aimtec
Your Power Partner

Series AM2DS-Z

2 Watt | DC-DC Converter

To be added soon

FEATURES:

- RoHS compliant SIP7 package
- High efficiency up to 80%
- I/O Isolation 5200 VDC
- Low Ripple and Noise
- Continuous Short Circuit Protection
- Low coupling capacity

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Max Capacitive Load (uF)	Efficiency (%)
AM2DS-0503SH52Z	5	3.3	500	1000	70
AM2DS-0505SH52Z	5	5	400	470	70
AM2DS-0509SH52Z	5	9	222	470	75
AM2DS-0512SH52Z	5	12	167	220	77
AM2DS-0515SH52Z	5	15	133	220	78
AM2DS-1203SH52Z	12	3.3	500	1000	71
AM2DS-1205SH52Z	12	5	400	470	71
AM2DS-1209SH52Z	12	9	222	470	76
AM2DS-1212SH52Z	12	12	167	220	78
AM2DS-1215SH52Z	12	15	133	220	79
AM2DS-1503SH52Z	15	3.3	500	1000	70
AM2DS-1505SH52Z	15	5	400	470	70
AM2DS-1509SH52Z	15	9	222	470	75
AM2DS-1512SH52Z	15	12	167	220	75
AM2DS-1515SH52Z	15	15	133	220	79
AM2DS-2403SH52Z	24	3.3	500	1000	70
AM2DS-2405SH52Z	24	5	400	470	70
AM2DS-2409SH52Z	24	9	222	470	75
AM2DS-2412SH52Z	24	12	167	220	78
AM2DS-2415SH52Z	24	15	133	220	80

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max Capacitive Load (uF)	Efficiency (%)
AM2DS-0505DH52Z	5	±5	±200	±220	71
AM2DS-0509DH52Z	5	±9	±111	±220	75
AM2DS-0512DH52Z	5	±12	±83	±100	77
AM2DS-0515DH52Z	5	±15	±67	±100	78
AM2DS-051509DH52Z	5	+15/-9	+67/-111	+100/-220	76
AM2DS-1205DH52Z	12	±5	±200	±220	72
AM2DS-1209DH52Z	12	±9	±111	±220	76
AM2DS-1212DH52Z	12	±12	±83	±100	78
AM2DS-1215DH52Z	12	±15	±67	±100	79
AM2DS-121509DH52Z	12	+15/-9	+67/-111	+100/-220	77
AM2DS-1505DH52Z	15	±5	±200	±220	71
AM2DS-1509DH52Z	15	±9	±111	±220	75
AM2DS-1512DH52Z	15	±12	±83	±100	78
AM2DS-1515DH52Z	15	±15	±67	±100	79
AM2DS-151509DH52Z	15	+15/-9	+67/-111	+100/-220	76
AM2DS-2405DH52Z	24	±5	±200	±220	71
AM2DS-2409DH52Z	24	±9	±111	±220	75
AM2DS-2412DH52Z	24	±12	±83	±100	77
AM2DS-2415DH52Z	24	±15	±67	±100	78
AM2DS-241509DH52Z	24	+15/-9	+67/-111	+100/-220	75

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5 12 15 24	4.5-5.5 10.8-13.2 13.5-16.5 21.6-26.4		VDC
Filter	Capacitor			
Startup time	Vnom, constant resistive load	20		ms
Absolute Maximum Rating (1sec max)	5 Vin 12 Vin 15 Vin 24 Vin		0-9 0-18 0-20 0-30	VDC
Quiescent Current	5 Vin 12 Vin 15 Vin 24 Vin	40 25 20 15		mA
Input Reflected Ripple current	See the suggested circuit	20		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		5200	VDC
Resistance		>1000		MOhm
Capacitance		10		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±5		%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Line voltage regulation	For 1% change of V in	±1.2		%
Load voltage regulation	From 20 to 100% load	±10		%
Temperature coefficient		±0.03		%/°C
Ripple and Noise*	20MHz Bandwidth		100	mV p-p

*Output ripple and noise are measured with external connection of 10uF electrolytic capacitor and 1uF ceramic capacitor.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load, depending of the model	50 - 100		KHz
Operating temperature	With derating above 65°C	-40 to +85		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			95	°C
Cooling	Free air convection			
Humidity			95	% RH
Case material	Non-conductive black plastic, epoxy encapsulated (UL94V-0 rated)			
Soldering temperature	1.5mm from case for 10 sec.		260	°C
Weight	2.5			g
Dimensions (L x W x H)	0.77 x 0.39 x 0.28 inches 19.5 x 10.0 x 7.2 mm			
MTBF	>2 390 000 hrs (MIL-HDBK-217 F at +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.

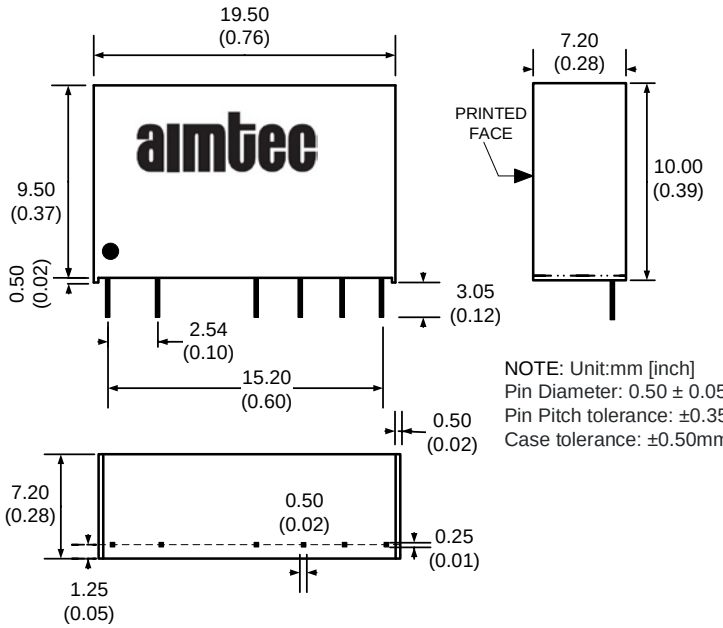
Safety Specifications

Parameters	
Standards	Designed to meet IEC/EN 60950-1, EN 55022, Class B, with external filter & EN 55024: 2010 IEC 61000-4-2, Criteria A IEC 61000-4-3, Criteria A IEC 61000-4-4, Criteria A, with external filter IEC 61000-4-6, Criteria A IEC 61000-4-8, Criteria A

Pin Out Specifications

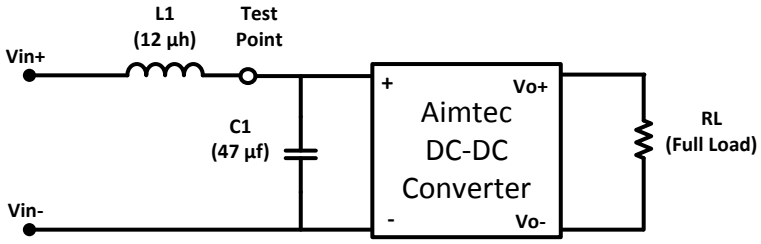
Pin	5200 VDC	
	Single	Dual
1	+ V Input	+ V Input
2	- V Input	- V Input
5	- V Output	- V Output
6	No pin	Common
7	+ V Output	+ V Output

Dimensions



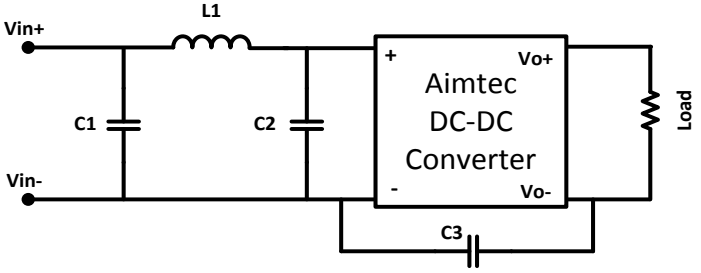
NOTE: Unit:mm [inch]
Pin Diameter: 0.50 ± 0.05mm [0.02 ± 0.002 inch]
Pin Pitch tolerance: ±0.35mm [±0.014 inch]
Case tolerance: ±0.50mm [±0.02 inch]

Input Reflected Ripple Current Test Circuit



* Tested at full load, and nominal input

EMI Filter Circuit recommendation



Vin	C1	L1	C2	C3
5, 12, 15 V	470 µF / 100V	18 µH		
24 V	470 µF / 100V	18 µH	2.2 µF / 100V	470 pF / 2kV

*** Electrolytic type**

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.