

### ■ Features:

- Compact size
- Universal Input:85 - 265VAC/100 - 370VDC
- High efficiency, high reliability
- Regulated output, Low ripple & noise
- High isolation voltage up to 3K VAC
- Plastic case: 25.5\*39.5\*22mm
- Output short-circuit, over-current protection
- Low standby power consumption, environment friendly
- PCB mounting
- 3-year warranty



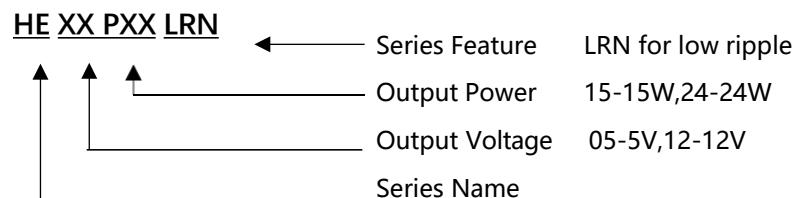
### ■ Application:

- Industrial electrical equipment
- Mechanical equipment
- Industrial automation equipment
- Handheld electronic equipment
- Wireless network
- Telecommunications/data communication
- Instrument

### ■ Product description:

HE series—a 24W compact size power converter offered by HIECUBE. It features universal input voltage, taking both DC and AC input voltage, low power consumption, Low ripple & noise, high efficiency, high reliability, 3000VAC safer isolation. It offers good EMC performance, and widely used in industrial, electricity, instruments, telecommunication and civil applications.

### ■ Product model description:



■ Input Specifications:

Item	Voltage Range	Input Current@110V	Input Current@220	Power Factor	Start time
HE05P15LRN	85V~265VAC 100V~370VDC 50/60HZ	< 500mA	< 300mA	< 0.5	< 0.2S
HE06P15LRN					
HE09P24LRN					
HE12P24LRN					
HE15P24LRN					
HE20P24LRN					
HE24P24LRN					
HE28P24LRN					

■ Output Specifications:

Item	Voltage	Current	Power	Eff (Typ)	Vol accuracy	Load regulation
HE05P15LRN	5V	3A	15W	80%	±1%	±1.5%
HE06P15LRN	6V	2.5A		82%		±1.5%
HE09P24LRN	9V	2.7A	24W	84%		±1.5%
HE12P24LRN	12V	2A		87%		±0.8%
HE15P24LRN	15V	1.6A		88%		±0.8%
HE20P24LRN	20V	1.2A		88%		±0.8%
HE24P24LRN	24V	1A		89%		±0.4%
HE28P24LRN	28V	0.85A		90%		±0.4%

■ Ripple & Noise:

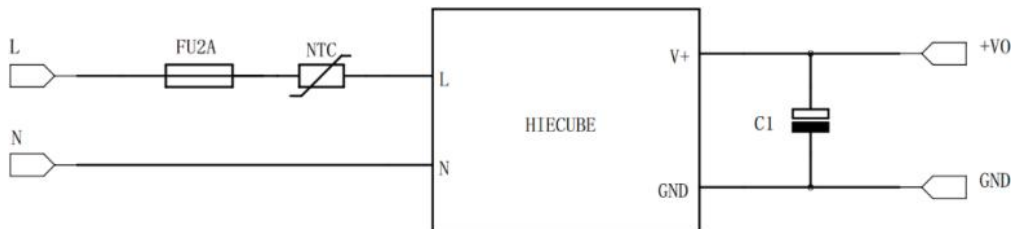
Item	20M bandwidth (peak-peak value)		200M bandwidth (peak-peak value)	
	Typ	Max	Typ	Max
HE05P15LRN	30mV	35mV	120mV	200mV
HE06P15LRN	30mV	35mV	120mV	200mV
HE09P24LRN	20mV	30mV	45mV	80mV
HE12P24LRN	20mV	25mV	40mV	80mV
HE15P24LRN	20mV	25mV	40mV	80mV
HE20P24LRN	20mV	28mV	45mV	80mV
HE24P24LRN	20mV	28mV	45mV	80mV
HE28P24LRN	20mV	28mV	45mV	80mV

■ General Specifications:

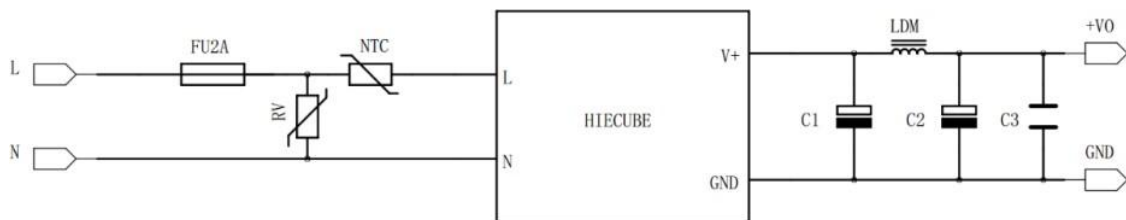
Item	Operating Conditions
Switching Frequency	65KHz
Short Circuit Protection	Hiccups, continuous, self-recovery
Over-load Protection	> Load110%, self-recovery
Overheat Protection	higher than 80°C (±4°C)
Isolation voltage	Input-Output 3000VAC /1min
Operating Temperature	-30~70°C
Storage Temperature	-40~70°C
Weight	47g(±2g)
Package Dimensions	25.5*39.5*22mm
Casing Material	Aluminum
Cooling Method	Free air convection
Safety Class	CLASS II

■ Design Reference:

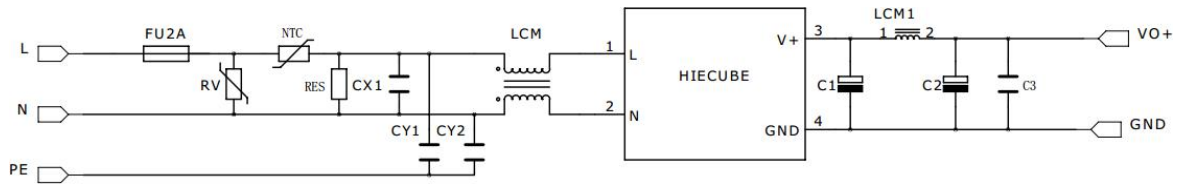
1. Typical application circuit:



2. Low ripple application circuit:



3. EMC application circuit:

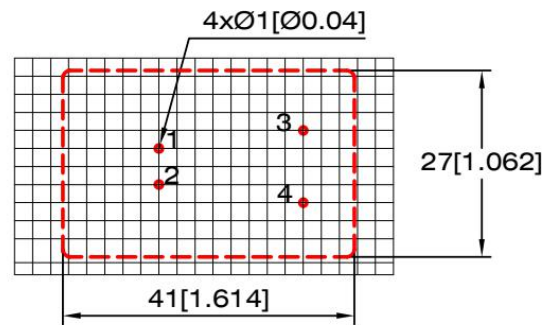
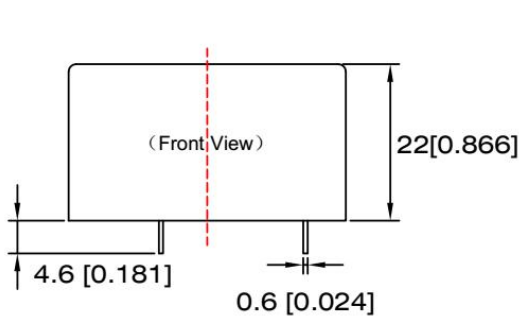


Peripheral component parameters

INPUT		
Component name	Parameter	
FU2A	FUSE	2A /250V
RV	Mov	14D471K
NTC	Thermistor	10D-11
RES	Discharge resistor	1MΩ/1W
LCM	Common-mode inductor	UU9.8
CX1	Safety capacitance	0.33uF/275V
CY1 CY2	Y2 capacitance	222M/250V

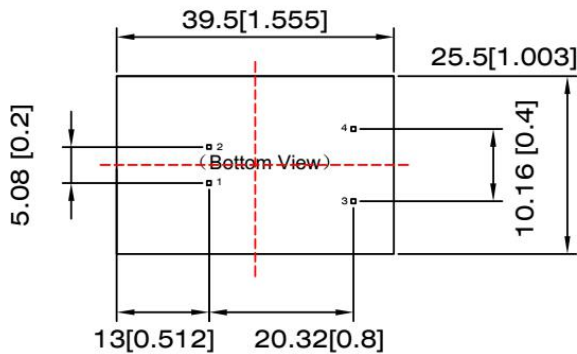
OUTPUT				
VOUT	C1	C2	LDM	C3
5V/6V	16V/1000uF	16V/1000uF	Rod inductance	CBB Capacitance 104/50V
9V	25V/680uF	25V/680uF		
12V				
15V				
20V	35V/470uF	35V/470uF		
24V				
28V				

■ Outline Dimensions & Pin connections



PC Board

Note: grid distance: 2.54\*2.54mm



Pin -Out:	
Pin	Function
1	AC(N)
2	AC(L)
3	Vo+
4	GND

Unit: mm[inch]

Note:

1. All index testing methods in this datasheet are based on our Company' s corporate standards;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75% with nominal input voltage and rated output load;

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