DESCRIPTIONS

10W, AC-DC Converter



RoHS

CE Report UKCA Report

EN62368-1 BS EN62368-1

FEATURES

- Ultra-wide 85 - 305VAC and 100 - 430VDC input voltage range
- Operating ambient temperature range: -40℃ to +90℃
- High I/O isolation test voltage up to 4200VAC
- No-load power consumption as low as 0.1W
- Electromagnetic immunity perf. Criteria A
- EMI performance meets CISPR32/EN55032 CLASS B
- OVC III (meet EN62447-1, 2000m altitude)
- 5000m altitude application

APPLICATIONS

- Industrial
- Smart home
- Home appliances
- Instrumentation
- Communication
- Civil applications

Selection Guide

Certification	Part No.	Output Power	Nominal Output Voltage and Current(Vo/Io)	Efficiency at 230VAC (%) Typ.	Capacitive Load (uF) Max.
EN/BS EN	APD10-03M	8.6W	3.3V/2600mA	74	6600
	APD10-05M	10W	5V/2000mA	79	5000
	APD10-12M		12V/850mA	83	2000
	APD10-15M		15V/670mA	83	1000
	APD10-24M		24V/420mA	84	680

Note: The product picture is for reference only. For details, please refer to the actual product.

Specifications

Product Specifications	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		AC input		85	--	305	VAC
			DC input		100	--	430	VDC
	Input Frequency				47	--	63	Hz
	Input Current		115VAC		--	--	0.23	A
			230VAC		--	--	0.15	
	Inrush Current		115VAC	Clod start	--	20	--	
			230VAC		--	40	--	
	Leakage Current		277VAC/50Hz		0.25mA RMS Max.			
	Built In Fuse				2A/300V, slow-blow			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		3.3V		--	±2.5	--	%
			5/12/15/24V		--	±2	--	
	Line Regulation		Full load		--	±0.3	--	
	Load Regulation		0%-100% load		--	±0.5	--	
	Minimum Load				0	--	--	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)		--	100	180	mV
	Stand-by Power Consumption		230VAC	3.3/5/12/15V	--	--	0.1	W
				24V	--	0.1	0.12	
	Temperature Coefficient				--	±0.02	--	%/℃
	Hold-up Time		115VAC		--	8	--	ms
			230VAC		--	40	--	
	Short Circuit Protection		Recover time <3s after the short circuit disappear.		Hiccup, continuous, self-recover			
	Over-current Protection				≥130%Io, self-recover			
	Over-voltage Protection		3.3/5V		≤7.5VDC (Output voltage clamp)			
			12V		≤16VDC (Output voltage clamp)			
			15V		≤20VDC (Output voltage clamp)			
			24V		≤30VDC (Output voltage clamp)			
General Specifications	Isolation	Input-output	Electric Strength Test for 1min., leakage current <5mA		4200	--	--	VAC
	Impulse Withstand Voltage	Input-output			6000	--	--	

General Specifications	Insulation Resistance	Input-output	Ambient temperature: 25 ± 5℃ Relative humidity: < 95%RH, no condensation Test voltage: 500VDC	100	--	--	MΩ
	Operating Temperature			-40	--	+90	℃
	Storage Temperature			-40	--	+90	
	Operating Humidity		Non-condensing	20	--	85	%RH
	Storage Humidity			--	--	95	
	Soldering Temperature		Wave-soldering	260 ± 5℃; time: 5 - 10s			
			Manual-welding	360 ± 10℃; time: 3 - 5s			
	Switching Frequency			--	65	--	kHz
	Power Derating		-40℃ to -30℃ < 115VAC Input	3.3	--	--	%/℃
			+50℃ to +70℃ 3.3/5V	2.5	--	--	
			+55℃ to +70℃ 12/15/24V	3.33			
			+70℃ to +90℃	1	--	--	
			85VAC - 100VAC	1.34	--	--	%/VAC
			2000m - 5000m	6.67	--	--	%/Km
	Safety Class			CLASS I I			
	MTBF		MIL-HDBK-217F@25℃	≥ 3200,000 h			
Mechanical Specifications	Case Material		Black plastic, flame-retardant and heat-resistant (UL94V-0)				
	Dimension		47.60 x 26.80 x 23.50 mm				
	Weight		45g (Typ.)				
	Cooling method		Free air convection				

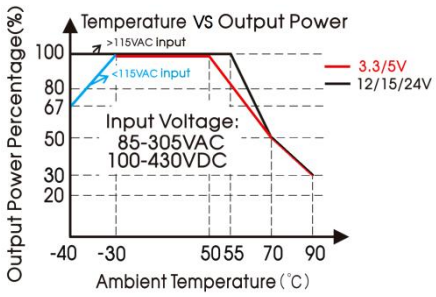
Note: *The "parallel cable" method is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor,

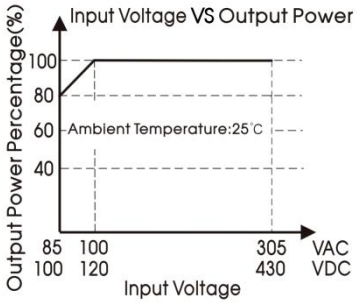
Electromagnetic Compatibility (EMC)

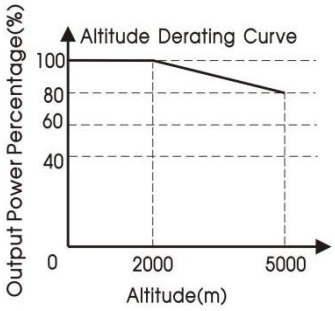
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B		
		RE	CISPR32/EN55032 CLASS B		
	Immunity (EMS)	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV		perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m		perf. Criteria A
		EFT	IEC/EN61000-4-4 ±2KV		perf. Criteria A
		Surge	IEC/EN61000-4-5 Line to line ±1KV		perf. Criteria A
		CS	IEC/EN61000-4-6 10Vr.m.s		perf. Criteria A
		MS	IEC/EN6100-4-8 30A/m		perf. Criteria A
		Voltage variations *	IEC61000-6-2/IEC61000-4-11	70% Un, 25/30 cycle(50/60Hz) 40% Un, 10/12 cycle(50/60Hz) 0% Un, 1 cycle	perf. Criteria B
		Voltage interruptions *	IEC61000-6-2/IEC61000-4-11	0% Un, 250/300 cycle(50/60Hz)	perf. Criteria C

Note: *Un is the maximum input nominal voltage.

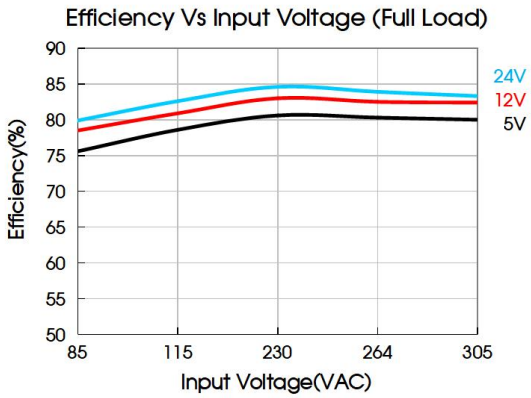
Characteristic Curve

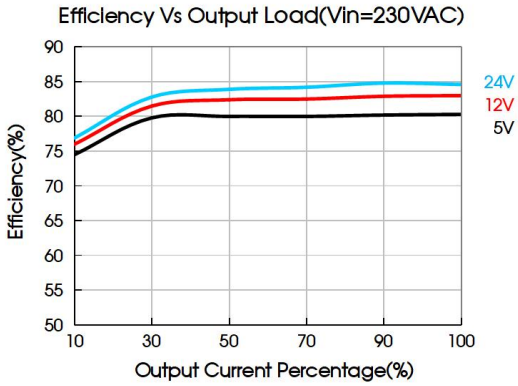






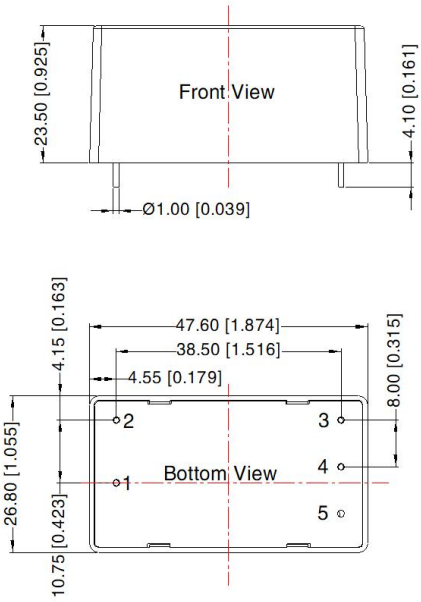
Note: 1. With an AC input between 85-100V and a DC input between 100-120V, the output power must be derated as per temperature derating curves;
2. This product is suitable for applications using natural air cooling.

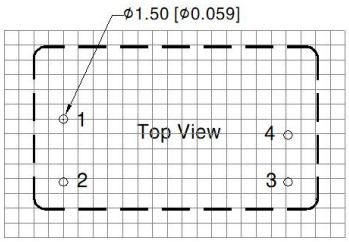




Dimensions and Recommended

THIRD ANGLE PROJECTION





Note: Grid 2.54*2.54mm

Pin–Out	
Pin	Mark
1	AC(N)
2	AC(L)
3	–Vo
4	+Vo
5	No Pin

Note:
Unit: mm[inch]
Pin diameter tolerances: ± 0.10[± 0.004]
General tolerances: ± 0.50[± 0.020]

Note:

1. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
7. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.