Series AM1P-Z

1 Watt | DC-DC Converter

FEATURES:

- RoHS compliant
- 8 Pin DIP Package
- Low ripple and noise
- High efficiency up to 82%
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1000 & 3000VDC
- Pin compatible with multiple manufacturers

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1P-0503SZ	4.5-5.5	3.3	300	1000	72
AM1P-0505SZ	4.5-5.5	5	200	1000	75
AM1P-0507SZ	4.5-5.5	7.2	140	1000	76
AM1P-0509SZ	4.5-5.5	9	110	1000	77
AM1P-0512SZ	4.5-5.5	12	83	1000	78
AM1P-0515SZ	4.5-5.5	15	67	1000	78
AM1P-0518SZ	4.5-5.5	18	56	1000	78
AM1P-0524SZ	4.5-5.5	24	42	1000	78
AM1P-1203SZ	10.8-13.2	3.3	300	1000	72
AM1P-1205SZ	10.8-13.2	5	200	1000	75
AM1P-1207SZ	10.8-13.2	7.2	140	1000	76
AM1P-1209SZ	10.8-13.2	9	110	1000	77
AM1P-1212SZ	10.8-13.2	12	83	1000	78
AM1P-1215SZ	10.8-13.2	15	67	1000	78
AM1P-1218SZ	10.8-13.2	18	56	1000	78
AM1P-1224SZ	10.8-13.2	24	42	1000	78
AM1P-2403SZ	21.6-26.4	3.3	300	1000	72
AM1P-2405SZ	21.6-26.4	5	200	1000	75
AM1P-2407SZ	21.6-26.4	7.2	140	1000	76
AM1P-2409SZ	21.6-26.4	9	110	1000	77
AM1P-2412SZ	21.6-26.4	12	83	1000	78
AM1P-2415SZ	21.6-26.4	15	67	1000	78
AM1P-2418SZ	21.6-26.4	18	56	1000	78
AM1P-2424SZ	21.6-26.4	24	42	1000	78
AM1P-0503SH30Z	4.5-5.5	3.3	300	3000	72
AM1P-0505SH30Z	4.5-5.5	5	200	3000	75
AM1P-0507SH30Z	4.5-5.5	7.2	140	3000	76
AM1P-0509SH30Z	4.5-5.5	9	110	3000	77
AM1P-0512SH30Z	4.5-5.5	12	83	3000	78
AM1P-0515SH30Z	4.5-5.5	15	67	3000	78
AM1P-0518SH30Z	4.5-5.5	18	56	3000	78
AM1P-0524SH30Z	4.5-5.5	24	42	3000	78
AM1P-1203SH30Z	10.8-13.2	3.3	300	3000	72
AM1P-1205SH30Z	10.8-13.2	5	200	3000	75
AM1P-1207SH30Z	10.8-13.2	7.2	140	3000	76
AM1P-1209SH30Z	10.8-13.2	9	110	3000	77
AM1P-1212SH30Z	10.8-13.2	12	83	3000	78
AM1P-1215SH30Z	10.8-13.2	15	67	3000	78
AM1P-1218SH30Z	10.8-13.2	18	56	3000	78
AM1P-1224SH30Z	10.8-13.2	24	42	3000	78
AM1P-2403SH30Z	21.6-26.4	3.3	300	3000	72
AM1P-2405SH30Z	21.6-26.4	5	200	3000	75
AM1P-2407SH30Z	21.6-26.4	7.2	140	3000	76
AM1P-2409SH30Z	21.6-26.4	9	110	3000	77
AM1P-2412SH30Z	21.6-26.4	12	83	3000	78

Models
Single output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1P-2415SH30Z	21.6-26.4	15	67	3000	78
AM1P-2418SH30Z	21.6-26.4	18	56	3000	78
AM1P-2424SH30Z	21.6-26.4	24	42	3000	78

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1P-0503DZ	4.5-5.5	±3.3	±150	1000	63
AM1P-0505DZ	4.5-5.5	±5	±100	1000	72
AM1P-0507DZ	4.5-5.5	±7.2	±70	1000	75
AM1P-0509DZ	4.5-5.5	±9	±55	1000	78
AM1P-0512DZ	4.5-5.5	±12	±42	1000	80
AM1P-0515DZ	4.5-5.5	±15	±34	1000	80
AM1P-0518DZ	4.5-5.5	±18	±28	1000	78
AM1P-0524DZ	4.5-5.5	±24	±21	1000	78
AM1P-1203DZ	10.8-13.2	±3.3	±150	1000	70
AM1P-1203DZ	10.8-13.2	±5	±100	1000	72
AM1P-1207DZ	10.8-13.2	±7.2	±70	1000	71
AM1P-1209DZ	10.8-13.2	±9	±55	1000	76
AM1P-1212DZ	10.8-13.2	±12	±42	1000	80
AM1P-1215DZ	10.8-13.2	±15	±34	1000	80
AM1P-1218DZ	10.8-13.2	±18	±28	1000	76
AM1P-1224DZ	10.8-13.2	±24	±21	1000	78
AM1P-2403DZ	21.6-26.4	±3.3	±150	1000	76
AM1P-2403DZ	21.6-26.4	±5	±100	1000	72
AM1P-2407DZ	21.6-26.4	±7.2	±70	1000	73
AM1P-2409DZ	21.6-26.4	±9	±55	1000	77
AM1P-2412DZ	21.6-26.4	±12	±42	1000	82
AM1P-2415DZ	21.6-26.4	±15	±34	1000	82
AM1P-2418DZ	21.6-26.4	±18	±28	1000	75
AM1P-2424DZ	21.6-26.4	±24	±21	1000	80

Models
Dual Separated Output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1P-050303DZ	4.5-5.5	3.3 / 3.3	150 / 150	1000	63
AM1P-050505DZ	4.5-5.5	5 / 5	100 / 100	1000	72
AM1P-050707DZ	4.5-5.5	7.2 / 7.2	70 / 70	1000	75
AM1P-050909DZ	4.5-5.5	9 / 9	55 / 55	1000	78
AM1P-051212DZ	4.5-5.5	12 / 12	42 / 42	1000	80
AM1P-051515DZ	4.5-5.5	15 / 15	34 / 34	1000	80
AM1P-051818DZ	4.5-5.5	18 / 18	28 / 28	1000	78
AM1P-052424DZ	4.5-5.5	24 / 24	21 / 21	1000	78
AM1P-120303DZ	10.8-13.2	3.3 / 3.3	150 / 150	1000	70
AM1P-120305DZ	10.8-13.2	5 / 5	100 / 100	1000	72
AM1P-120707DZ	10.8-13.2	7.2 / 7.2	70 / 70	1000	71
AM1P-120909DZ	10.8-13.2	9 / 9	55 / 55	1000	76
AM1P-121212DZ	10.8-13.2	12 / 12	42 / 42	1000	80
AM1P-121515DZ	10.8-13.2	15 / 15	34 / 34	1000	80
AM1P-121818DZ	10.8-13.2	18 / 18	28 / 28	1000	76
AM1P-122424DZ	10.8-13.2	24 / 24	21 / 21	1000	78

Models

Dual Separated Output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1P-240303DZ	21.6-26.4	3.3 / 3.3	150 / 150	1000	76
AM1P-240305DZ	21.6-26.4	5 / 5	100 / 100	1000	72
AM1P-240707DZ	21.6-26.4	7.2 / 7.2	70 / 70	1000	73
AM1P-240909DZ	21.6-26.4	9 / 9	55 / 55	1000	77
AM1P-241212DZ	21.6-26.4	12 / 12	42 / 42	1000	82
AM1P-241515DZ	21.6-26.4	15 / 15	34 / 34	1000	82
AM1P-241818DZ	21.6-26.4	18 / 18	28 / 28	1000	75
AM1P-242424DZ	21.6-26.4	24 / 24	21 / 21	1000	80

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

Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	3 sec	1000 all models, 3000 (single output)		VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±3		%
Short Circuit protection	Momentary (1 sec)			
Line voltage regulation (Single)	For 1% change of Vin	±1.2		%
Line voltage regulation (Dual)	For 1% change of Vin	±1.2		%
Load voltage regulation (Single)	Load 20 – 100%	±10		%
Load voltage regulation (Single) 3.3V output model	Load 20 – 100%	±20		%
Load voltage regulation (Dual)	Load 20 – 100%	±10		%
Load voltage regulation (Dual) 3.3V output model	Load 20 – 100%	±20		%
Temperature coefficient		±0.02		%/°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		**°C**
Storage temperature		-55 to +125		**°C**
Max Case temperature			90	°C
Cooling	Free air convection			
Humidity			90	%

General Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
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	>1 191 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

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

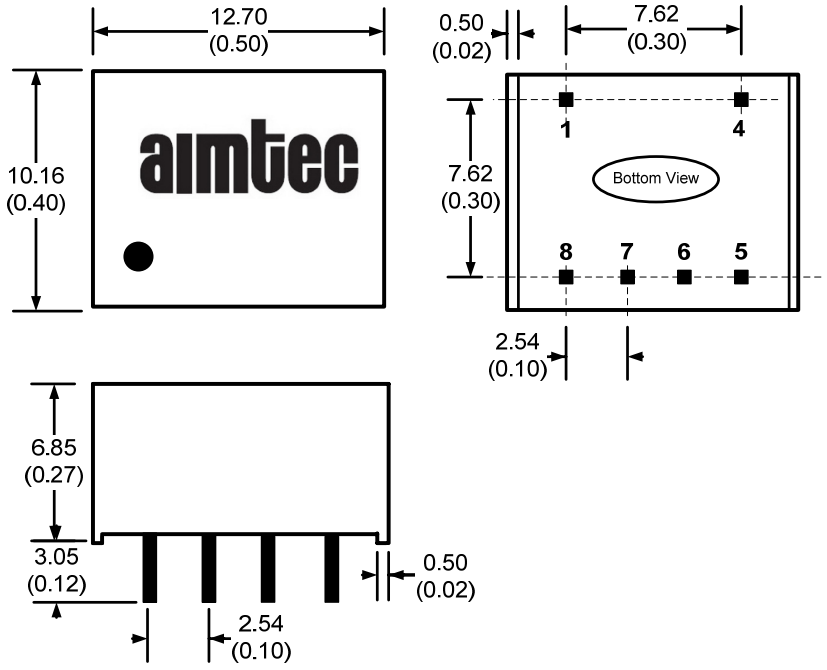
Safety Specifications

Parameters	
Agency approvals	CE
Standards	EN55022 (Radiated Emissions) class B
	EN55024 (Noise Immunity), IEC61000-4-2(ESD)
	IEC61000-4-3(Radiated immunity)

Pin Out Specifications

Pin	1000 and 3000 VDC		1000 VDC
	Single	Dual	Dual Separated
1	- V Input	- V Input	- V Input
4	+ V Input	+ V Input	+ V Input
5	+ V Output	+ V Output	+ V1 Output
6	No pin	No pin	- V1 Output
7	- V Output	Common	+ V2 Output
8	No pin	- V Output	- V2 Output

Dimensions



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