THE DATASHEET OF

JCJ1012S12

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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) 24 V (18-36 VDC 48 V (36-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Reflected Ripple Current	• JCJ08: 35 mA, JCJ10: 20 mA pk-pk through 12 µH inductor
Input Surge	• 12 V models 24/25 VDC for 100 ms 24 V models 40/50 VDC for 100 ms 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., 5 V models: 6.2 V typ., 12 V models: 15.0 V typ., 15 V models: 18.0 V typ., ±12 V models: ±15.0 V typ., ±15 V models: ±18.0 V typ. 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 1000 VDC Input to Case 1000 VDC Output to Case
Isolation Capacitance	• 1200 pF max
Switching Frequency	• 330 kHz typical
Power Density	• JCJ10: 25 W/in^3 JCJ08: 20 W/in^3
MTBF	• >900 KHrs to MIL-HDBK-217F 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 JCJ10: 6 kV contact discharge, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 1 JCJ10: level 3, Perf Criteria A, (see note 5)
Surge	• JCJ08: EN61000-4-5, installation class 2, JCJ10: installation class 3, Perf Criteria A, (see note 5)
Conducted Immunity	• EN61000-4-6, 3 Vrms 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

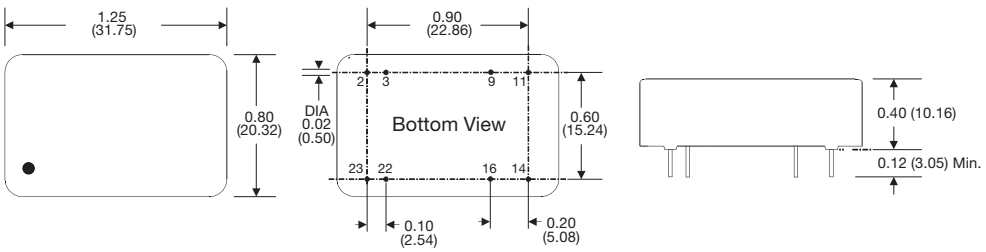
Models and Ratings

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

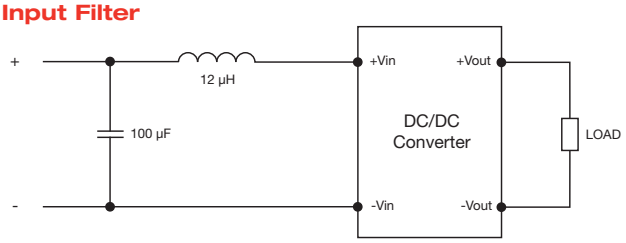
1. *Input current measured at nominal input voltage.*
2. *From 10% to 100% load.*
3. *When one output is set at 100% load and the other varied between 25% and 100% load*
4. *Measured with 20 MHz bandwidth and 1 µF ceramic capacitor across output rails.*
5. *A 220 µF/100 V capacitor across the input is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

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