

A100UHI Series

Ultra High Isolation, 1W Single & Dual Output DC/DC Converters



Key Features:

- 1W Output Power
- 12,000 VDC Isolation
- Short Circuit Protection
- High Efficiency
- Compact DIP Case
- Single & Dual Outputs
- Meets EN55022
- 1.0 MH MTBF



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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		10.8	12.0	13.2	VDC
Input Filter	Internal Capacitor				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy			±2.5		%
Line Regulation	For Vin Change of 1%			±1.2	%
Load Regulation	I _{out} = 10% to 100%			±15.0	%
Ripple & Noise (20 MHz)	See Note 1			100	mV P - P
Maximum Capacitive Load	A102UHI			100	μF
	A105UHI			±100	
Temperature Coefficient				±0.03	%/°C
Output Short Circuit	Continuous (Autorecovery)				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage, Rated	60 Seconds	12,000			VDC
Isolation Resistance	500 VDC	1,000			MΩ
Isolation Capacitance	100 kHz, 0.1V			5	pF
EMI/RFI, See Note 2	Conducted	CISPR22/EN 55022 Level B			
	Radiated	CISPR22/EN 55022 Level B			
EMC Compliance, See Note 2	Electrostatic Discharge (ESD)	EN 61000-4-2 Level B 8 kV/6 kV			
	RF Field Susceptibility	EN 61000-4-3 Level A 10V/m			
	Electrical Fast Transients/Bursts On Mains	EN 61000-4-4 Level B 2 kV			
	Surge	EN 61000-4-5 Level B 1 kV			
	CS	EN 61000-4-6 Level A 10V rms			
	PFM	EN 61000-4-8 Level A 10A/m			
	Volt. Dips, Short & Inter. Immunity	EN 61000-4-29 Level B 0 - 40%			
Switching Frequency			100		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	1.475 x 0.906 x 0.591 Inches (37.0 x 23.0 x 15.0 mm)
Case Material	Non-Conductive Black Plastic (UL94-V0)
Weight	0.81 Oz (23.0g)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	1,000			kHours

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Surge (1 Sec)		-0.7		21.0	VDC
Lead Temperature	1.5 mm From Case For 10 Sec			300	°C

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

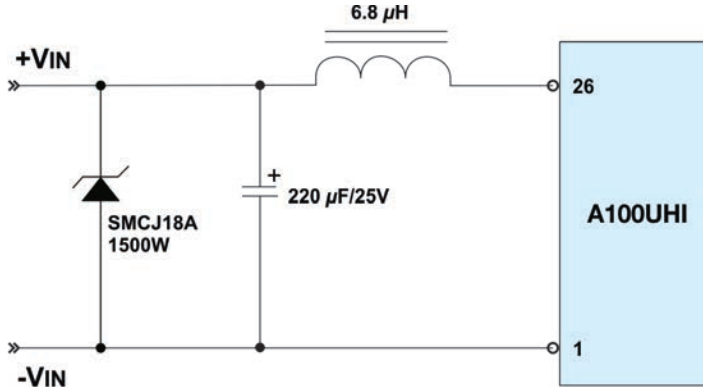
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Model Number	Input				Output			Efficiency (% Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)		
	Nominal	Range	Full-Load	No-Load					
A102UHI	12	10.8 - 13.2	106	15	12.0	83	9.0	78	200
A105UHI	12	10.8 - 13.2	106	15	±12.0	±41.6	±5.0	78	200

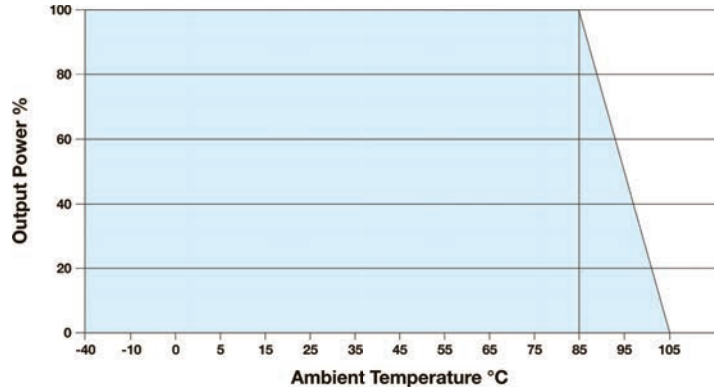
Notes:

1. When measuring output ripple, it is recommended that an external 2.2 μ F 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.
2. To meet the level B requirements of EN 55022, EN 61000-4-4 (EFT) and EN 61000-4-5 (Surge), use the input circuit shown below.
3. Operation at no-load will not damage these units. However, they may not meet all specifications. It is recommended that the minimum levels shown above be used.
4. 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.

Input Filter Connection



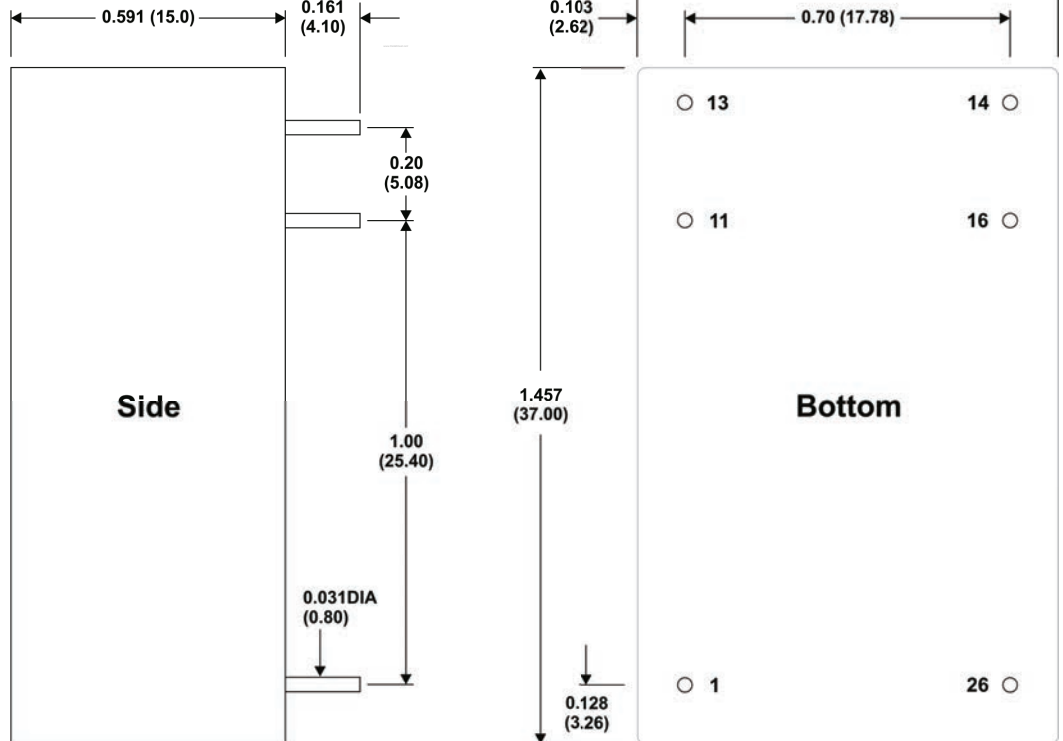
Derating Curve



Mechanical Dimensions

Pin Connections

Pin	Single	Dual
1	-Vin	-Vin
11	NC	-Vout
13	-Vout	Common
14	-Vout	Common
16	+Vout	+Vout
26	+Vin	+Vin



Mechanical Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.02 (±0.50)



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