

JN100 Product Specifications



JN100 產品特色與規格 JN 產品特色與規格

JN100 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

100 Watt Isolated DC-DC Converters / 100W 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"x2.0"x0.53", Industry Standard Package And Pinout
業界規範 2.0"x2.0"x0.53"封裝和腳位
 - ▶ Efficiency Up to 93% 效率最高達 93%
 - ▶ 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 100W / Trim 額定電壓隔離能力直流 1600 伏特/ 最高可選配至 100 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. (with 2.2u/100V MLCC)
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	120% 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	10%
Transient Response Recovery Time 暫態響應回覆時間	350µs max. (25% Load Step Change) (以 25% 負載進行測試)

EMC Specifications 電磁兼容性規格

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

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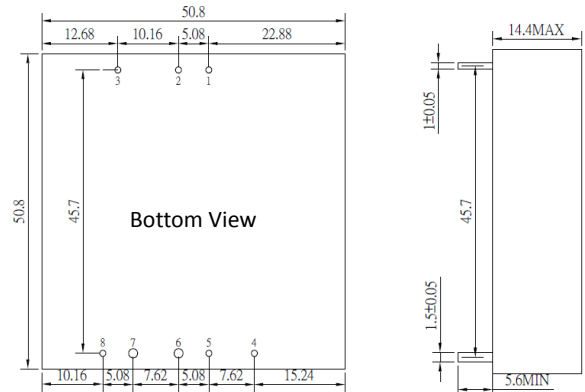
General Specifications 一般性規格

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	≥1000Mohm(500VDC)
Isolation Capacitance 隔離電容	2200pF Typical
Operating Temperature Range 可操作溫度範圍	Without Heat-Sink -40°C to +60°C (with derating)
	With Heat-Sink -40°C to +75°C (with derating)
Storage Temperature Range 儲存溫度範圍	-55°C to +125°C
Over Temperature 過溫保護	+115°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	±0.05%/°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"×2.0"×0.57" (50.8mm x50.8mm x14.4mm)
Weight 產品重量	110g
MTBF (MIL-HDBK-217F)	>7.416×10 ⁴ Hours

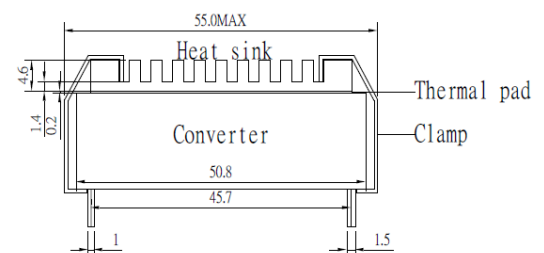
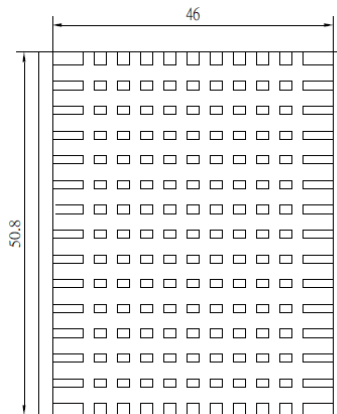
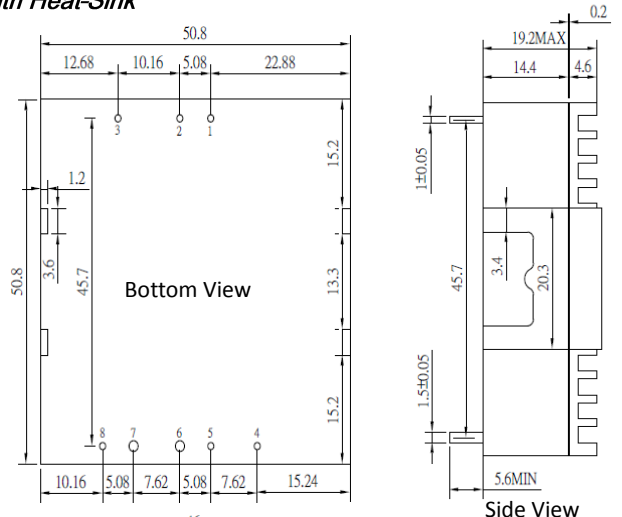
Outline Dimensions & Pin Connections 外觀尺寸與腳位定義

Without Heat-Sink

Without Heat-Sink



With Heat-Sink



UNIT:mm XX.X±0.5 XX.XX±0.25

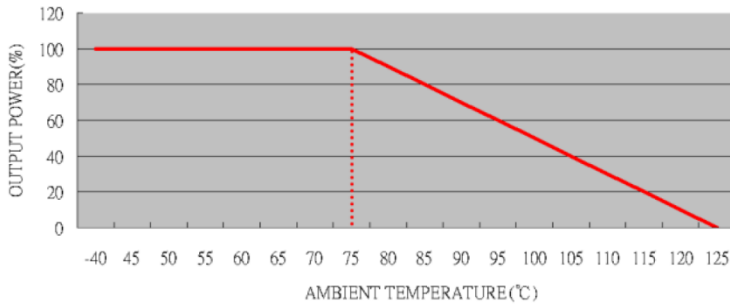
Pin1,2,3,4,5,8 Size is Tolerance 1.0Φ ±0.05mm

Pin6,7 Size is Tolerance 1.5Φ ±0.05mm

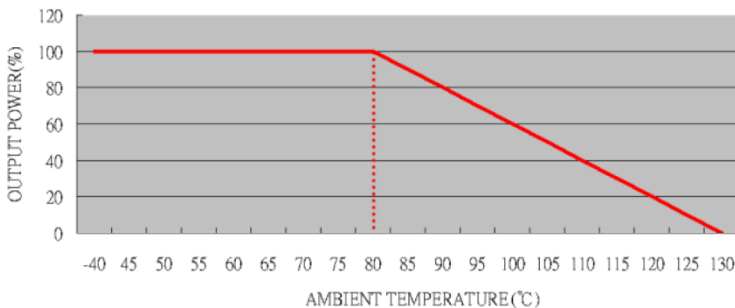
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Derating Graph / 溫度特性曲線

JN100-48S05V Derating Curve(without Heat-Sink)



JN100-48S05V Derating Curve(with Heat-Sink)



Note

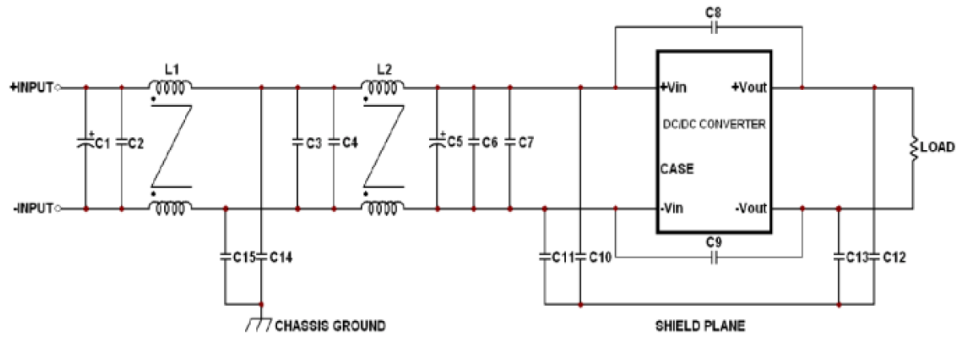
- All specifications are typical at $T_a=25^{\circ}\text{C}$, nominal input voltage, resistive load and rated output current unless otherwise noted.
所有資料除特殊說明外，均是在環境溫度 25°C 下以額定輸入電壓與額定輸出電流測得。
- All specifications are subject to change without notice.
產品設計與規格如有更改，恕不另行通知。
- The ripple & noise of output voltage is measured with 2.2 μ /100V MLCC.
- The JN100 series can meet EN55022 Class A on the condition than the external components is added before the input pin of the converter.
- An external filter capacitor is required if the module has to meet EN61000-4-4 and EN61000-4-5. The filter capacitor SLF suggest:
24Vin : Nippon chemi-con KY series, 330 μ F/50V, ESR 55m Ω .
48Vin : Nippon chemi-con KY series, 220 μ F/100V, ESR 48m Ω .

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

100W 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.)
JN66-24S3V3	24 (18~36)	3100	3.3	20000	89
JN100-24S05V		4600	5	20000	91
JN100-24S12V		4600	12	8330	91
JN100-24S15V		4500	15	6670	92
JN66-48S3V3	48 (36~75)	1520	3.3	20000	90
JN100-48S05V		2350	5	20000	92
JN100-48S12V		2300	12	8330	92
JN100-48S15V		2300	15	6670	93

Recommended Filter for EN55022 Class A Compliance



	C1,C5	C2,C3,C4,C6,C7	C8	C9	C10,C11,C12,C13	C14,C15	L1	L2
	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
JN100-24S Series	100uF/50V	4.7uF/50V 1812 MLCC	1000pF/3KV 1808 MLCC	1000pF/3KV 1808 MLCC	10nF/2KV 1812 MLCC	1000pF/3KV 1808 MLCC	Common Choke 305uH	Common Choke 305uH
JN100-48S Series	100uF/100V	2.2uF/100V 1812 MLCC	1000pF/3KV 1808 MLCC	1000pF/3KV 1808 MLCC	10nF/2KV 1812 MLCC	1000pF/3KV 1808 MLCC	Common Choke 1400uH	Common Choke 156uH