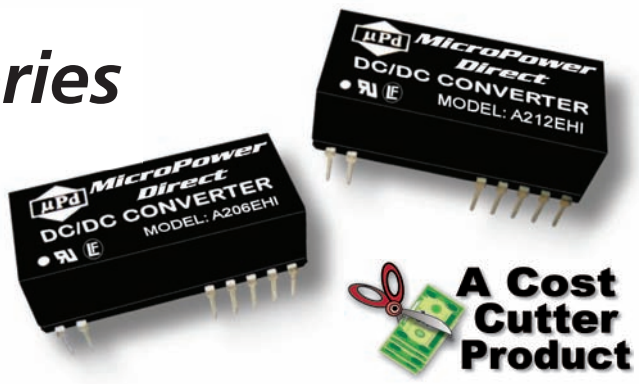
A200EHI Series

Low Cost, Miniature DIP 2W, Very High Isolation DC/DC Converters



A Cost Cutter Product

Key Features:

- 2W Output Power
- 6,000 VDC Isolation
- UL Approved (File E245422)
- -40°C to 85°C Operation
- 24 Pin DIP Case
- 5V and 12V Inputs
- Single & Dual Outputs
- 16 Standard Models
- 3.5 MH MTBF
- ***LOWEST COST!!***

RoHS Compliant

MicroPower Direct
292 Page Street
Suite D
Stoughton, MA 02072
USA

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F: (781) 344-8481
E: sales@micropowerdirect.com
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Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	5 VDC Input	4.5	5.0	5.5	VDC
	12 VDC Input	10.8	12.0	13.2	
Input Filter	Internal Capacitor				
Short Circuit Input Power				1,500	mW

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2.0	±4.0	%
Output Voltage Balance	Dual Output , Balanced Loads		±1.0	±3.0	%
Line Regulation	For Vin Change of 1%			±1.2	%/%
Load Regulation, 5V Input	Iout = 10% to 100%			±15	%
Load Regulation, 12V Input	Iout = 10% to 100%			±10	%
Ripple & Noise (20 MHz) (Note 1)			100	200	mV P - P
Output Power Protection		120			%
Temperature Coefficient				±0.03	%/°C
Output Short Circuit	Momentary (1.0 Seconds)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	60 Seconds	6,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 1V		2		pF
Switching Frequency			35		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40		+85	°C
Storage Temperature Range		-55		+125	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	1.27 x 0.62 x 0.40 Inches (32.3 x 15.7 x 10.2 mm)
Case Material	Non-Conductive Black Plastic (UL94-V0)
Weight	0.42 Oz (12g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	3.5			MHours
Safety Standards	UL 1950, EN 60950, IEC 60950				
Safety Approvals	UL, cUL; File No. E245422				

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		7.5	VDC
	12 VDC Input	-0.7		15.0	
Lead Temperature	1.5 mm From Case For 10 Sec.			300	°C
Internal Power Dissipation	All Models			1,500	mW

Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

Model Selection Guide

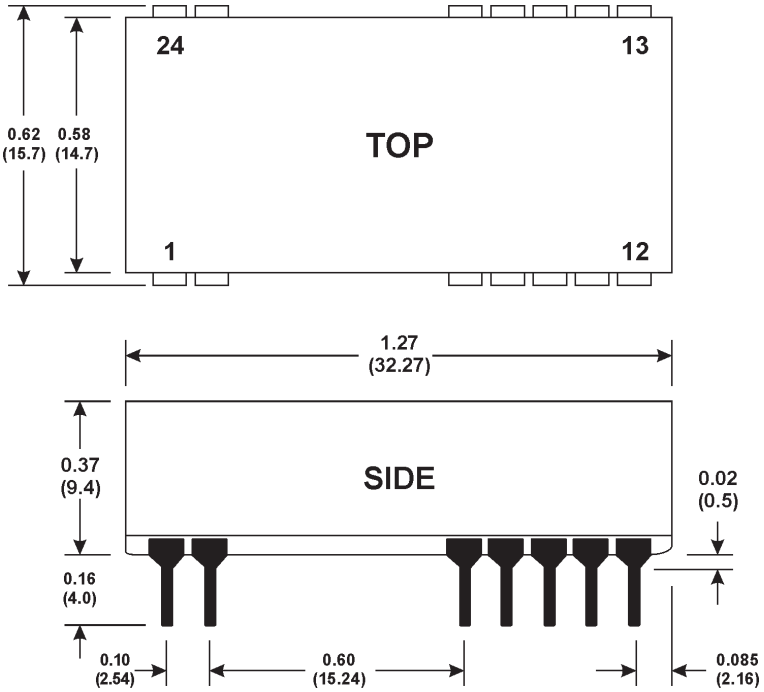
Model Number	Input				Output			Efficiency (%, Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)		
	Nominal	Range	Full-Load	No-Load					
A201EHI	5	4.5 - 5.5	533	100	5.0	400	40.0	75	1,500
A202EHI	5	4.5 - 5.5	526	100	9.0	222	23.0	76	1,500
A203EHI	5	4.5 - 5.5	519	100	12.0	167	17.0	77	1,500
A204EHI	5	4.5 - 5.5	519	100	15.0	133	14.0	77	1,500
A205EHI	5	4.5 - 5.5	533	100	±5.0	±200	±20.0	75	1,500
A206EHI	5	4.5 - 5.5	519	100	±9.0	±111	±12.0	77	1,500
A207EHI	5	4.5 - 5.5	506	100	±12.0	±84	±9.0	79	1,500
A208EHI	5	4.5 - 5.5	506	100	±15.0	±67	±7.0	79	1,500
A211EHI	12	10.8 - 13.2	222	50	5.0	400	40.0	75	500
A212EHI	12	10.8 - 13.2	208	50	9.0	222	23.0	80	500
A213EHI	12	10.8 - 13.2	203	50	12.0	167	17.0	82	500
A214EHI	12	10.8 - 13.2	214	50	15.0	133	14.0	78	500
A215EHI	12	10.8 - 13.2	219	50	±5.0	±200	±20.0	76	500
A216EHI	12	10.8 - 13.2	206	50	±9.0	±111	±12.0	81	500
A217EHI	12	10.8 - 13.2	203	50	±12.0	±84	±9.0	82	500
A218EHI	12	10.8 - 13.2	214	50	±15.0	±67	±7.0	78	500

Notes:
1. Output load regulation is specified for a load change of 10% to 100%.
2. These units should not be operated with a load under 10% of full load. Operation at no-load may cause damage to the unit.
3. These converters will operate without external components. However, when measuring output ripple, it is recommended that an external ceramic capacitor be placed from the +Vout pin to the -Vout pin for single output units and from each output to common for dual output units. An input capacitor will enhance stability over temperature and input line variations. Recommended capacitor values are given in the table above. For applications requiring very low output noise levels, a simple LC filter should be effective.

Vin	Input Capacitor	Vout	Output Capacitor
5 VDC	4.7 µF	5 VDC	4.7 µF
12 VDC	2.2 µF	9 VDC	2.2 µF
		12 VDC	1.0 µF
		15 VDC	0.47 µF

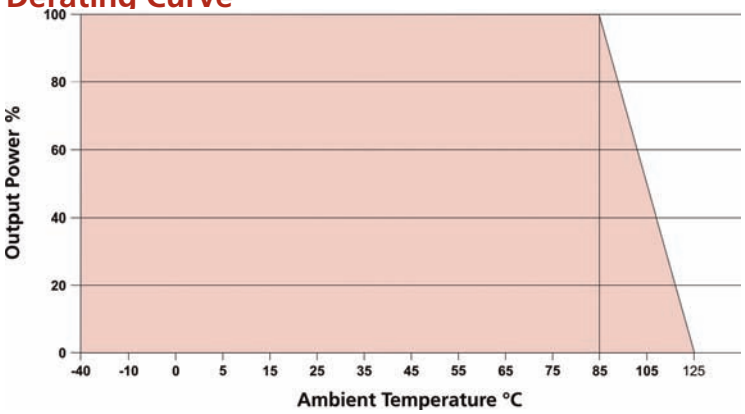
4. Dual output units may be connected to provide a 10V, 18V, 24V or 30 VDC output. To do this, connect the load across the positive (+Vout) and negative (-Vout) outputs and float the output common
5. It is recommended that a fuse be used on the input of a power supply for protection. See the Model Selection table above for the correct rating.

Mechanical Dimensions



Mechanical Notes:
- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.01 (±0.25)
- All pins are on a 0.1 (2.54) pitch
- All pins diameters are 0.02 (0.5)

Derating Curve



Pin Connections

Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
8, 17	NC	-Vout

Pin	Single	Dual
10, 15	-Vout	Common
12, 13	+Vout	+Vout

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