

Series AM1PS-Z

1 Watt | DC-DC Converter



FEATURES:

- RoHS Compliant
- 8 Pin Dip Package
- Low Ripple And Noise
- High Efficiency Up To 78%
- Operating Temperature -40°C to +85°C
- Input / Output Isolation 1000 & 3000 VDC
- Pin Compatible With Multiple Manufacturers
- Continuous Short Circuit Protection



Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Isolation (VDC)	Input Current Full Load No Load (mA)		Max Capacitive Load (μF)	Efficiency (%)
AM1PS-0505SZ	4.5-5.5	5	200	1000	267	53	100	75
AM1PS-0512SZ	4.5-5.5	12	83.3	1000	270	48	100	75
AM1PS-0515SZ	4.5-5.5	15	66.6	1000	173	50	100	73
AM1PS-1205SZ	10.8-13.2	5	200	1000	110	20	100	76
AM1PS-1212SZ	10.8-13.2	12	83.3	1000	111	20	100	75
AM1PS-1215SZ	10.8-13.2	15	66.6	1000	111	30	100	75
AM1PS-2405SZ	21.6-26.4	5	200	1000	58	20	100	72
AM1PS-2412SZ	21.6-26.4	12	83.3	1000	56	15	100	75
AM1PS-2415SZ	21.6-26.4	15	66.6	1000	56	15	100	75
AM1PS-0505SH30Z	4.5-5.5	5	200	3000	267	53	100	75
AM1PS-0512SH30Z	4.5-5.5	12	83.3	3000	270	48	100	74
AM1PS-0515SH30Z	4.5-5.5	15	66.6	3000	173	50	100	73
AM1PS-1205SH30Z	10.8-13.2	5	200	3000	110	20	100	76
AM1PS-1212SH30Z	10.8-13.2	12	83.3	3000	111	20	100	75
AM1PS-1215SH30Z	10.8-13.2	15	66.6	3000	111	30	100	75
AM1PS-2405SH30Z	21.6-26.4	5	200	3000	58	20	100	72
AM1PS-2412SH30Z	21.6-26.4	12	83.3	3000	56	15	100	75
AM1PS-2415SH30Z	21.6-26.4	15	66.6	3000	56	15	100	75

Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Isolation (VDC)	Input Current Full Load No Load (mA)		Max Capacitive Load (μF)	Efficiency (%)
AM1PS-0505DZ	4.5-5.5	±5	±100	1000	267	53	±47	70
AM1PS-0512DZ	4.5-5.5	±12	±50	1000	270	48	±47	73
AM1PS-0515DZ	4.5-5.5	±15	±33	1000	173	50	±47	77
AM1PS-1205DZ	10.8-13.2	±5	±100	1000	110	20	±47	71
AM1PS-1212DZ	10.8-13.2	±12	±41.66	1000	111	20	±47	71
AM1PS-1215DZ	10.8-13.2	±15	±33	1000	111	30	±47	71
AM1PS-2405DZ	21.6-26.4	±5	±100	1000	58	20	±47	74
AM1PS-2412DZ	21.6-26.4	±12	±41.66	1000	56	15	±47	75
AM1PS-2415DZ	21.6-26.4	±15	±33	1000	56	15	±47	74
AM1PS-0505DH30Z	4.5-5.5	±5	±100	3000	267	53	±47	70
AM1PS-0512DH30Z	4.5-5.5	±12	±50	3000	270	48	±47	73
AM1PS-0515DH30Z	4.5-5.5	±15	±33	3000	173	50	±47	77
AM1PS-1205DH30Z	10.8-13.2	±5	±100	3000	110	20	±47	71
AM1PS-1212DH30Z	10.8-13.2	±12	±41.66	3000	111	20	±47	71
AM1PS-1215DH30Z	10.8-13.2	±15	±33	3000	111	30	±47	71
AM1PS-2405DH30Z	21.6-26.4	±5	±100	3000	58	20	±47	74
AM1PS-2412DH30Z	21.6-26.4	±12	±41.66	3000	56	15	±47	75
AM1PS-2415DH30Z	21.6-26.4	±15	±33	3000	56	15	±47	74

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	5	4.5-5.5		VDC
	12	10.8-13.2		
	24	21.6-26.4		
Filter	Capacitor			
Turn on Transient process time			25	ms
Start up time		200		ms
Absolute Maximum Rating	5 Vin	0-7		VDC
	12 Vin	0-15		
	24 Vin	0-28		
Peak Input Voltage time		100		ms
Input Reflected Ripple current	With 12μH	20		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60sec		1000 and 3000	VDC
Resistance		> 1000		MOhm
Capacitance		10		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		± 3		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation	For 1% change of Vin	± 1.2		%
Load voltage regulation	Load 20 – 100%	± 10		%
Temperature coefficient		± 0.02		%/ $^{\circ}$ C
Ripple & Noise	At 20MHz Bandwidth	100		mV p-p
Rising time		50		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	80		KHz
Operating temperature	Full Load without Derating	-40 to +85		$^{\circ}$ C
Storage temperature		-40 to +125		$^{\circ}$ C
Max Case temperature			100	$^{\circ}$ C
Cooling	Free air convection			
Humidity			95	%
Case material	Non-conductive black plastic			
Weight		1.8		g
Dimensions (L x W x H)		0.50 x 0.40 x 0.27 inches	12.70 x 10.16 x 6.85 mm	
MTBF		>1 121 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25 $^{\circ}$ C)		

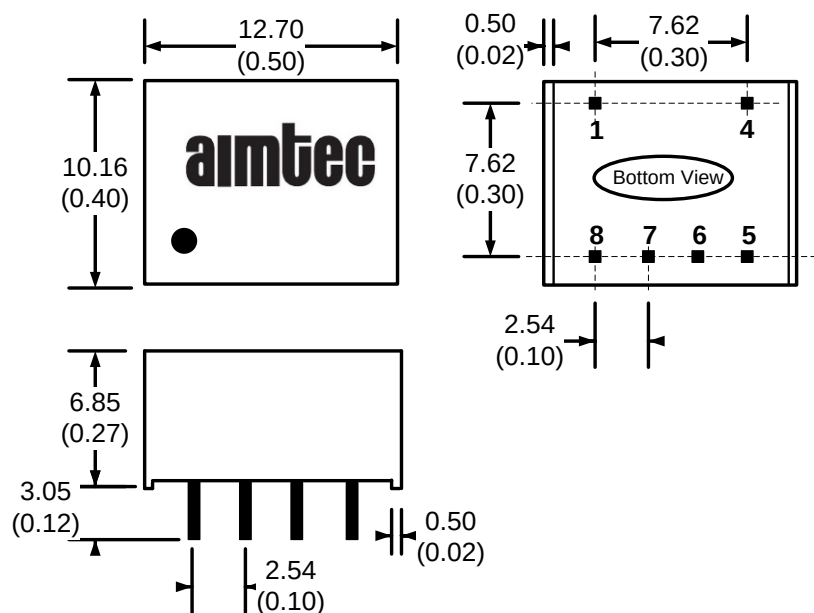
Safety Specifications

Parameters	
Standards	NOTE: Designed to meet IEC 60950-1

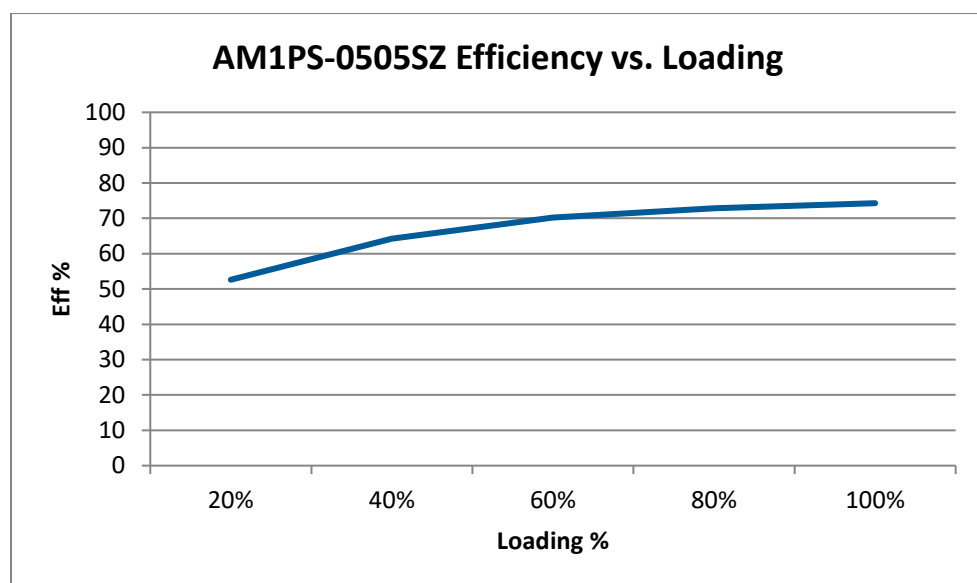
Pin Out Specifications

Pin	1000 and 3000 VDC	
	Single	Dual
1	- V Input	- V Input
4	+ V Input	+ V Input
5	+ V Output	+ V Output
6	No pin	No pin
7	- V Output	Common
8	No pin	- V Output

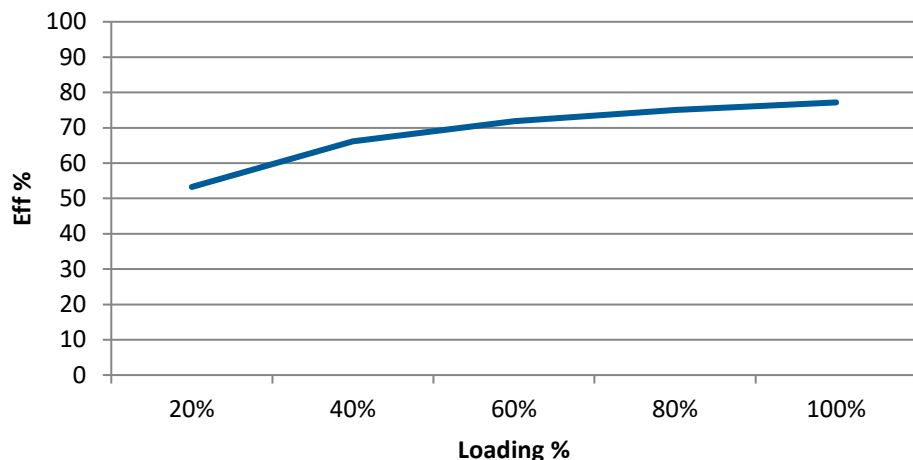
Dimensions



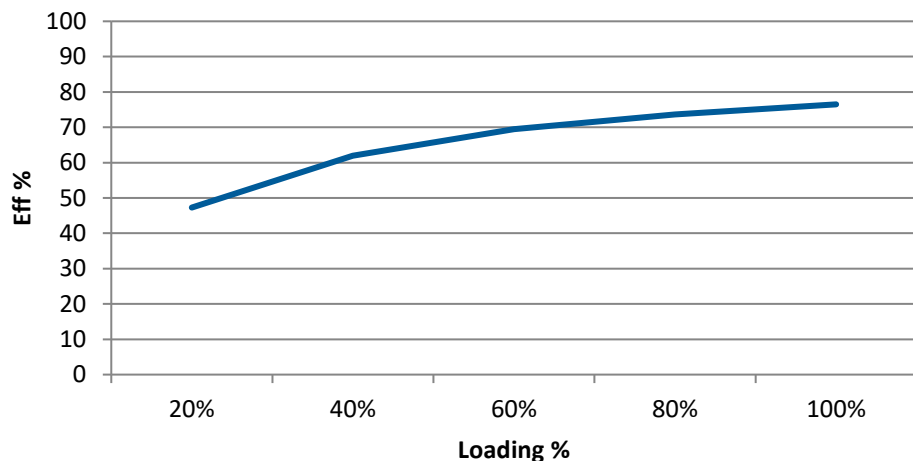
Typical Efficiency Example Charts



AM1PS-1205SZ Efficiency vs. Loading



AM1PS-2405SZ Efficiency vs. Loading



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