

LH10-10BR5

10W, AC-DC CONVERTER

LH10-10BR5---is a compact size power converter offered by Mornsun for PCB mount installation applications. It features universal input voltage, taking both DC and AC input voltage, low power consumption, high efficiency, high reliability, safer isolation. It offers good EMC performance, meets IEC61000, UL60950, EN60601 and IEC60950 standards, and widely used in industrial, office and civil applications.

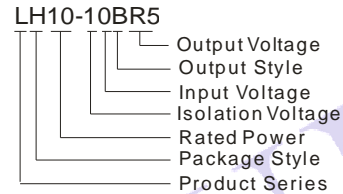


RoHS

PRODUCT FEATURES

1. Universal Input :85~264VAC, 50/60Hz
2. Regulated output, low ripple and noise
3. Output short circuit protection, over-current protection,
4. Over-voltage protection and thermal protection
5. Plastic case, meets UL94V-0
6. Safety grade: CLASS II
7. Low power consumption, environmentally friendly
8. Three years warranty

MODEL SELECTION



PRODUCT PROGRAM

Model	package	power	Output voltage / Output current (Vo/Io)	Ripple and Noise (Typ)	efficiency (%) (Typ.)
LH10-10BR5	55x45x21.0mm	10.8W	5.4V/2000mA	50mV	76

Note :

1. Ripple and Noise are measured by the method of parallel lines;
2. Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, Ta=25oC, humidity < 75%;
3. All specifications stated in this datasheet are subject to the above listed models only. For specifications of non-standard models, please contact our technical support team.

INPUT SPECIFICATIONS

Input voltage range	85~264VAC, 120~370VDC	
Input frequency	47~63Hz	
Input current	110VAC 230mA, typ	230VAC 120mA, typ
Inrush current	110VAC 10A, typ	230VAC 20A, typ
Leakage current	0.3mA RMS typ./230VAC/50Hz	
External input fuse(recommended)	2A/250V	slow blow

OUTPUT SPECIFICATIONS

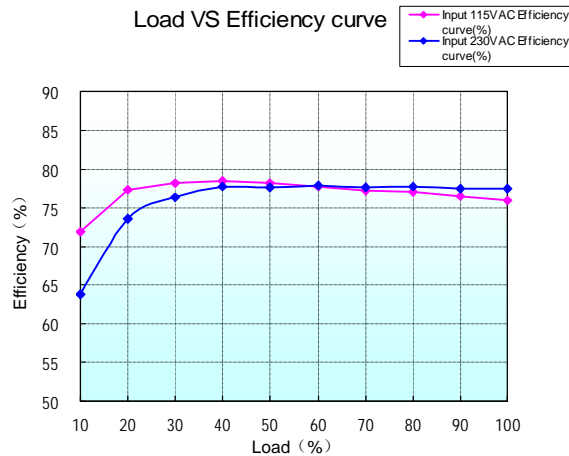
Voltage set accuracy	±2%	
Input variation	±0.5%	
Load variation (10-100%)	±1%	
Minimum load	0%	
Ripple & noise(p-p)	(20MHz Bandwidth)	50mV (typ.) 100mV (max.)
Short circuit protection	Continuous, and auto resume	
Over current protection	≥110% Io	
Output over-voltage protection	≤ 8VDC	

COMMON SPECIFICATIONS

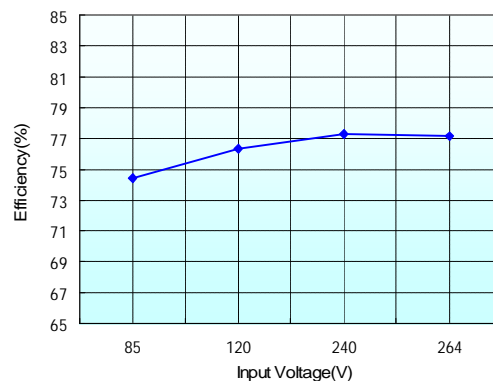
Temperature ranges	Operating temperature: Power derating above 55°C: Storage temperature: Case temperature:	-40°C ~ +70°C 3.75% / °C -40°C ~ +105°C +90°C (max.)
Hold-up time	(Vin=230VAC)	80ms(typ.)
Humidity		85%(max.)
Temperature coefficient		0.02%/°C
Max capacitive load		6000μF
Switching frequency		60kHz(typ.)
I/O-isolation voltage		3000VAC/1Min
EMI/RFI conducted		EN55022, level B
EMC compliance	Electrostatic discharge RF electromagnetic field amplitude modulated Electrical fast transients/bursts on mainsline Surge	IEC/EN 61000-4-2 level 3 6kV/8kV IEC/EN 61000-4-3 IEC/EN 61000-4-4 level 3 2 kV IEC/EN 61000-4-5 level 3 1kV/2kV
Safety Class		CLASS II
Case material		UL94V-0
Install		PCB
MTBF		>300,000h @25°C
Package		55x45x21mm

TYPICAL EFFICIENCY CURVE

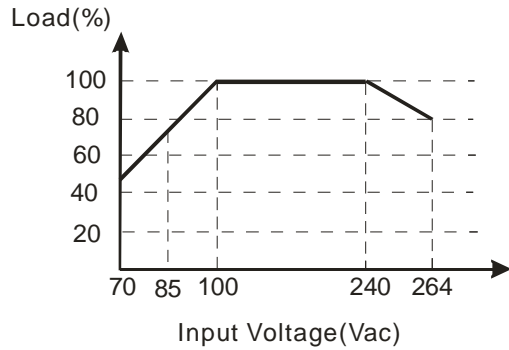
Load VS Efficiency curve



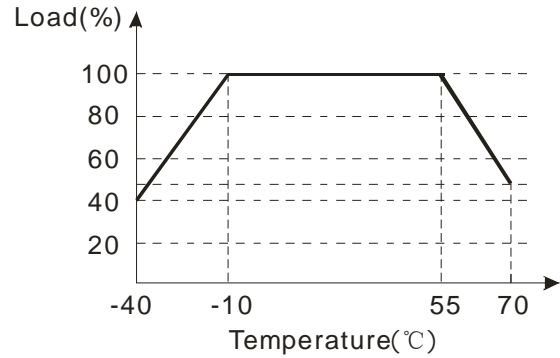
Input Voltage VS Efficiency curve



INPUT VOLTAGE VS LOAD

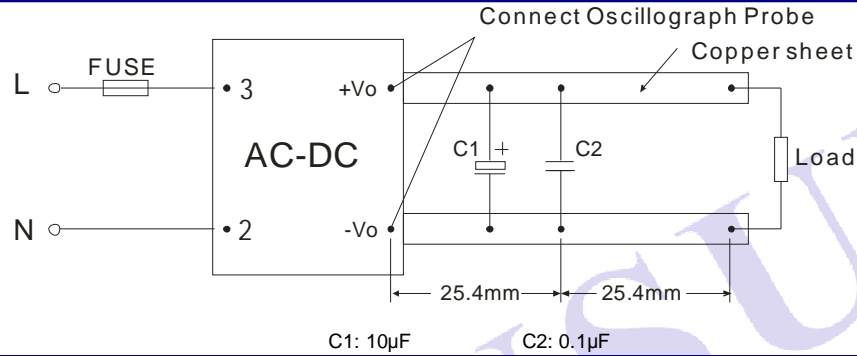


TEMPERATURE VS LOAD



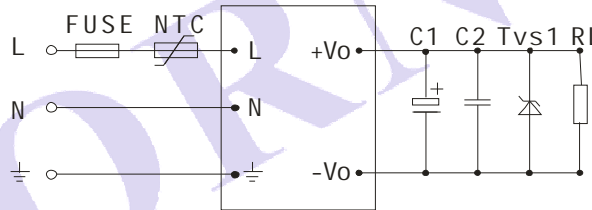
*Note: When input DC, $V_{dc}=1.414V_{ac}-20V_{dc}$.

PARALLEL LINES MEASURE

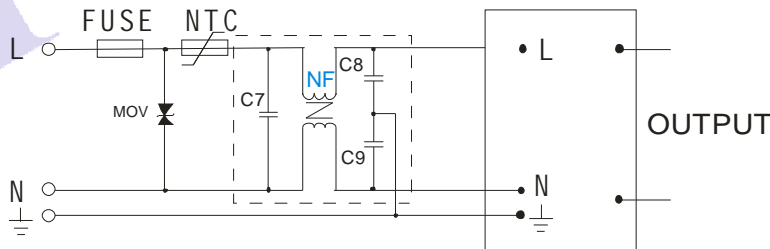


TYPICAL APPLICATIONS

Typical applications(Figure 1)



If higher requirement to EMC application circuit (external circuit output as above typical applications) (Figure 2):



EXTERNAL CAPACITORS	C1	C2
TYPICAL VALUE(Unit: μ F)	330	0.1

Note:

Output filtering capacitors C1 is electrolytic capacitors, It is recommended to use high frequency and low impedance electrolytic capacitors. For capacitance and current of capacitor please refer to manufacture's datasheet. Voltage derating of capacitor should be 80% or above. C2 is use to filter high frequency noise, suggest choose 0.1 μ F. TVS is recommended component to protect post-circuits (if converter fails).

1. External input NTC is recommended to use 5D-9.

2. if higher requirement to EMC performance, recommended to add"EMC filter" at the input end, recommended parameter as follows:

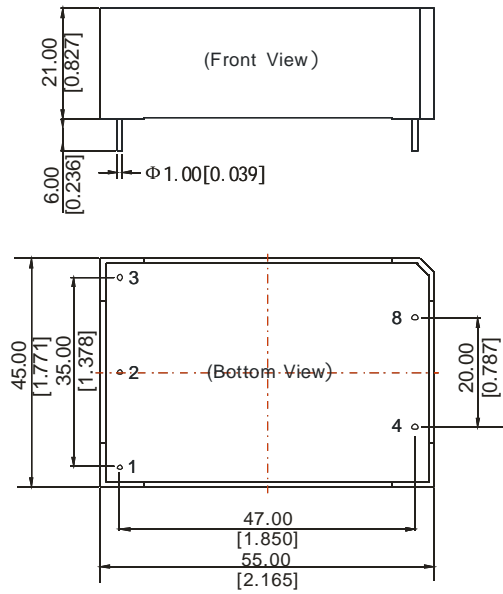
MOV: Varistor, model: 471KD10, it is used to protect the device under surge.

C7:X capacitor, recommended parameter 0.1 μ F/275V;

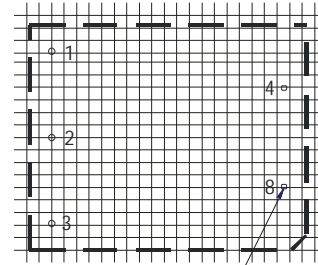
C8,C9:Y capacitor, recommended parameter 2200pF/400V;

NF: common model choke, recommended inductance is about 10mH-30mH.

OUTLINE AND DIMENSIONS



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



Note: grid 2.54*2.54mm.

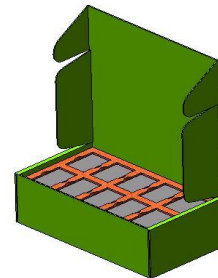
FOOTPRINT DETAILS	
Pin	Function
1	
2	AC(N)
3	AC(L)
4	-Vo
5	No Pin
6	No Pin
7	No Pin
8	+Vo

MODLES WEIGHT	
Model	LH10-10BR5
Typ.	70g

PACKAGE DIAGRAM



Inner packaging box dimensions: L*W*H=355*192*93mm
Outer packaging box dimensions: L*W*H=405*380*305mm



Packaging quantity: 20pcs
Packaging quantity: 120pcs

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