# 8/10 Watts

# JCJ Series

- 2:1 Input Range
- DIP–24 Metal Package
- Operating Temperature –40 °C to +100 °C
- Single & Dual Outputs
- Continuous Short Circuit Protection
- 1500 VDC Isolation
- 3 Year Warranty

## Specification

### Input

| | |
|---|---|
| Input Voltage Range | • 12 V (9-18 VDC)<br>24 V (18-36 VDC<br>48 V (36-75 VDC) |
| Input Current | • See table |
| Input Filter | • Pi network |
| Input Reflected Ripple Current | • JCJ08: 35 mA, JCJ10: 20 mA<br>pk-pk through 12 µH inductor |
| Input Surge | • 12 V models 24/25 VDC for 100 ms<br>24 V models 40/50 VDC for 100 ms<br>48 V models 100 VDC for 100 ms |
| Undervoltage Lockout | • None |
| Reverse Voltage Protection | • None |

### Output

| | |
|---|---|
| Output Voltage | • See table |
| Output Voltage Balance | • ±1% max, dual output models |
| Minimum Load | • No minimum load required |
| Initial Set Accuracy | • ±1% max |
| Line Regulation | • ±0.5% max |
| Load Regulation | • ±0.7% for 2.5-3.3 V models, ±0.5% for all other models (see note 2) |
| Cross Regulation | • ±5% on dual output models (see note 3) |
| Transient Response | • <3% max deviation, recovery to within 1% in 200 µs for a 25% load change |
| Ripple & Noise | • 75 mV pk-pk, 20 MHz bandwidth, (see note 4) |
| Overvoltage Protection | • JCJ10: 3.3 V models: 3.9 V typ.,<br>5 V models: 6.2 V typ.,<br>12 V models: 15.0 V typ.,<br>15 V models: 18.0 V typ.,<br>±12 V models: ±15.0 V typ.,<br>±15 V models: ±18.0 V typ.<br>JCJ08: No OVP |
| Overload Protection | • >150% of full load |
| Short Circuit Protection | • Trip & restart (hiccup) with auto recovery |
| Maximum Capacitive Load | • See tables |
| Temperature Coefficient | • ±0.02/°C max |

### General

| | |
|---|---|
| Efficiency | • See tables |
| Isolation | • 1500 VDC Input to Output<br>1000 VDC Input to Case<br>1000 VDC Output to Case |
| Isolation Capacitance | • 1200 pF max |
| Switching Frequency | • 330 kHz typical |
| Power Density | • JCJ10: 25 W/in$^3$<br>JCJ08: 20 W/in$^3$ |
| MTBF | • >900 KHrs to MIL-HDBK-217F<br>at 25 °C, GB |

### Environmental

| | |
|---|---|
| Operating Temperature | • -40 °C to +100 °C, derate from 100% load at +60 °C to no load at +100 °C |
| Case Temperature | • +100 °C max |
| Storage Temperature | • -40 °C to +125 °C |
| Humidity | • Up to 95% RH, non-condensing |
| Cooling | • Natural convection |

### EMC

| | |
|---|---|
| Emissions | • EN55022 Class A conducted & radiated with external components, see application note |
| ESD Immunity | • EN61000-4-2, 8 kV air discharge, 4 kV contact discharge<br>JCJ10: 6 kV contact discharge, Perf Criteria A |
| EFT/Burst | • EN61000-4-4, level 1<br>JCJ10: level 3, Perf Criteria A, (see note 5) |
| Surge | • JCJ08: EN61000-4-5, installation class 2,<br>JCJ10: installation class 3,<br>Perf Criteria A, (see note 5) |
| Conducted Immunity | • EN61000-4-6, 3 Vrms<br>JCJ10: 10 Vrms, Perf Criteria A |
| Magnetic Field | • EN61000-4-8, 1 A/m Perf Criteria A |

### Safety

| | |
|---|---|
| Safety Approvals | • UL60950-1, CAN/CSA C22.2 No.60950-1, UL62368-1 |

## Models and Ratings

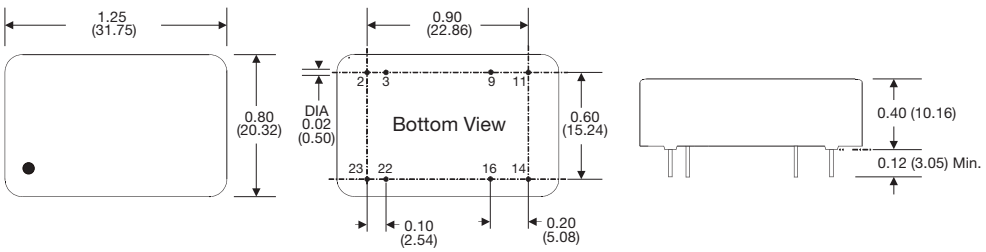


| Input Voltage | Output Voltage | Output Current | Input Current[1] | | Maximum Capacitive Load | Efficiency | Model Number |
|---|---|---|---|---|---|---|---|
| | | | No Load | Full Load | | | |
| 9-18 V | 3.3 V | 2.000 A | 20 mA | 0.69 A | 3300 µF | 80% | JCJ0812S3V3 |
| | 5.0 V | 1.500 A | 20 mA | 0.76 A | 2200 µF | 82% | JCJ0812S05 |
| | 12.0 V | 0.665 A | 20 mA | 0.78 A | 470 µF | 85% | JCJ0812S12 |
| | 15.0 V | 0.535 A | 20 mA | 0.80 A | 220 µF | 83% | JCJ0812S15 |
| | ±5.0 V | ±0.800 A | 20 mA | 0.81 A | ±1000 µF | 82% | JCJ0812D05 |
| | ±12.0 V | ±0.335 A | 20 mA | 0.79 A | ±220 µF | 84% | JCJ0812D12 |
| | ±15.0 V | ±0.265 A | 20 mA | 0.79 A | ±100 µF | 84% | JCJ0812D15 |
| 18-36 V | 3.3 V | 2.000 A | 15 mA | 0.34 A | 3300 µF | 80% | JCJ0824S3V3 |
| | 5.0 V | 1.500 A | 15 mA | 0.38 A | 2200 µF | 82% | JCJ0824S05 |
| | 12.0 V | 0.665 A | 15 mA | 0.39 A | 470 µF | 85% | JCJ0824S12 |
| | 15.0 V | 0.535 A | 15 mA | 0.40 A | 220 µF | 84% | JCJ0824S15 |
| | ±5.0 V | ±0.800 A | 15 mA | 0.41 A | ±1000 µF | 82% | JCJ0824D05 |
| | ±12.0 V | ±0.335 A | 15 mA | 0.40 A | ±220 µF | 83% | JCJ0824D12 |
| | ±15.0 V | ±0.265 A | 15 mA | 0.39 A | ±100 µF | 85% | JCJ0824D15 |
| 36-75 V | 3.3 V | 2.000 A | 15 mA | 0.17 A | 3300 µF | 80% | JCJ0848S3V3 |
| | 5.0 V | 1.500 A | 15 mA | 0.19 A | 2200 µF | 82% | JCJ0848S05 |
| | 12.0 V | 0.665 A | 15 mA | 0.20 A | 470 µF | 84% | JCJ0848S12 |
| | 15.0 V | 0.535 A | 15 mA | 0.20 A | 220 µF | 84% | JCJ0848S15 |
| | ±5.0 V | ±0.800 A | 15 mA | 0.20 A | ±1000 µF | 82% | JCJ0848D05 |
| | ±12.0 V | ±0.335 A | 15 mA | 0.20 A | ±220 µF | 85% | JCJ0848D12 |
| | ±15.0 V | ±0.265 A | 15 mA | 0.20 A | ±100 µF | 85% | JCJ0848D15 |
| 9-18 V | 2.5 V | 3.000 A | 10 mA | 0.79 A | 2200 µF | 81% | JCJ1012S2V5 |
| | 3.3 V | 3.000 A | 10 mA | 1.01 A | 2200 µF | 84% | JCJ1012S3V3 |
| | 5.0 V | 2.000 A | 10 mA | 0.99 A | 2200 µF | 86% | JCJ1012S05 |
| | 12.0 V | 0.833 A | 10 mA | 0.98 A | 820 µF | 87% | JCJ1012S12 |
| | 15.0 V | 0.667 A | 10 mA | 0.96 A | 470 µF | 89% | JCJ1012S15 |
| | ±12.0 V | ±0.416 A | 10 mA | 0.98 A | ±220 µF | 87% | JCJ1012D12 |
| | ±15.0 V | ±0.333 A | 10 mA | 0.97 A | ±150 µF | 88% | JCJ1012D15 |
| 18-36 V | 2.5 V | 3.000 A | 10 mA | 0.38 A | 2200 µF | 84% | JCJ1024S2V5 |
| | 3.3 V | 3.000 A | 10 mA | 0.50 A | 2200 µF | 85% | JCJ1024S3V3 |
| | 5.0 V | 2.000 A | 10 mA | 0.48 A | 2200 µF | 89% | JCJ1024S05 |
| | 12.0 V | 0.833 A | 10 mA | 0.49 A | 820 µF | 88% | JCJ1024S12 |
| | 15.0 V | 0.667 A | 10 mA | 0.49 A | 470 µF | 88% | JCJ1024S15 |
| | ±12.0 V | ±0.416 A | 10 mA | 0.49 A | ±220 µF | 88% | JCJ1024D12 |
| | ±15.0 V | ±0.333 A | 10 mA | 0.47 A | ±150 µF | 90% | JCJ1024D15 |
| 36-75 V | 2.5 V | 3.000 A | 10 mA | 0.19 A | 2200 µF | 84% | JCJ1048S2V5 |
| | 3.3 V | 3.000 A | 10 mA | 0.25 A | 2200 µF | 85% | JCJ1048S3V3 |
| | 5.0 V | 2.000 A | 10 mA | 0.24 A | 2200 µF | 88% | JCJ1048S05 |
| | 12.0 V | 0.833 A | 10 mA | 0.25 A | 820 µF | 87% | JCJ1048S12 |
| | 15.0 V | 0.667 A | 10 mA | 0.24 A | 470 µF | 88% | JCJ1048S15 |
| | ±12.0 V | ±0.416 A | 10 mA | 0.25 A | ±220 µF | 87% | JCJ1048D12 |
| | ±15.0 V | ±0.333 A | 10 mA | 0.25 A | ±150 µF | 87% | JCJ1048D15 |

### Notes

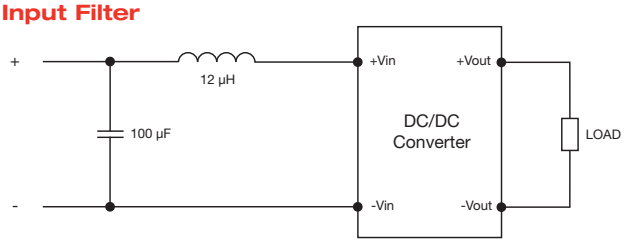
1. *Input current measured at nominal input voltage.*
2. *From 10% to 100% load.*
3. *When one output is set at 100% load and the other varied between 25% and 100% load*
4. *Measured with 20 MHz bandwidth and 1 µF ceramic capacitor across output rails.*
5. *A 220 µF/100 V capacitor across the input is required to meet EN61000-4-4 and EN61000-4-5*

## Mechanical Details and Application Note




| Pin Connections | | | | | |
|---|---|---|---|---|---|
| Pin | Single | Dual | Pin | Single | Dual |
| 2 | -Vin | -Vin | 14 | +Vout | +Vout |
| 3 | -Vin | -Vin | 16 | -Vout | Common |
| 9 | No Pin | Common | 22 | +Vin | +Vin |
| 11 | N.C. | -Vout | 23 | +Vin | +Vin |

### Input Filter




### Notes

1. All dimensions are in inches (mm)
2. Weight: 0.04 lbs (17 g) approx.
3. Pin pitch and length tolerance: ±0.014 (±0.35)
4. Pin diameter tolerance: 0.02 ±0.002 (0.5 ±0.05)
5. Case tolerance: ±0.02 (±0.5)
6. Package: 24 in DIL nickel-coated copper.

Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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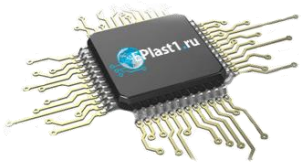
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

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