

DESCRIPTIONS

50W, AC/DC Enclosed Switching Power Supply



Report



Report

UL62368-1

EN62368-1

BS EN62368-1

FEATURES

- Universal 85 - 264VAC or 120 - 370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30 °C to +70°C
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- OVC III (designed to meet EN62477)
- Operating altitude up to 5000m

APPLICATIONS

- Industrial
- LED
- Street light control
- Electricity
- Security
- Telecommunications

Selection Guide

Certification	Part No*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range(V)	Efficiency at 230VAC (%) Typ.	Capacitive Load (uF) Max.
UL/EN/BS EN	AE50-2B-05	50	5V/10A	4.5-5.5	86	8500
	AE50-2B-12	50.4	12V/4.2A	10.2-13.8	87	2000
	AE50-2B-15	51	15V/3.4A	13.5-18	88	1500
	AE50-2B-24	52.8	24V/2.2A	21.6-28.8	89	1000
	AE50-2B-36	52.2	36V/1.45A	32.4-39.6	89	800
	AE50-2B-48	52.8	48V/1.1A	43.2-52.8	90	680

Note: *1. Use suffix "Q" for conformal coating.

2.If the terminal cover is required, please order "CPJ-032" for self-installation.

3.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	--	264	VAC	
			DC input		120	--	370	VDC	
		Input Voltage Frequency			47	--	63	Hz	
		Input Current	115VAC		--	--	1.2	A	
			230VAC		--	--	0.8		
		Inrush Current	115VAC	Cold start	--	30	--		
			230VAC		--	50	--		
Leakage Current	240VAC		< 0.75mA						
Hot Plug			Unavailable						
Output Specifications		Output Voltage Accuracy	Full load range	5V	--	±2	--	%	
				12V/15V/24V/36V /48V	--	±1	--		
		Line Regulation	Full load		--	±0.5	--		
		Load Regulation	0% - 100% load	5V	--	±1	--		
				12V/15V/24V/36V /48V	--	±0.5	--		
		Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V	--	80	--	mV	
				12V/15V	--	120	--		
				24V	--	150	--		
				36V/48V	--	200	--		
		Temperature Coefficient				--	±0.03	--	%/°C
		Minimum Load				0	--	--	%
		Stand-by Power Consumption		230VAC		--	--	0.3	W
		Hold-up Time	115VAC		8	--	--	ms	
			230VAC		30	--	--		
		Short Circuit Protection		Recovery time <5s after the short circuit disappear.		Hiccup, continuous, self-recover			
		Over-current Protection				110%-200% Io, self-recover			
		Over-voltage Protection		5V		≤6.3VDC (Output voltage clamp or hiccup)			
12V				≤16.2VDC (Output voltage clamp or hiccup)					
15V				≤21.75VDC (Output voltage clamp or hiccup)					
24V				≤33.6VDC (Output voltage clamp or hiccup)					
36V				≤48.6VDC (Output voltage clamp or hiccup)					
48V				≤60.0VDC (Output voltage clamp or hiccup)					
General Specifications		Isolation	Input - 		2000	--	--	VAC	
			Input - output		4000	--	--		
			Output - 		1250	--	--		

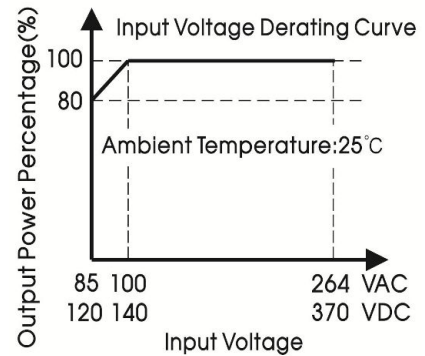
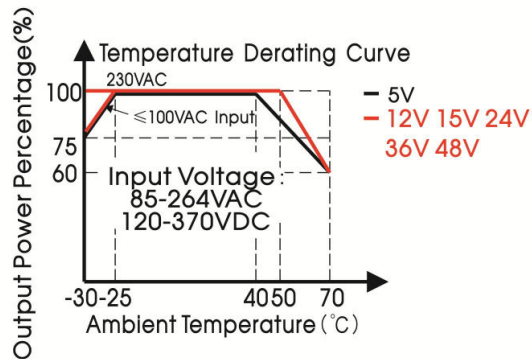
General Specifications	Insulation Resistance	Input - 	At 500VDC		100	--	--	MΩ		
		Input - output			100	--	--			
		Output - 			100	--	--			
	Operating Temperature				-30	--	+70	°C		
	Storage Temperature				-40	--	+85			
	Storage Humidity		Non-condensing		--	--	95	%RH		
	Operating Humidity		Non-condensing		20	--	90			
	Switching Frequency				--	65	--	KHz		
	Power Derating		-30°C to -25°C		85-100VAC	5	--	--	% / °C	
			5V	+40°C to +70°C		85-165VAC	1.33	--		--
				+50°C to +70°C		165-264VAC	2	--		--
			Other output		+50 to +70°C	2	--	--		
			85VAC - 100VAC				1.33	--	--	% / VAC
Safety Class				CLASS I						
MTBF		MIL-HDBK-217F@25°C		≥300,000 h						
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)							
	Dimension		99.00 x 82.00 x 30.00 mm							
	Weight		180g (Typ.)							
	Cooling Method		Free air convection							
Note: *The “Tip and barrel method” is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor										

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Electromagnetic Compatibility (EMC)

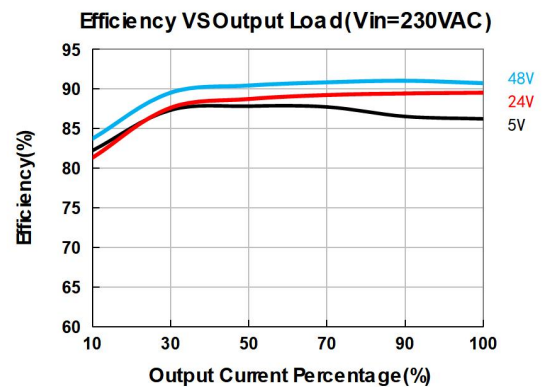
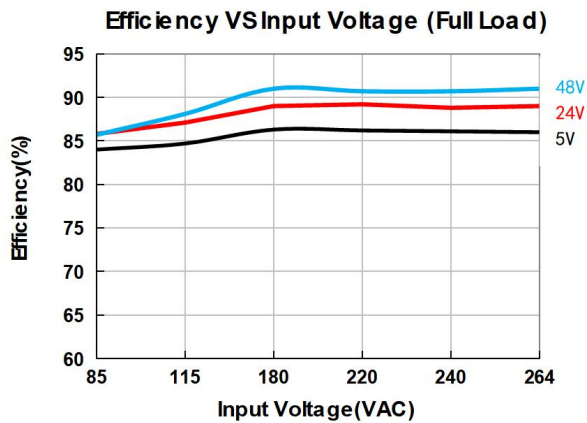
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B				
		RE	CISPR32/EN55032 CLASS B				
		Harmonic current	IEC/EN61000-3-2 CLASS A				
	Immunity (EMS)	ESD	IEC/EN61000-4-2	Contact ± 6 KV/Air ± 8 KV			perf. Criteria A
		RS	IEC/EN61000-4-3	10V/m			perf. Criteria A
		EFT	IEC/EN61000-4-4	± 2 KV			perf. Criteria A
		Surge	IEC/EN61000-4-5	line to line ± 2 KV/line to PE ± 4 KV			perf. Criteria A
		CS	IEC/EN61000-4-6	10 Vr.m.s			perf. Criteria A
		MS	IEC/EN61000-4-8	30A/m			perf. Criteria A
		Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11	0%, 70%			perf. Criteria B

Characteristic Curve

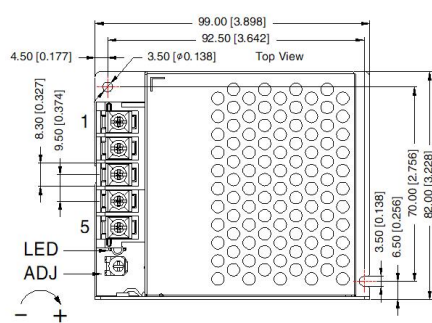


Note: 1. With an AC input voltage between 85 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

2. This product is suitable for applications using natural air cooling.

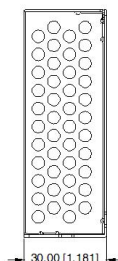


Dimensions and Recommended

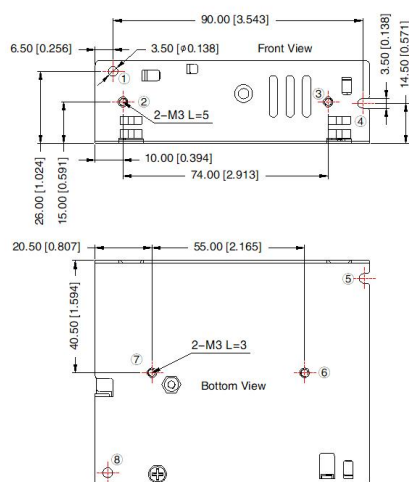


THIRD ANGLE PROJECTION

Right View

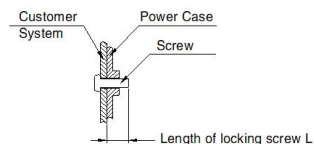


Pin-Out	
Pin	Mark
1	AC(L)
2	AC(N)
3	
4	$-V_o$
5	$+V_o$



Position	Screw Spec.	Length of locking screw L(max)	Torque(max)
② - ③	M3	5mm	0.4N · m
⑥ - ⑦	M3	3mm	0.4N · m

① – ⑧ any position must be connected to the earth ()



Note:

Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: 22–12AWG

Connector tightening torque: M3.5, Max 0.8N · m

General tolerances: $\pm 1.00 [\pm 0.039]$

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity <75% RH with nominal input voltage and rated output load;
2. The room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to the earth (⊕) of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the ADJ, clockwise to increase;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
10. The power supply is considered a component which will be installed into a final equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.