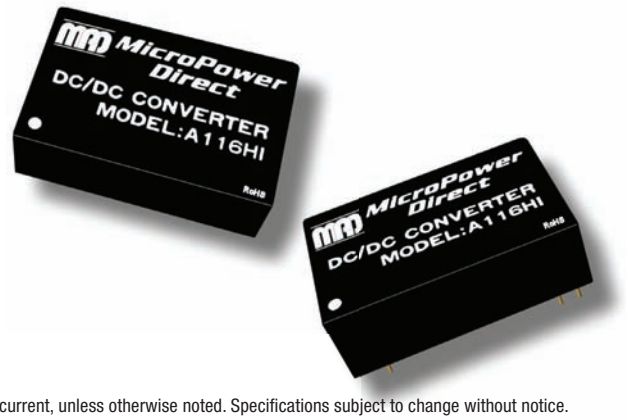
A100HI Series

Ultra-High Isolation, 1.5W Single & Dual Output DC/DC Converters



Key Features:

- 1.5W Output Power
- 8,000 VDC Isolation
- 2 µA Leakage Current Max
- Compact DIP Case
- Single & Dual Outputs
- Meets EN55022 Class A
- 1.0 MH MTBF
- Industry Standard Pin-Out

RoHS

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	
	15 VDC Input	13.5	15.0	16.5	
Input Filter	ϖ (Pi) Filter				
Reverse Polarity Input Current				0.5	A
Short Circuit Input Power				1,000	mW

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2.0	±4.0	%
Output Voltage Balance	Dual Output , Balanced Loads		±0.5	±2.0	%
Line Regulation	For Vin Change of 1%		±1.2	±1.5	%
Load Regulation, (Note 1)	See Model Selection Guide				
Ripple & Noise (20 MHz) (Note 2)			30	40	mV P - P
Ripple & Noise (20 MHz)	Over Line, Load & Temp.			50	mV P - P
Ripple & Noise (20 MHz)				15	mV rms
Output Power Protection		120			%
Temperature Coefficient			±0.01	±0.02	%/°C
Output Short Circuit	Continuous				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage, Rated	60 Seconds	8,000			VDC
Isolation Test Voltage	Flash Tested For 1 Second	8,800			VDC
Leakage Current	240 VAC, 60 Hz			2	µA
Isolation Resistance	500 VDC	10			GΩ
Isolation Capacitance	100 kHz, 1V		10	15	pF
Switching Frequency		50		100	kHz

Environmental

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

Physical

Case Size	1.25 x 0.80 x 0.40 Inches (31.8 x 20.3 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	2.0			MHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)	5 VDC Input	-0.7		7.0	VDC
	12 VDC Input	-0.7		17.0	
	15 VDC Input	-0.7		21.0	
Lead Temperature	1.5 mm From Case For 10 Sec			260	°C
Internal Power Dissipation	All Models			1,000	mW

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

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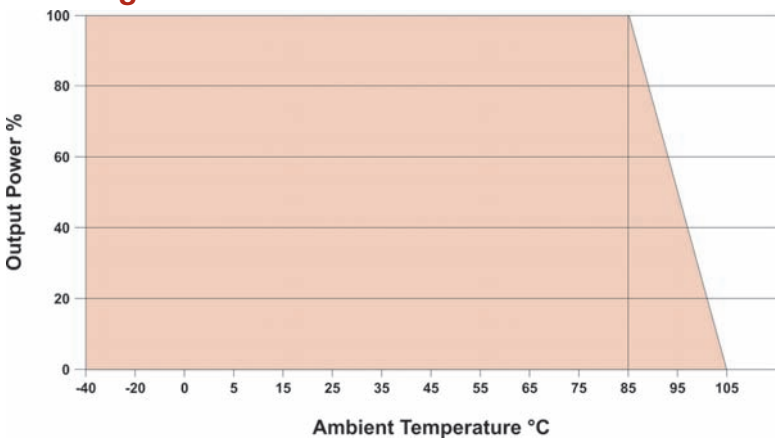
Model Selection Guide

Model Number	Input				Reflected Ripple Current (mA, Typ)	Output			Load Regulation (%, Max))	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							
A101HI	5	4.5 - 5.5	400	50	30	5.0	300	0.0	±10	75	1,000
A102HI	5	4.5 - 5.5	400	50	30	12.0	125	0.0	±8	75	1,000
A103HI	5	4.5 - 5.5	400	50	30	15.0	100	0.0	±6	75	1,000
A104HI	5	4.5 - 5.5	400	50	30	±5.0	±150	±0.0	±12	75	1,000
A105HI	5	4.5 - 5.5	400	50	30	±12.0	±63	±0.0	±8	75	1,000
A106HI	5	4.5 - 5.5	400	50	30	±15.0	±50	±0.0	±6	75	1,000
A111HI	12	10.8 - 13.2	167	30	25	5.0	300	0.0	±10	75	250
A112HI	12	10.8 - 13.2	167	30	25	12.0	125	0.0	±8	75	250
A113HI	12	10.8 - 13.2	167	30	25	15.0	100	0.0	±6	75	250
A114HI	12	10.8 - 13.2	167	30	25	±5.0	±150	±0.0	±12	75	250
A115HI	12	10.8 - 13.2	167	30	25	±12.0	±63	±0.0	±8	75	250
A116HI	12	10.8 - 13.2	167	30	25	±15.0	±50	±0.0	±6	75	250
A121HI	15	13.5 - 16.5	133	30	20	5.0	300	0.0	±10	75	250
A122HI	15	13.5 - 16.5	133	30	20	12.0	125	0.0	±8	75	250
A123HI	15	13.5 - 16.5	133	30	20	15.0	100	0.0	±6	75	250
A124HI	15	13.5 - 16.5	133	30	20	±5.0	±150	±0.0	±12	75	250
A125HI	15	13.5 - 16.5	133	30	20	±12.0	±63	±0.0	±8	75	250
A126HI	15	13.5 - 16.5	132	30	20	±15.0	±50	±0.0	±6	75	250

Notes:

1. When measuring output ripple, it is recommended that an external 0.33 µF 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. For noise sensitive applications, the use of 1.5 µF capacitors will reduce the output ripple.
2. Transient recovery is measured to within a 1% error band for a load step change of 50% to 100%.
3. Dual output units may be connected to provide a 10 VDC, 24 VDC or 30 VDC output. To do this, connect the load across the positive (+Vout) and negative (-Vout) outputs and float the output common.
4. The converter should be connected to a low ac-impedance source. An input source with a highly inductive impedance may affect the stability of the converter. In applications where the converter output loading is high and input power is supplied over long lines, it may be necessary to use a capacitor on the input to insure start-up.
   In this case, it is recommended that a low ESR (ESR <1.0Ω at 100 kHz) capacitor be mounted close to the converter. For 5V input units a 2.2 µF is recommended, a 1.0 µF for 12V units and a 0.47 µF for 24V units.
5. It is recommended that a fuse be used on the input of a power supply for protection. See the table above for the correct rating.

Derating Curve



Capacitive Load

Single Output (µF Max)	Dual Output (µF Max)
470	±220

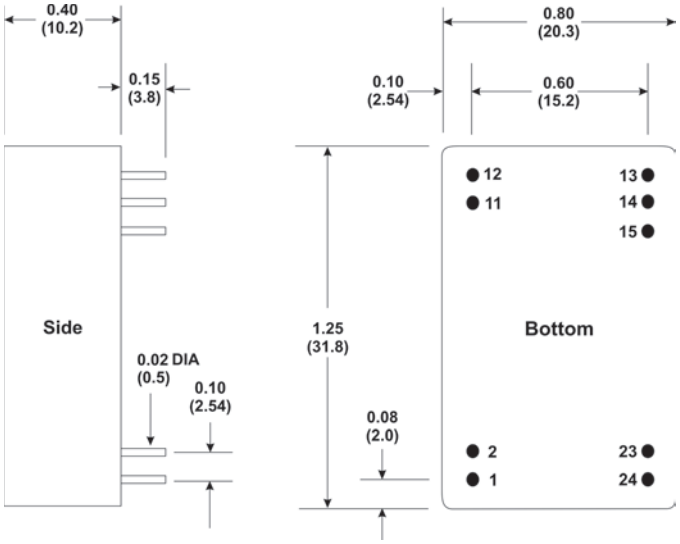
Pin Connections

Pin	Single	Dual
1, 2	+Vin	+Vin
11, 12	+Vout	+Vout
13, 14	-Vout	Common
15	No Pin	-Vout
23, 24	-Vin	-Vin

Mechanical Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.01 (±0.25)

Mechanical Dimensions



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