

# JR50 Series



## Features :

- 2:1 & 4:1, 9V ~ 75V Input Range
- Thermal Shutdown
- Soft Start
- Under Voltage Lock Out Protection
- Over Voltage Lock Out Protection
- Remote On /Off Control
- Short Circuit Protection
- Over Voltage Protection
- 2 Years Warranty



## Model List

| Model Number* | Input Voltage VDC | Output Voltage VDC | Output Current mA | Efficiency @Max. Load % (Typ.) |
|---------------|-------------------|--------------------|-------------------|--------------------------------|
| JR50-12S05V   | 9~18              | 5                  | 9000              | 81                             |
| JR50-12S12V   |                   | 12                 | 4100              | 82                             |
| JR50-12S15V   |                   | 15                 | 3300              | 83                             |
| JR50-12D05V   |                   | ±5                 | ±5000             | 81                             |
| JR50-12D12V   |                   | ±12                | ±2000             | 83                             |
| JR50-12D15V   |                   | ±15                | ±1500             | 84                             |
| JR50-24S05V   | 18~36             | 5                  | 9000              | 81                             |
| JR50-24S12V   |                   | 12                 | 4100              | 82                             |
| JR50-24S15V   |                   | 15                 | 3300              | 83                             |
| JR50-24D05V   |                   | ±5                 | ±5000             | 81                             |
| JR50-24D12V   |                   | ±12                | ±2000             | 83                             |
| JR50-24D15V   |                   | ±15                | ±1500             | 84                             |
| JR50-48S05V   | 36~75             | 5                  | 9000              | 82                             |
| JR50-48S12V   |                   | 12                 | 4100              | 83                             |
| JR50-48S15V   |                   | 15                 | 3300              | 84                             |
| JR50-48D05V   |                   | ±5                 | ±5000             | 82                             |
| JR50-48D12V   |                   | ±12                | ±2000             | 84                             |
| JR50-48D15V   |                   | ±15                | ±1500             | 85                             |
| JR50-412S05V  | 9~36              | 5                  | 9000              | 81                             |
| JR50-412S12V  |                   | 12                 | 4100              | 82                             |
| JR50-412S15V  |                   | 15                 | 3300              | 83                             |
| JR50-412D05V  |                   | ±5                 | ±5000             | 81                             |
| JR50-412D12V  |                   | ±12                | ±2000             | 83                             |
| JR50-412D15V  |                   | ±15                | ±1500             | 84                             |
| JR50-424S05V  | 18~75             | 5                  | 9000              | 82                             |
| JR50-424S12V  |                   | 12                 | 4100              | 83                             |
| JR50-424S15V  |                   | 15                 | 3300              | 84                             |
| JR50-424D05V  |                   | ±5                 | ±5000             | 82                             |
| JR50-424D12V  |                   | ±12                | ±2000             | 84                             |
| JR50-424D15V  |                   | ±15                | ±1500             | 85                             |

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## Input Specifications

|                             |               |           |
|-----------------------------|---------------|-----------|
| Input Filter                |               | Pi Type   |
| Surge Voltage (100 ms max.) | 12Vin Models: | 25V max.  |
|                             | 24Vin Models: | 50V max.  |
|                             | 48Vin Models: | 100V max. |

## Output Specifications

|  |                   |                                 |
|--|-------------------|---------------------------------|
| Output Power                                       |                   | 50W max.                        |
| Voltage Set Accuracy                               |                   | ±2%                             |
| Line Regulation (Low Line, High Line at Full Load) |                   | ±0.5%                           |
| Load Regulation (0% to 100% Full Load)             | Single:           | ±0.5%                           |
|  | Dual:             | ±2%                             |
| Ripple and Noise (20MHz Bandwidth)                 | 3.3, 5VDC Models: | 80mVpk-pk max.                  |
|  | Others Models:    | 1%Voutpk-pk max.                |
| Short Circuit Protection                           |                   | Indefinite (Automatic Recovery) |
| Minimum Load                                       |                   | 0%                              |
| Capacitive Load                                    | 5 Vout Models:    | 6800μF max.                     |
|  | 12 Vout Models:   | 4600μF max.                     |
|  | 15 Vout Models:   | 4000μF max.                     |
|  | ±5 Vout Models:   | 3400μF max. (Each Output)       |
|  | ±12 Vout Models:  | 2300μF max. (Each Output)       |
|  | ±15 Vout Models:  | 2000μF max. (Each Output)       |

## Environmental Specifications

|                                       |  |                                |
|---------------------------------------|--|--------------------------------|
| Operating Temperature Range (Ambient) |  | -40°C to +75°C (with Derating) |
| Maximum Case Temperature              |  | +95°C                          |
| Storage Temperature Range             |  | -55°C to +115°C                |
| Cooling                               |  | Free-air Convection            |
| Temperature Coefficient               |  | ±0.05%/°C max.                 |
| Humidity                              |  | 95%                            |

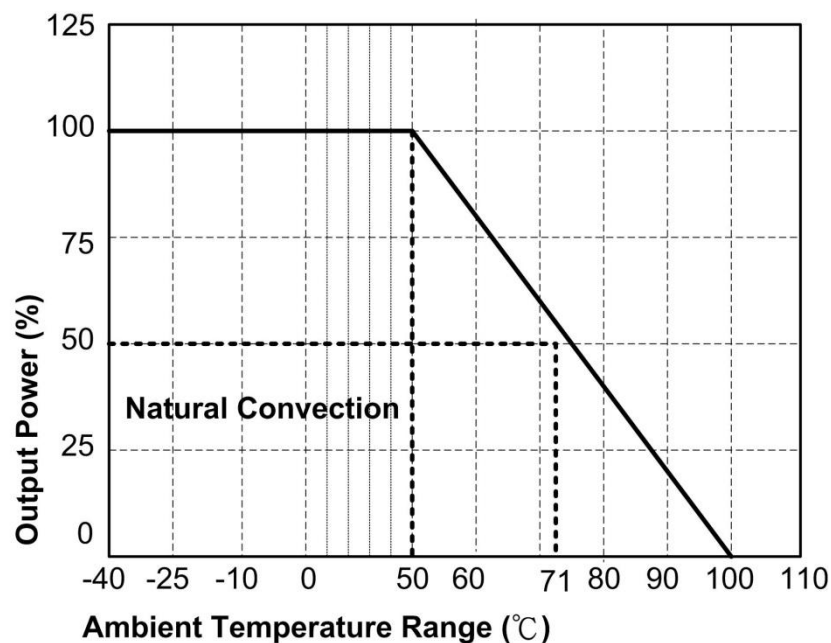
\*Note: The ON/OFF control function is optional. The model without control function is marked with suffix-A(eg. JR50-24S05A) and the control pin will be omitted. If you do not want function, please inform us on your order.

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## General Specifications

|  |                       |  |
|--|-----------------------|--|
| Input Voltage Variation, dv/dt                       |                       | Max. 5V                                    |
| Over Load Protection (% of Full Load at Nominal Vin) |                       | >110% typ.                                 |
| Overvoltage Protection (Single)                      |                       | Zener Diode Clamp                          |
| MTBF(MIL-HDBK-217F, at +25°C, Ground Benign)         |                       | >5×10 <sup>5</sup> Hours                   |
| Isolation Voltage (60 sec.)                          | Input/Output:         | 1500VDC                                    |
| Isolation Capacitance                                | Input/Output:         | 1800pF typ.                                |
| Isolation Resistance                                 | Input/Output(500VDC): | >1000Mohm                                  |
| Switching Frequency (Fixed)                          |                       | 60kHz typ.<br>(Pulse Width Modulation PWM) |
| Remote On/Off  | On:                   | TTL High or Open Circuit                   |
|  | Off:                  | TTL Low or Short Circuit                   |
| Safety Standards                                     |                       | CE Class B, UL Compliance                  |
| Conducted Noise                                      |                       | EN55022<br>EN55024                         |

## Derating Graph

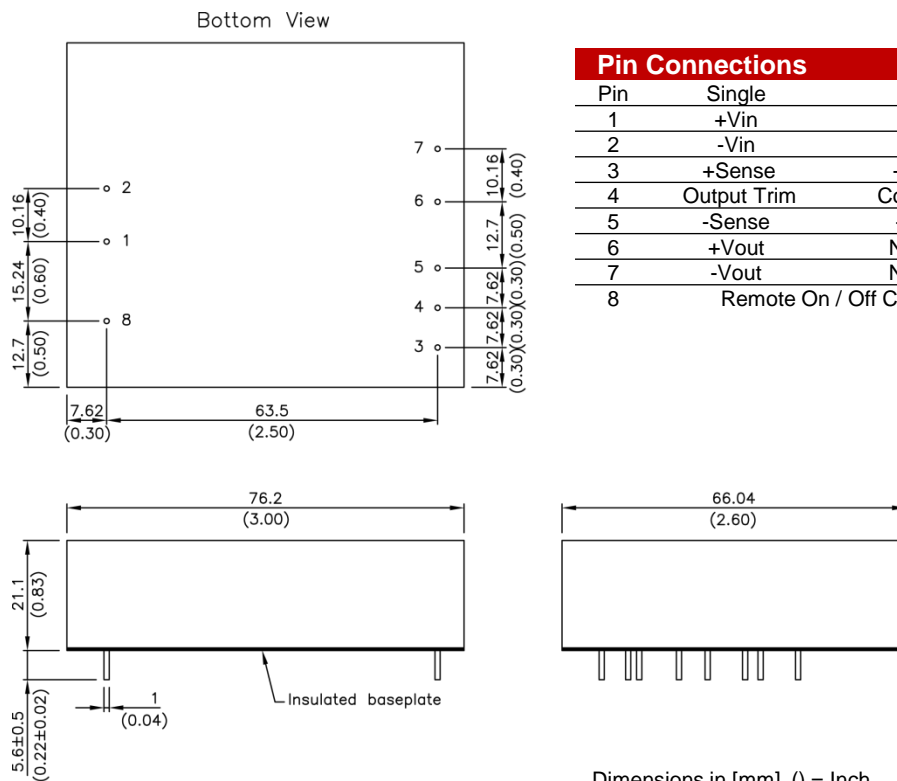


If you need more detailed information,  
please contact us via email at [sales@mail.longsun.tw](mailto:sales@mail.longsun.tw)

## Physical Specifications

|  |   |
|--|---|
| Case Material                          | Nickel-Coated Copper with Non-Conductive Base |
| Baseplate Material                     | Non-Conductive Base FR4                       |
| Potting                                | Flammability to UL94V-0                       |
| Dimensions                             | 3.0"x2.6"x0.83"                               |
| Weight                                 | 212g(7.47oz)                                  |
| Soldering Temperature                  | max. 260°C/10s                                |
| Environmental Compliance Certification | Reach<br>RoHS                                 |

## Outline Dimensions



## Notes

1. All specifications are typical at  $T_a=25^{\circ}\text{C}$ , nominal input voltage, resistive load and rated output current unless otherwise noted.
2. All specifications are subject to change without notice.
3. Typical value is measured at nominal input voltage and no load.
4. Maximum value is measured at nominal input voltage and full load.
5. Typical value is measured at nominal input voltage and full load.

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