



Output Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit	
Output Voltage Accuracy	Single and Dual Output Models	---	±1.0	±2.0	%	
	AA04D0305A & AA04D0512A	---	±2.0	±5.0	%	
Line Regulation	Single and Dual Output Models	---	±0.5	±1.0	%	
	AA04D0305A & AA04D0512A	Vout1	---	±0.5	±1.0	%
		Vout2	---	±1.0	±3.0	%
Load Regulation	3.3VDC Output Model	---	±1.0	±1.5	%	
	5~24VDC and Dual Output Models	---	±0.5	±1.0	%	
	AA04D0305A & AA04D0512A	Vout1	---	±0.5	±1.0	%
		Vout2	---	±2.5	±5.0	%
Ripple & Noise (20MHz)	3.3V & 5VDC Output Models	---	100	150	mV _{P-P}	
	Other Output Models	---	0.8	1.0	%V _{PP} of Vo	
Minimum Load	Single Output and Dual +/- Output Models	No min. Load required	---	---	%Inom.	
	Dual +/- Output Models	---	25	---	%Inom.	
Over Voltage Protection	Zener diode clamp	---	120	---	% of Vo	
Temperature Coefficient		---	±0.01	±0.02	%/°C	
Overshoot		---	---	5	%Vout	
Current Limitation	Foldback, auto-recovery (long term overload condition may cause damage)	105	---	---	%Inom.	
Short Circuit Protection	Hiccup mode, indefinite (automatic recovery)					

General Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
I/O Isolation Voltage	Input to Output, 60 Seconds	3000	---	---	VAC
I/O Isolation Resistance	500 VDC	100	---	---	MΩ
Switching Frequency		---	130	---	KHz
Hold-up Time		---	20	---	ms
MTBF (calculated)	MIL-HDBK-217F @25°C, Ground Benign	---	330,000	---	Hours
EMC Emission	Conducted and radiated	EN 55032 class B, FCC part 15 class B			
EMC Immunity	Standard	Specification Requirement			Performance Criteria
	EN61000-4-2	Air ±8KV Cont. ±4KV			B
	EN61000-4-3	10V/m			A
	EN61000-4-4	±2KV			B
	EN61000-4-5	±1KV			B
	EN61000-4-6	10Vrms			B
	EN61000-4-8	30A/m			A
EN61000-4-11	Dips: 30%, 10ms			B	
	Interruptions: >95%, 5000ms			C	
Protection Class II	According IEC/EN 60536				
Safety Approvals	cUL/UL 60950-1, IEC/EN 60950-1				

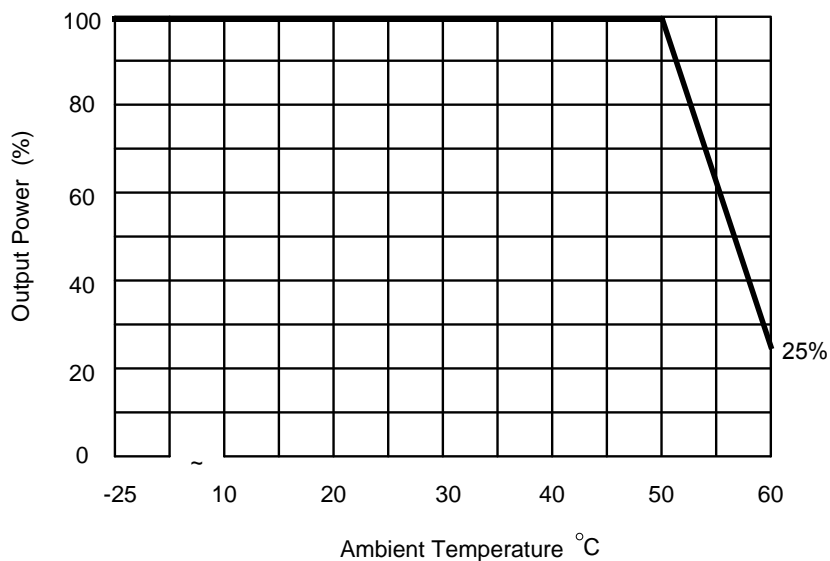
Recommended Input Fuse

All Models	
External Fuse (Recommended)	1A Slow – Blow Type

Environmental Specifications

Parameter	Conditions	Min.	Typ.	Max.
Temperature Range (operational)	Ambient	-25°C	---	+60°C
Storage Temperature Range		-40°C	---	+85°C
Thermal Shutdown	Shutdown, Internal IC Junction Temperature	---	142°C	---
	Automatic Recovery, Internal IC Junction Temperature	---	67°C	---
Cooling	Free-Air convection			
Humidity (non condensing)		---	---	95%

Power Derating Curve

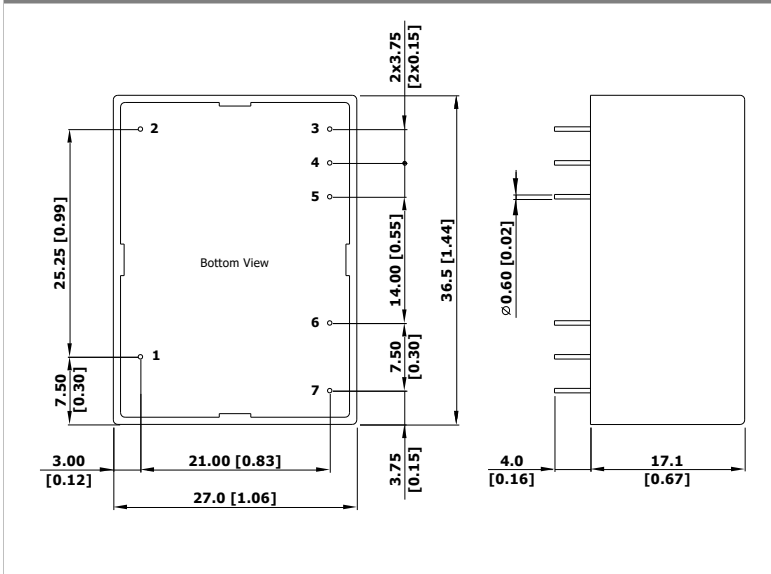


Notes

- 1 All specifications typical at $T_a=+25^{\circ}\text{C}$, resistive load, 115VAC, 60Hz input voltage and after warm-up time rated output current unless otherwise noted.
- 2 Ripple & Noise measurement bandwidth is 0~20 MHz
- 3 These power modules require a minimum output loading to maintain specified regulation, operation under no-load conditions will not damage the power supplies however they may not meet all listed specifications.
- 4 Suggest to protect the module by a slow blow fuse at the input line .
- 5 Specifications are subject to change without notice

Mechanical Drawing

Mechanical Dimensions



Pin Connections

Pin	Single Output	Dual Output ±12 / ±15	AA04D0305A AA04D0512A
1			NC
2			NC
3	+Vout	+Vout	+Vout1
4	-Vout	Common	Common
5	NP	-Vout	+Vout2
6			AC(N)
7			AC(L)

- ▶ All dimensions in mm (inches)
- ▶ Tolerance: ±0.5 (±0.01)
- ▶ Pin diameter \varnothing 0.6 ±0.1 (0.02±0.004)

Physical Outline

Case Size	: 36.5x27.0x17.1mm (1.44x1.06x0.67 inches)
Case Material	: Plastic resin (flammability to UL 94V-0 rated)
Pin Material	: Copper Alloy with Gold Plate Over Nickel Subplate
Weight	: 30g

Part Numbering System

A	A	04	D	12	12	A
Product type	Family series	Watt	Number of Outputs	Output Voltage		Option Code
AC/DC Power Module	Industrial application	04 - 4W	S - Single	03 - 3.3V	00 - not applicable	A - PCB Mount
			D - Dual	05 - 5V	05 - 5V	
				09 - 9V	12 - 12V	
				12 - 12V	15 - 15V	
				15 - 15V		
				24 - 24V		

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