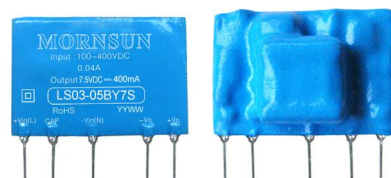


LS03-05BY7S

3W,HIGH VOLTAGE DC-DC(AC-DC) CONVERTER

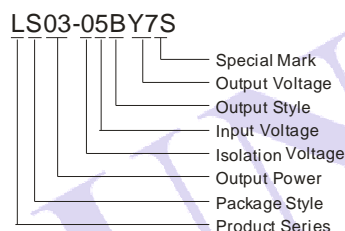
LS ---- are high efficiency green power modules with miniature packaging provided by MORNSUN. The features of this series are: wide input voltage, DC and AC all in one, high efficiency, high reliability, low loss, safety isolation etc. They are widely used in industrial, office and civil equipments, as well as applications where no special requirement for EMC performance. It is recommended to add EMI suppression circuit or take measure to shield when there is strict requirement for EMC performance.



PRODUCT FEATURES

1. Wide input voltage:100 ~ 400VDC(85 ~ 264VAC)
2. Over temperature protection and short circuit protection
3. High efficiency, high density
4. Low loss, green power
5. Multiple models available
6. Industrial level specifications

MODEL SELECTION



PRODUCT PROGRAM

Model	Package	Power	Output (Vo1/Io1)	Ripple and Noise (typ.)	Efficiency (%) (typ.)
LS03-05BY7S	35.0X22.5X10.5mm	3W	7.5V/400mA	50mV	72

INPUT SPECIFICATIONS

Input voltage range	100~400VDC(85~264VAC)
Input current	40mA(typ)
Leakage current	None
External input fuse (recommended)	0.5A/250V

OUTPUT SPECIFICATIONS

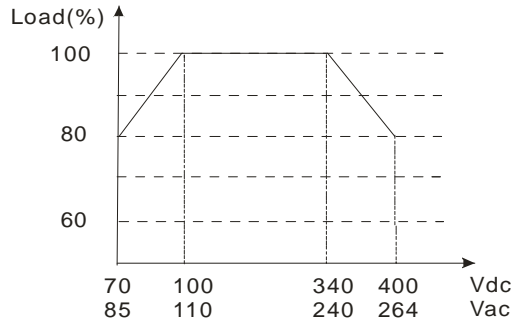
Voltage set accuracy	±2%	
Input variation	±0.5% (typ)	
Load variation (10%~100%)	±1% (typ)	
Ripple & noise(p-p)	(20MHz Bandwidth)	50mV(typ) 100mV(max)
Short circuit protection	Continuous, automatic resume	
Over temperature protection	150°C (max)	

Note: Ripple and Noise were measured by the method of anear measure (The details see the anear measure).

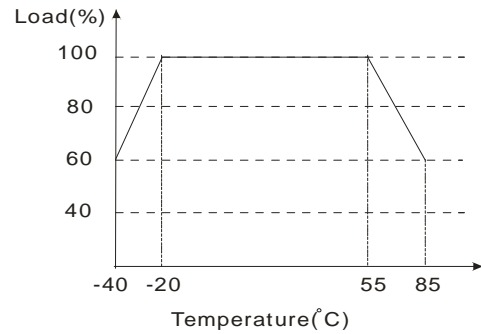
COMMON SPECIFICATIONS

Temperature ranges	Operating:	-40°C ~ +85°C
	Power derating (above 55°C):	1.33%/°C
	Storage	-40°C ~ +105°C
	Case temperature:	+90°C (max)
Humidity		85%(max)
Temperature coefficient		0.02%/°C
Switching frequency		100kHz(typ)
I/O-isolation voltage		2000VAC/1Min
Case material		UL94V-0
Install		PCB
MTBF		>300,000h @25°C

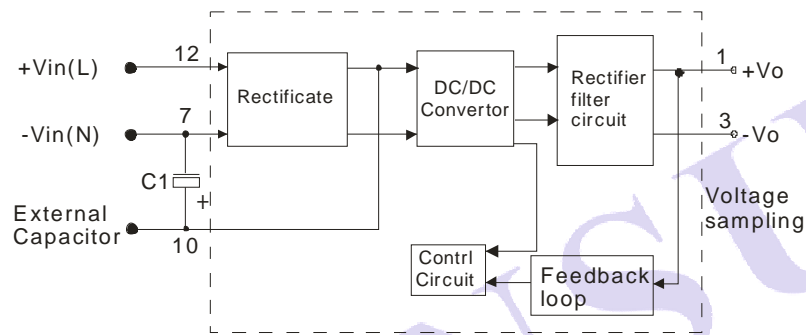
INPUT VOLTAGE VS LOAD



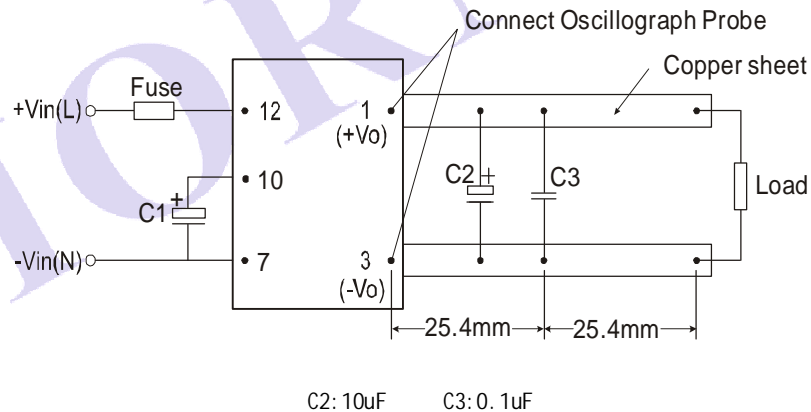
TEMPERATURE VS LOAD



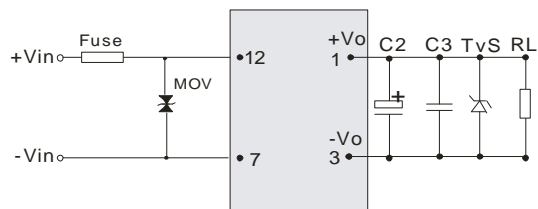
STRUCTURE FIGURE



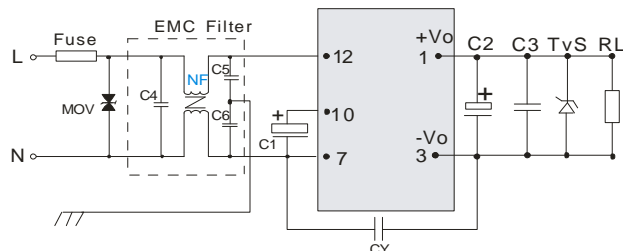
ANEAR MEASURE



TYPICAL APPLICATIONS



LS03 DC input typical application



LS03 AC input typical application

EXTERNAL CAPACITORS TYPICAL VALUE

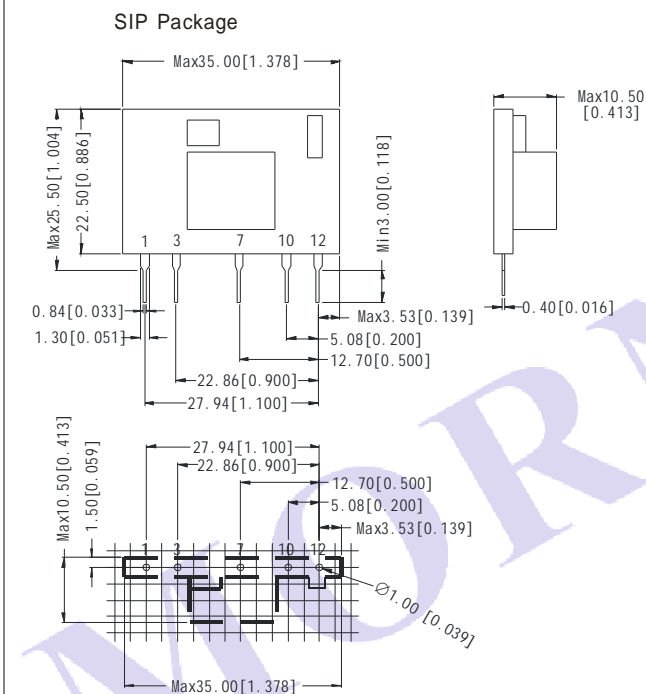
Output Voltage	C1	C2	C3	FUSE	TVS
3.3V	10 μ F/400V	100 μ F/25V	0.1 μ F/50V (Ceramic Capacitor)	0.5A/250V	P4KE10A

Note:

- Filtering capacitors C1 is electrolytic capacitors, C1 is used in AC input, when input voltage is below 100VAC, and the value of C1 is 22 μ F/400V. output filtering capacitors C2 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. C3 is ceramic capacitor, it is used to filter high frequency noise. TVS is a recommended component to protect post-circuits (if converter fails).
- If EMC performance is required, recommended to add "EMC filter" at the input end.
 C4: X capacitor, recommended parameter: 0.1 μ F/275V
 C5,C6: Y capacitor, recommended parameter: 220pF/400V
 CY: Y capacitor, recommended parameter: 102K/400V
 NF: Common-mode choke, recommended parameter:10mH-30mH
- MOV: Voltage dependent resistor, model 471KD07. It is used to protect converter in lightning strike and surge.

OUTLINE DIMENSIONS & FOOTPRINT DETAILS

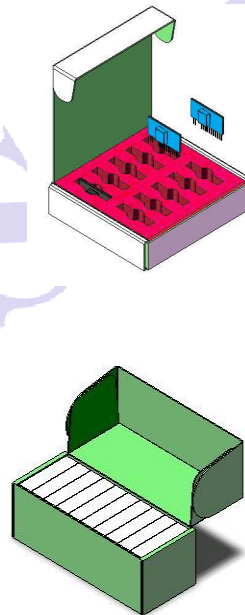
MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT



Note:
 Grid: 2.54*2.54 mm .
 Note:
 First Angle Projection
 Unit: mm[inch]
 Pin section: 0.84*0.40mm[0.033*0.016inch]
 Pin section tolerances: ± 0.10 mm[± 0.004 inch]
 General tolerances: ± 0.50 mm[± 0.020 inch]

FOOTPRINT DETAILS	
Pin	Function
1	+Vo
3	-Vo
7	-Vin(N)
10	CAP
12	+Vin(L)

PACKAGING DIAGRAM



Small white box dimensions: L*W*H=163*150*35mm
 Package quantity: 10pcs
 inner box dimensions: L*W*H=430*175*160mm
 Package quantity: 100pcs
 Outer box dimensions: L*W*H=560*450*520mm
 Package quantity:900pcs

Note:

- All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- In this datasheet, all the test methods of indications are based on corporate standards.

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Specifications subject to change without notice.
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