

JH60 產品特色與規格

JH60 Series



Regulated Output / 穩壓型電壓輸出

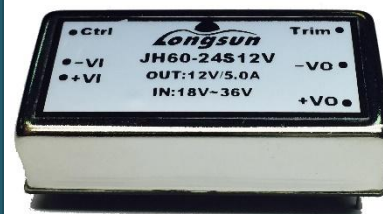
Warranty 1 years / 1 年保固

Single Output / 具單輸出型式

60 Watt Isolated DC-DC Converters / 60W 之電壓隔離型直流對直流電力轉換模組

- | | |
|---|----------------------------|
| ➤ 2:1, 18V ~ 75V Input Range | 2:1, 18 伏特 ~ 75 伏特超寬輸入電壓範圍 |
| ➤ 2.0"×1.0"×0.53", Industry Standard Package And Pinout | 業界規範 2.0"×1.0"×0.53" 封裝和腳位 |
| ➤ Efficiency Up to 91% | 效率最高達 91% |
| ➤ Continuous Short Circuit Protection | 可連續性短路保護 |
| ➤ Over Voltage Protection | 輸出端過電壓保護 |
| ➤ Over Load Protection | 過負載保護功能 |
| ➤ Remote Control | 外部控制功能 |

★ Isolation 1600VDC / Up To 60W / Trim 額定電壓隔離能力直流 1600 伏特 / 最高可選配至 60 瓦 / 輸出電壓調節



Input Specifications 輸入端規格

Input Voltage 額定輸入電壓	24V Input Models 輸入電壓代碼 24 之系列型號	18~36VDC
	48V Input Models 輸入電壓代碼 48 之系列型號	36~75VDC
Input Filter 輸入端濾波器	Pi Type π 型式	
Remote Control 外部控制功能	On : TTL High or Disconnected	
	Off : TTL Low or Ground	
Absolute Maximum Input Voltage (For 100 ms MAX.) 瞬間最大可承受之輸入電壓	24V Input Models 輸入電壓代碼 24 之系列型號	50VDC
	48V Input Models 輸入電壓代碼 48 之系列型號	100VDC

Output Specifications 輸出端規格

Output Voltage & Current 額定輸出電壓與電流	See Table (詳見系列機種列表)
Output Voltage Accuracy 輸出電壓精準度	±2%
Ripple & Noise (20MHz BW) 輸出電壓漣波與雜訊	100mVp-pmax.
Line Regulation 線性電壓調整率	±0.5% max.

Load Regulation 負載變動調整率	±0.5% max.
Short Circuit Protection 短路保護	Continuous (auto-recovery) 可連續 (自動回復)
Over Load Protection 過負載保護功能	≥110% of full Load Typical
Over Voltage Protection 輸出端過電壓保護	Zener Diode Clamp 齊納二極體保護
Minimum Load 最低負載需求	20%
Transient Response Recovery Time 暫態響應回覆時間	250µs max. (25% Load Step Change) (以 25% 負載進行測試)

EMC Specifications 電磁相容性規格

EMS Criteria 電磁耐受標準	EN55022
EMC Standards 電磁相容性水準	CE Class A (with external components)

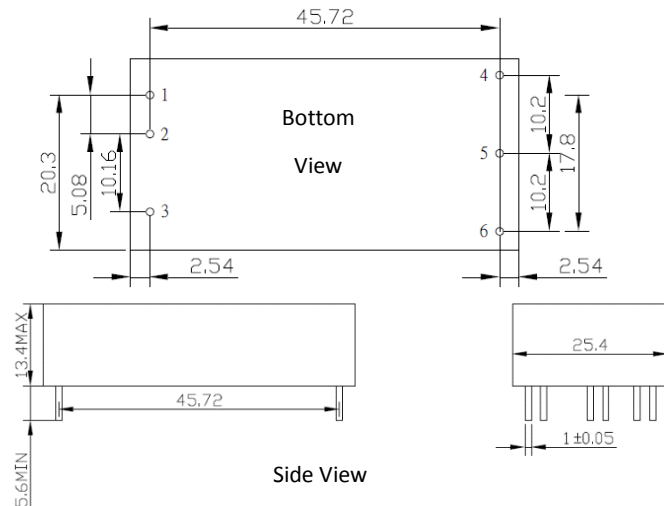
JH60 產品特色與規格

General Specifications 一般性規格

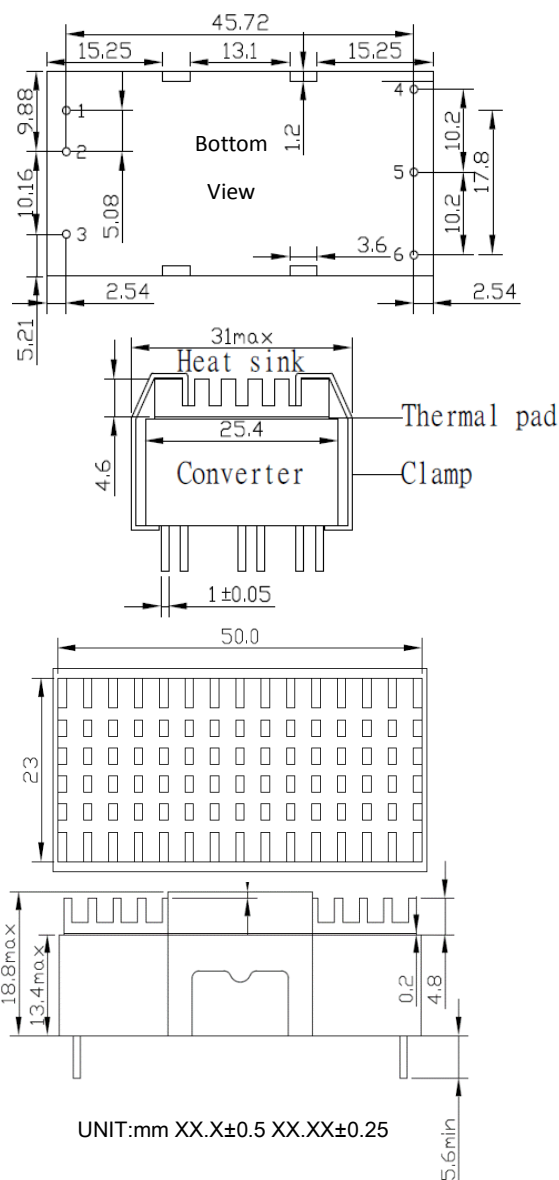
Switching Frequency 工作頻率	300KHz Typical
Isolation Voltage 額定電壓隔離能力	1600VDC (For 10 seconds)
Isolation Resistance 隔離阻抗	$\geq 1000\text{Mohm}(500\text{VDC})$
Isolation Capacitance 隔離電容	2200pF Typical
Operating Temperature Range 可操作溫度範圍	-40°C to +85°C (with derating)
Storage Temperature Range 儲存溫度範圍	-55°C to +125°C
Over Temperature 過溫保護	+120°C
Maximum Case Temperature 最大外殼溫度	+110°C
Cooling 冷卻方式	Free-air Convection 自然空氣對流
Temperature Coefficient 溫度係數	$\pm 0.02\%/^{\circ}\text{C max.}$
Humidity 溼度	95%RH
Case Material 外殼材質	Nickel-Coated Copper with Non-Conductive Base 非導電處理銅鍍鎳外殼
Potting Material 灌注膠材質	Epoxy 環氧樹脂 (Flammability to UL94V-0)
Baseplate Material 外殼底板材料	Non-Conductive FR4 非導電處理玻璃纖維基材
Dimension 外觀尺寸	2.0"×1.0"×0.53" (50.8mm x25.4mm x13.5mm)
Weight 產品重量	48.6g
MTBF (MIL-HDBK-217F)	$>1.096 \times 10^6$ Hours

Outline Dimensions & Pin Connections 外觀尺寸與腳位定義

Without Heat-Sink



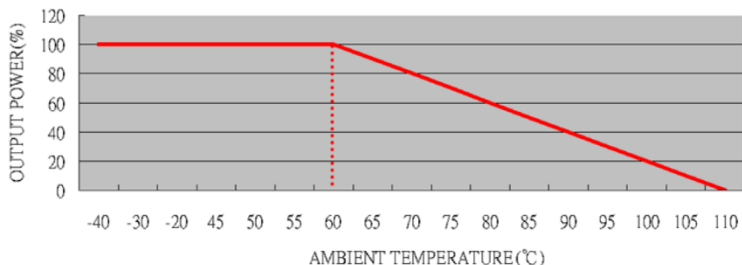
With Heat-Sink



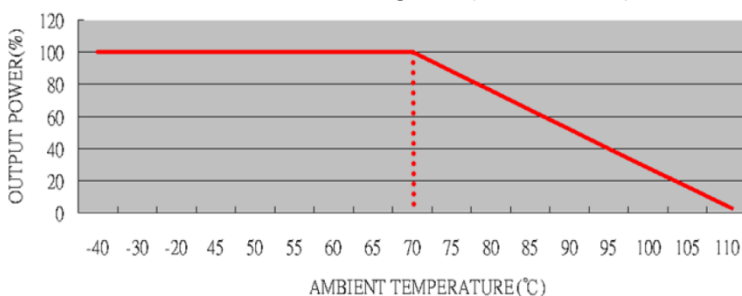
JH60 產品特色與規格

Derating Graph 溫度特性曲線

JH60-48S05V Derating Curve(without Heat-Sink)



JH60-48S05V Derating Curve(with Heat-Sink)



Note

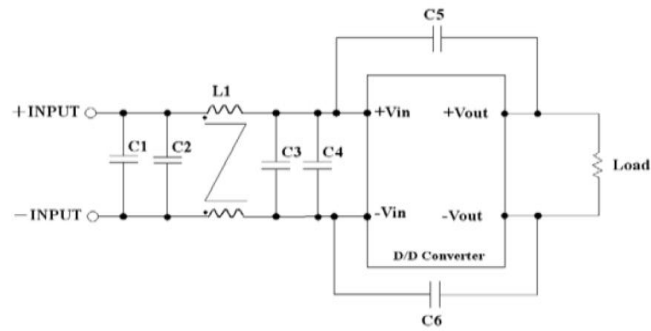
- All specifications are typical at $T_a=25^{\circ}\text{C}$, nominal input voltage, resistive load and rated output current unless otherwise noted.
所有資料除特殊說明外，均是在環境溫度 25°C 下以額定輸入電壓與額定輸出電流測得。
- All specifications are subject to change without notice.
產品設計與規格如有更改，恕不另行通知。
- The JH60 series can meet EN55022 Class A with parallel an external capacitor to the input pins. Recommend:
24Vin : 6.8 $\mu\text{F}/50\text{V}$ 1812 MLCC.
48Vin : 4.7 $\mu\text{F}/100\text{V}$ *2PCS 1812 MLCC.
- An external filter capacitor is required if the module has to meet EN61000-4-5, $\pm 1\text{KV}$ Perf. Criteria A. The filter capacitor SLF suggest:
Nippon chemi-con KY series, 220 $\mu\text{F}/100\text{V}$, ESR 48m Ω

Pin	Single
1	+Vin
2	- Vin
3	Remote On/Off Control
4	+Vout
5	- Vout
6	Trim

60W Model Selection

Model Number 模組代碼	Input Voltage 額定輸入電壓	Input Current 輸入電流	Output Voltage 額定輸出電壓	Output Current 額定輸出電流	Efficiency 效率
	VDC	Full Load (mA)	VDC	mA	@Max.Load %(Typ.)
JH46-24S3V3	24 (18~36)	2160	3.3	14000	87
JH60-24S05V		2760	5	12000	88
JH60-24S12V		2780	12	5000	89
JH60-24S15V		2780	15	4000	89
JH46-48S3V3	48 (36~75)	1010	3.3	14000	88
JH60-48S05V		1360	5	12000	89
JH60-48S12V		1380	12	5000	90
JH60-48S15V		1370	15	4000	91

Recommended Filter for EN55022 Class B Compliance



	C1	C2	C3	C4	C5&C6	L1
JH60-24S Series	4.7µF/50V 1812MLCC	N/A	4.7µF/50V 1812MLCC	N/A	1000pF/2KV MLCC	450µH Common Choke FMT-048
JH60-48S Series	4.7µF/100V 1812MLCC	N/A	4.7µF/100V 1812MLCC	N/A	1000pF/2KV MLCC	830µH Common Choke FMT-053

