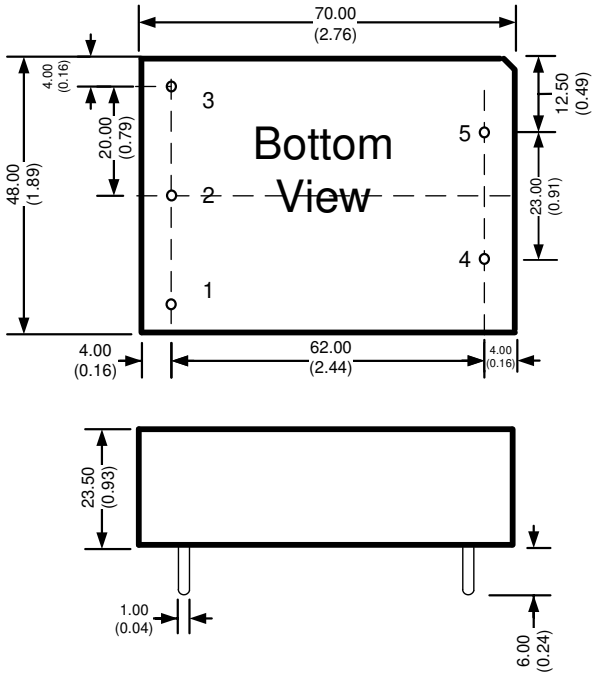
Safety Specifications

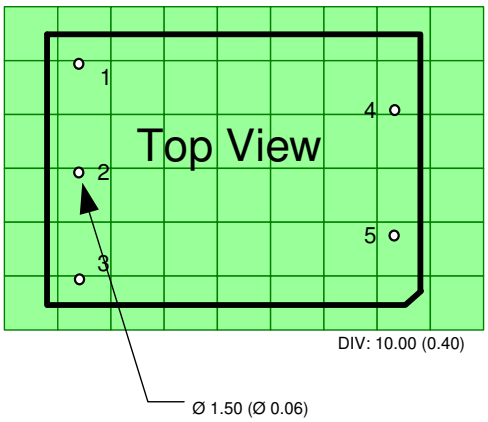
Parameters		
Standards	EMI - Conducted and radiated emission	EN55022, class A (with the recommended EMC circuit) EN55024: 2010
	Electrostatic Discharge Immunity	IEC 61000-4-2: Contact ±6KV/Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3: 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4: ±4KV, Criteria B
	Surge Immunity	IEC 61000-4-5: ±2KV, Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6: 10Vrms, Criteria A
	Power frequency Magnetic Field Immunity	IEC 61000-4-8: 10A/m, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11: 0-70%, Criteria B

Pin Out Specifications

Pin	Single
1	N.C.
2	-Vin
3	+Vin
4	-Vout
5	+Vout

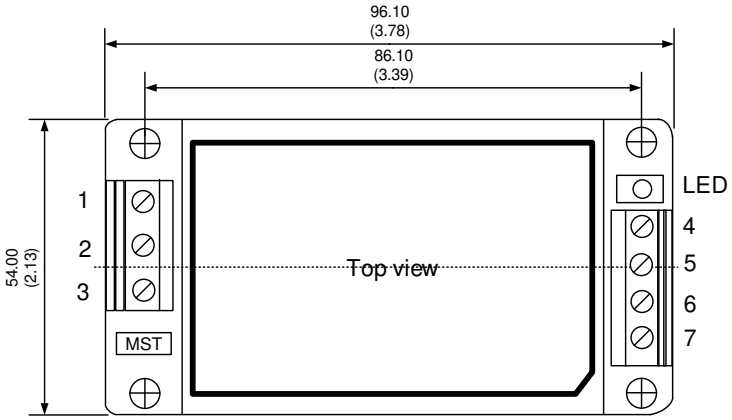
Dimensions

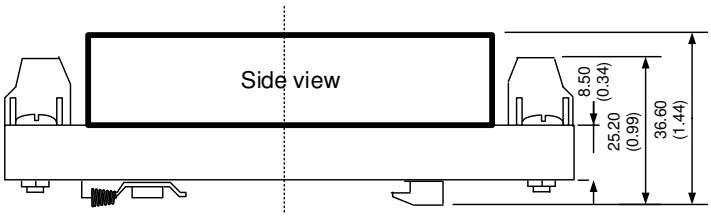




Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter ± 0.10 (± 0.004)

600VDC input models with optional -STD bottom plate



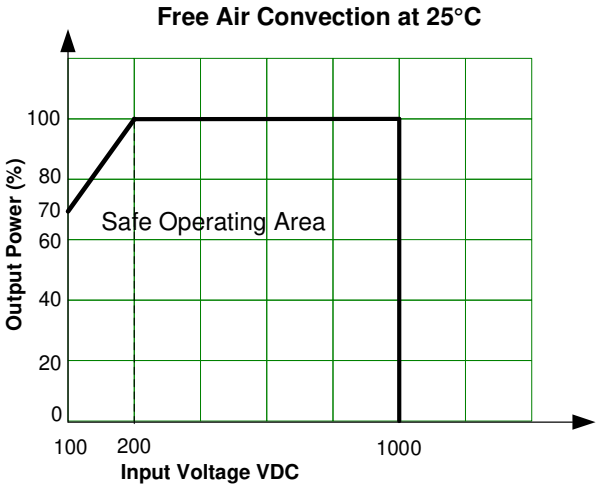


Dimensions: mm (inch)
Case Tolerance:± 0.50 (0.02)
Wire gauge: 24-12AWG
DIN Rail TS35

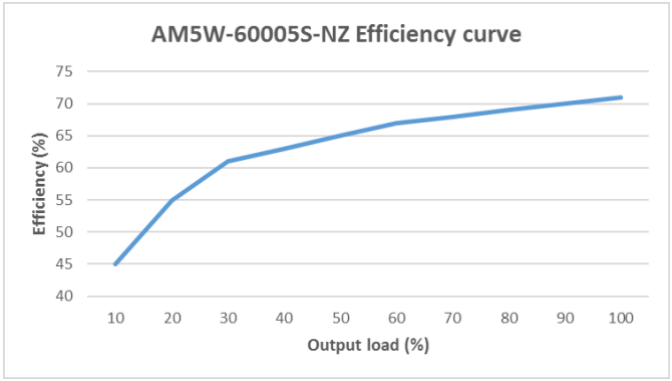
Pin Out Specifications

Pin	Single
1	-Vin
2	N.C.
3	+Vin
4	-Vout
5	N.C.
6	N.C.
7	+Vout

Derating

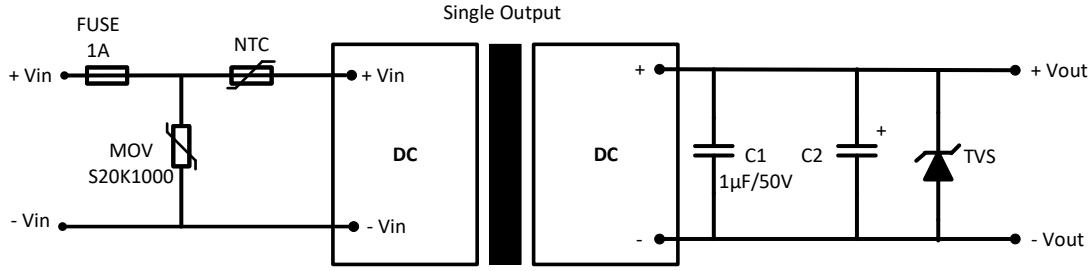


Efficiency curve



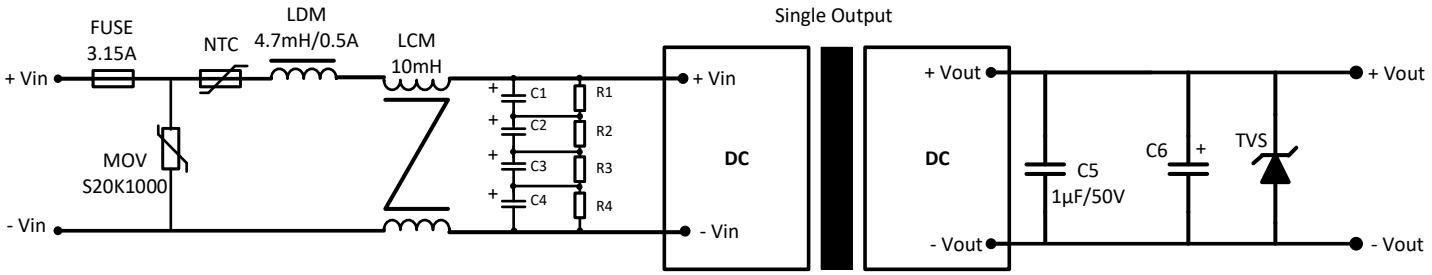
NOTE: 1. Derated Pout = Pout * temp. derating * Vin derating.
2. Sufficient air space for natural air flow around must be considered.

Typical Application circuit



Model	C2	TVS
5 Vout	220 µF / 35V	7V

Recommended EMC Circuit



Model	C1, C2, C3 &C4	R1, R2, R3 & R4	C6	TVS
5 Vout	47 µF/450V	1MΩ / 2W	220 µF / 35V	7V

NOTE: Recommended NTC: MF72-10D11 or similar;
Recommended LCM: CMT1-8.0-1L or CMT1-15.0-1L from CoilCraft.