

JCA04/06 Series



- Compact 1.0" x 0.8" Metal Package
- Industry Standard Pinout
- 2:1 Input Range
- Single & Dual Outputs
- Operating Temperature -40 °C to +100 °C
- 1500 VDC Isolation
- UL & TUV Approved

Specification

Input

Input Voltage Range	<ul style="list-style-type: none"> • 5 V (4.5-9.0 VDC) • 12 V (9-18 VDC) • 24 V (18-36 VDC) • 48 V (36-75 VDC)
Input Current	<ul style="list-style-type: none"> • See table
Input Filter	<ul style="list-style-type: none"> • Pi network
Undervoltage Lockout	<ul style="list-style-type: none"> • Turn On at >90-95% of rated input • Turn Off at <80% of rated input

Output

Output Voltage	<ul style="list-style-type: none"> • See table
Initial Set Accuracy	<ul style="list-style-type: none"> • $\pm 1\%$ max
Start Up Delay	<ul style="list-style-type: none"> • 200 ms max
Start Up Rise Time	<ul style="list-style-type: none"> • 3.5 ms typical
Line Regulation	<ul style="list-style-type: none"> • $\pm 0.3\%$
Load Regulation	<ul style="list-style-type: none"> • $\pm 1\%$
Cross Regulation	<ul style="list-style-type: none"> • $\pm 5\%$ on dual output models
Transient Response	<ul style="list-style-type: none"> • 4% max deviation, recovery to within 1% in <500 μs for a 25% load change at 1 A/μs
Ripple & Noise	<ul style="list-style-type: none"> • 50 mV pk-pk, 20 MHz BW
Overcurrent Protection	<ul style="list-style-type: none"> • 150% typical, trip & restart (Hiccup mode)
Short Circuit Protection	<ul style="list-style-type: none"> • Continuous with auto recovery
Overvoltage Protection	<ul style="list-style-type: none"> • 120% typical, Recycle input to reset
Temperature Coefficient	<ul style="list-style-type: none"> • $\pm 0.05\%/^{\circ}\text{C}$

General

Efficiency	<ul style="list-style-type: none"> • See table
Isolation	<ul style="list-style-type: none"> • 1500 VDC Input to Output, basic insulation • 500 VDC Input to Case • 500 VDC Output to Case
MTBF	<ul style="list-style-type: none"> • 400 kHrs to MIL-STD-217F

Environmental

Operating Temperature	<ul style="list-style-type: none"> • -40 °C to +100 °C output power derates from 100% load at +75 °C linearly to 0% load at +100 °C
Case Temperature	<ul style="list-style-type: none"> • +100 °C max
Storage Temperature	<ul style="list-style-type: none"> • -55 °C to +125 °C

EMC & Safety

Emissions	<ul style="list-style-type: none"> • EN55022, level A conducted & radiated (level B with external components - see application note)
ESD Immunity	<ul style="list-style-type: none"> • EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	<ul style="list-style-type: none"> • EN61000-4-3 3 V/m Perf Criteria A
Conducted Immunity	<ul style="list-style-type: none"> • EN61000-4-6 3 V rms Perf Criteria A • EN61000-4-8, 10 A/m Perf Criteria A
Safety Approvals	<ul style="list-style-type: none"> • EN60950-1: 2001, UL60950-1, CSA C22.2 No. 60950-1-03, CE Mark LVD

Models and Ratings

Input Voltage ⁽¹⁾	Output Voltage	Output Current	Input Current ⁽²⁾		Efficiency	Model Number
			No Load	Full Load		
4.5-9.0 VDC	3.3 VDC	1.22 A	44 mA	1000 mA	80%	JCA0405S03†^
	5.0 VDC	0.80 A	66 mA	955 mA	83%	JCA0405S05†^
	12.0 VDC	0.34 A	9 mA	975 mA	83%	JCA0405S12†^
	15.0 VDC	0.28 A	10 mA	985 mA	85%	JCA0405S15†^
	±5.0 VDC	±0.40 A	12 mA	982 mA	81%	JCA0405D01†^
	±12.0 VDC	±0.17 A	34 mA	973 mA	83%	JCA0405D02†^
	±15.0 VDC	±0.14 A	25 mA	998 mA	83%	JCA0405D03†^
9-18 VDC	3.3 VDC	1.22 A	38 mA	403 mA	83%	JCA0412S03†^
	5.0 VDC	0.80 A	46 mA	396 mA	84%	JCA0412S05†^
	12.0 VDC	0.34 A	18 mA	404 mA	84%	JCA0412S12†^
	15.0 VDC	0.28 A	22 mA	416 mA	84%	JCA0412S15†^
	±5.0 VDC	±0.40 A	15 mA	409 mA	82%	JCA0412D01†^
	±12.0 VDC	±0.17 A	21 mA	407 mA	83%	JCA0412D02†^
	±15.0 VDC	±0.14 A	25 mA	422 mA	83%	JCA0412D03†^
18-36 VDC	3.3 VDC	1.22 A	21 mA	204 mA	82%	JCA0424S03†^
	5.0 VDC	0.80 A	34 mA	205 mA	80%	JCA0424S05†^
	12.0 VDC	0.34 A	13 mA	205 mA	82%	JCA0424S12†^
	15.0 VDC	0.28 A	13 mA	211 mA	83%	JCA0424S15†^
	±5.0 VDC	±0.40 A	11 mA	207 mA	81%	JCA0424D01†^
	±12.0 VDC	±0.17 A	16 mA	209 mA	81%	JCA0424D02†^
	±15.0 VDC	±0.14 A	17 mA	213 mA	81%	JCA0424D03†^
36-75 VDC	3.3 VDC	1.22 A	13 mA	104 mA	80%	JCA0448S03†^
	5.0 VDC	0.80 A	14 mA	104 mA	80%	JCA0448S05†^
	12.0 VDC	0.34 A	6 mA	103 mA	80%	JCA0448S12†^
	15.0 VDC	0.28 A	7 mA	108 mA	81%	JCA0448S15†^
	±5.0 VDC	±0.40 A	7 mA	108 mA	78%	JCA0448D01†^
	±12.0 VDC	±0.17 A	8 mA	107 mA	79%	JCA0448D02†^
	±15.0 VDC	±0.14 A	10 mA	109 mA	80%	JCA0448D03†^

Input Voltage ⁽¹⁾	Output Voltage	Output Current	Input Current ⁽²⁾		Efficiency	Model Number
			No Load	Full Load		
4.5-9.0 VDC	3.3 VDC	1.52 A	44 mA	1286 mA	78%	JCA0605S03†^
	5.0 VDC	1.00 A	66 mA	1208 mA	82%	JCA0605S05†^
	12.0 VDC	0.50 A	9 mA	1451 mA	82%	JCA0605S12†^
	15.0 VDC	0.40 A	10 mA	1419 mA	84%	JCA0605S15†^
	±5.0 VDC	±0.50 A	12 mA	1239 mA	81%	JCA0605D01†^
	±12.0 VDC	±0.25 A	34 mA	1431 mA	83%	JCA0605D02†^
	±15.0 VDC	±0.20 A	25 mA	1430 mA	83%	JCA0605D03†^
9-18 VDC	3.3 VDC	1.52 A	38 mA	505 mA	82%	JCA0612S03†^
	5.0 VDC	1.00 A	46 mA	492 mA	84%	JCA0612S05†^
	12.0 VDC	0.50 A	18 mA	591 mA	84%	JCA0612S12†^
	15.0 VDC	0.40 A	22 mA	589 mA	85%	JCA0612S15†^
	±5.0 VDC	±0.50 A	15 mA	513 mA	82%	JCA0612D01†^
	±12.0 VDC	±0.25 A	21 mA	591 mA	84%	JCA0612D02†^
	±15.0 VDC	±0.20 A	25 mA	597 mA	83%	JCA0612D03†^
18-36 VDC	3.3 VDC	1.52 A	21 mA	255 mA	82%	JCA0624S03†^
	5.0 VDC	1.00 A	34 mA	252 mA	82%	JCA0624S05†^
	12.0 VDC	0.50 A	13 mA	297 mA	84%	JCA0624S12†^
	15.0 VDC	0.40 A	13 mA	297 mA	84%	JCA0624S15†^
	±5.0 VDC	±0.50 A	11 mA	257 mA	81%	JCA0624D01†^
	±12.0 VDC	±0.25 A	16 mA	299 mA	84%	JCA0624D02†^
	±15.0 VDC	±0.20 A	17 mA	296 mA	84%	JCA0624D03†^
36-75 VDC	3.3 VDC	1.52 A	13 mA	130 mA	80%	JCA0648S03†^
	5.0 VDC	1.00 A	14 mA	128 mA	81%	JCA0648S05†^
	12.0 VDC	0.50 A	6 mA	149 mA	84%	JCA0648S12†^
	15.0 VDC	0.40 A	7 mA	149 mA	84%	JCA0648S15†^
	±5.0 VDC	±0.50 A	7 mA	131 mA	80%	JCA0648D01†^
	±12.0 VDC	±0.25 A	8 mA	150 mA	83%	JCA0648D02†^
	±15.0 VDC	±0.20 A	10 mA	150 mA	83%	JCA0648D03†^

Notes

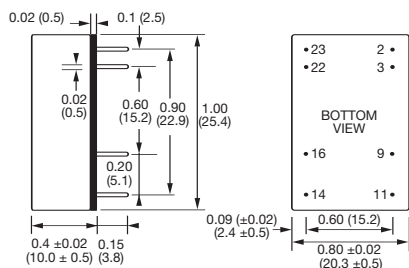
1. Nominal input voltage 5, 12, 24 or 48 VDC.

† Available from Farnell. See pages 204-206.

2. Input current is at nominal input voltage.

^ Available from Newark. See pages 207-208.

Mechanical Details

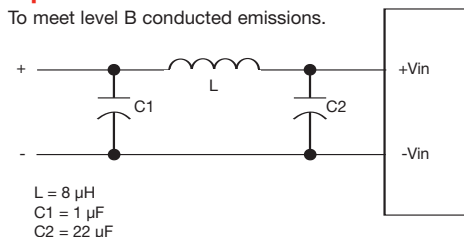


PIN CONNECTIONS		
Pin	Single Output	Dual Output
2	-Vin	-Vin
3	-Vin	-Vin
9	No pin	Common
11	N/C	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Weight: 0.03 lbs (12 g)

Input Filter

To meet level B conducted emissions.



L = 8 µH
C1 = 1 µF
C2 = 22 µF

