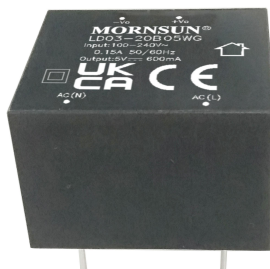


3W, AC/DC converter



FEATURES

- Wide input voltage range: 85 - 264VAC/120 - 373VDC
- Operating ambient temperature range:-25℃- +70℃
- Low standby power consumption: 0.2W
- high isolation voltage up to 4000VAC
- Output short circuit, over-current, over-voltage protections
- Full plastic case, meet UL94V-0
- Design to meet EN60335, UL62368 standards
- EMI meets CISPR32/EN55032 CLASS B
- Operating up to 5000m altitude

LD03-20BxxWG series is one of Mornsun AC/DC power modules for white goods. The size, pin and package of this products are in line with the white goods series. It features compact size, high efficiency and high reliability and meet EMI Class B(EN55032) with built-in filter. They are widely used in industrial electronic equipment, commercial office, consumer electronics and white goods area like smart home. The product integrates various protection functions and cost-effective.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current(Vo/Io)	Efficiency (230VAC, %/Typ.)	Max. Capacitive Load (uF)
EN	LD03-20B05WG	3	5V/0.6A	72	470
	LD03-20B12WG		12V/0.25A	74	330
	LD03-20B24WG		24V/0.125A	75	220

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

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	373	VDC
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	150	mA
	230VAC	--	--	75	
Inrush Current	115VAC	--	15	--	A
	230VAC	--	30	--	
Leakage Current	240VAC/50Hz	0.25mA RMS typ.			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load, input voltage range	--	±2	--	%
Line Regulation	Full load	--	±0.3	--	
Load Regulation	0%-100% load	--	±0.5	--	
Ripple & Noise*	20MHz bandwidth (peak-peak value)	5V	--	100	mV
		12V	--	150	
		24V	--	240	
Temperature Coefficient		--	±0.03	--	%/℃
Stand-by Power Consumption		--	--	0.2	W
Short Circuit Protection		Hiccup, continuous, self-recovery			
Over-current Protection		≥ 110%Io self-recovery			
Over-voltage Protection	5V	≤ 9VDC			
	12V	≤ 20VDC			
	24V	< 35VDC			

Minimum Load		0	--	--	%
Hold-up Time	115VAC input	--	5	--	ms
	230VAC input	--	10	--	

Note: *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to AC-DC Converter Application Notes for specific information.

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation	Input-output	4000	--	--	VAC
Operating Temperature		-25	--	+70	°C
Storage Temperature		-40	--	+85	
Storage Humidity		--	--	90	%RH
Soldering Temperature	Wave-soldering, Max. 10 seconds	255	260	265	°C
	Manual-welding, Max. 5 seconds	350	360	370	
Switching Frequency		--	100	--	kHz
Safety Standard		EN60335, EN62368			
Safety Class		CLASS II			
MTBF		MIL-HDBK-217F@25°C > 300,000 h			

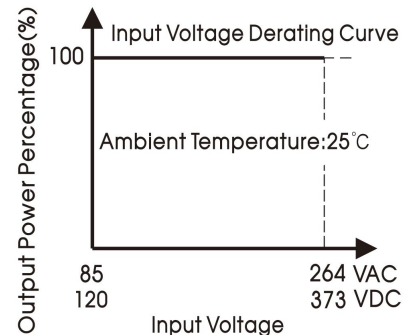
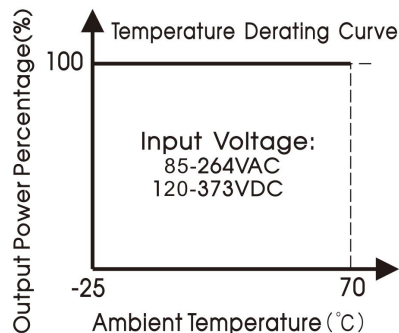
Physical Specifications

Case Material	Black flame-retardant and heat-resistant plastic (UL94-V0)
Dimension	32.30 x 27.30 x 21.80 mm
Weight	26g (Typ.)
Cooling Method	Free air convection

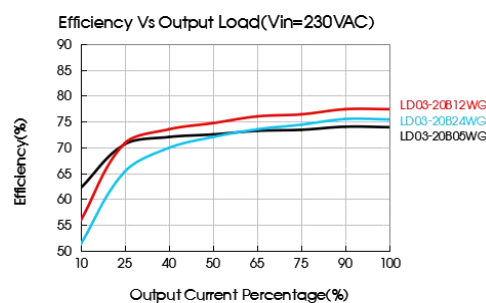
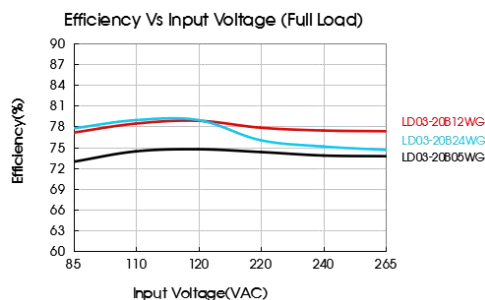
EMC Specifications

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria B
	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±1KV	perf. Criteria B
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria B
	Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

Product Characteristic Curve

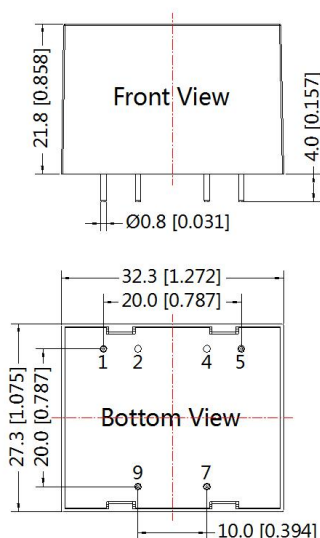


Note: This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.

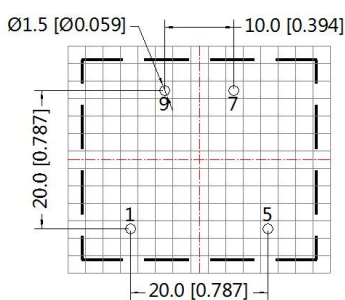


Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Note:
Unit: mm[inch]
Connect pin size: $\varnothing 0.8[0.031]$
Pin diameter tolerances: $\pm 0.10[\pm 0.004]$
General tolerances: $\pm 0.50[\pm 0.020]$



Note: Grid 2.54*2.54mm

Pin-Out			
Pin	Function	Pin	Function
1	AC(N)	5	AC(L)
2	Nopin	7	+Vo
4	Nopin	9	-Vo

Notes:

- For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220059;
- 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;
- The ambient temperature derating of $5^{\circ}\text{C}/1000\text{m}$ is needed for operating altitude greater than 2000m;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75%RH with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our company corporate standards;
- We can provide product customization service, please contact our technicians directly for specific information;
- Products are related to laws and regulations: see "Features" and "EMC";
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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