4/6 Watts
JCA Series





- Compact 1.0”x 0.8”Metal Package
- Industry Standard Pin Out
- 2:1 Input Range
- Single & Dual Outputs
- Operating Temperature –40 °C to +100 °C
- UL & TUV Approved
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 5 V (4.5-9.0 VDC), 12 V (9-18 VDC) 24 V (18-36 VDC), 48 V (36-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Surge	• 5 V models 10 V for 1 s max, 12 V models 25 V for 1 s max, 24 V models 50 V for 1 s max, 48 V models 100 V for 1 s max
Input Reflected Ripple	• 80 mA for 5 V models 30 mA for all other models

Output

Output Voltage	• See table
Initial Set Accuracy	• ±1% max
Start Up Delay	• 200 ms max
Start Up Rise Time	• 3.5 ms typical
Minimum Load	• No minimum load required
Line Regulation	• ±0.3%
Load Regulation	• ±1%
Cross Regulation	• ±5% on dual output models
Transient Response	• 4% max deviation, recovery to within 1% in <500 µs for a 25% load change at 1 A/µs
Ripple & Noise	• 50 mV pk-pk, 20 MHz bandwidth
Overcurrent Protection	• 150% typical, trip & restart (hiccup mode)
Short Circuit Protection	• Continuous with auto recovery
Overvoltage Protection	• 150% typical, Recycle input to reset
Temperature Coefficient	• ±0.05%/°C

General

Efficiency	• See table
Isolation	• 1500 VDC Input to Output, basic insulation 500 VDC Input to Case 500 VDC Output to Case
Switching Frequency	• 300 kHz typical
Power Density	• JCA04: 12.5 W/in^3, JCA06: 18.8 W/in^3
MTBF	• 1.0 MHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -40 °C to +100 °C output power derates from 100% load at +75 °C linearly to 0% load at +100 °C
Case Temperature	• +100 °C max
Storage Temperature	• -55 °C to +125 °C
Cooling	• Convection cooled
Operating Humidity	• Up to 95% RH, non-condensing

EMC & Safety

Emissions	• EN55032, level A conducted & radiated (level B with external components, see application note)
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3 3 V/m Perf Criteria A
Conducted Immunity	• EN61000-4-6 3 V rms Perf Criteria A
Magnetic Fields	• EN61000-4-8, 10 A/m, Perf Criteria A
Safety Approvals	• EN62368-1 UL60950-1, UL62368-1 CSA C22.2 No. 60950-1 and 62368-1 IEC60950-1, IEC62368-1, CE & UKCA meets all applicable directives & legislation

Models and Ratings

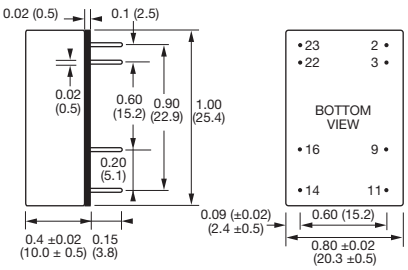
Input Voltage[1]	Output Voltage	Output Current	Input Current[2]		Efficiency	Max. Capacitive Load	Model Number
			No Load	Full Load			
4.5-9.0 VDC	3.3 VDC	1.22 A	44 mA	1000 mA	80%	470 µF	JCA0405S03
	5.0 VDC	0.80 A	66 mA	955 mA	83%	1000 µF	JCA0405S05
	12.0 VDC	0.34 A	9 mA	975 mA	84%	300 µF	JCA0405S12
	15.0 VDC	0.28 A	10 mA	985 mA	85%	200 µF	JCA0405S15
	±5.0 VDC	±0.40 A	12 mA	982 mA	81%	400 µF	JCA0405D01
	±12.0 VDC	±0.17 A	34 mA	973 mA	83%	120 µF	JCA0405D02
	±15.0 VDC	±0.14 A	25 mA	998 mA	83%	150 µF	JCA0405D03
9-18 VDC	3.3 VDC	1.22 A	38 mA	403 mA	83%	1520 µF	JCA0412S03
	5.0 VDC	0.80 A	46 mA	396 mA	82%	1000 µF	JCA0412S05
	12.0 VDC	0.34 A	18 mA	404 mA	82%	222 µF	JCA0412S12
	15.0 VDC	0.28 A	22 mA	416 mA	84%	133 µF	JCA0412S15
	±5.0 VDC	±0.40 A	15 mA	409 mA	82%	400 µF	JCA0412D01
	±12.0 VDC	±0.17 A	21 mA	407 mA	83%	100 µF	JCA0412D02
	±15.0 VDC	±0.14 A	25 mA	422 mA	83%	100 µF	JCA0412D03
18-36 VDC	3.3 VDC	1.22 A	21 mA	204 mA	82%	1520 µF	JCA0424S03
	5.0 VDC	0.80 A	34 mA	205 mA	80%	1000 µF	JCA0424S05
	12.0 VDC	0.34 A	13 mA	205 mA	82%	500 µF	JCA0424S12
	15.0 VDC	0.28 A	13 mA	211 mA	83%	300 µF	JCA0424S15
	±5.0 VDC	±0.40 A	11 mA	207 mA	81%	400 µF	JCA0424D01
	±12.0 VDC	±0.17 A	16 mA	209 mA	83%	250 µF	JCA0424D02
	±15.0 VDC	±0.14 A	17 mA	213 mA	81%	150 µF	JCA0424D03
36-75 VDC	3.3 VDC	1.22 A	13 mA	104 mA	82%	1520 µF	JCA0448S03
	5.0 VDC	0.80 A	14 mA	104 mA	80%	1000 µF	JCA0448S05
	12.0 VDC	0.34 A	6 mA	103 mA	80%	500 µF	JCA0448S12
	15.0 VDC	0.28 A	7 mA	108 mA	81%	300 µF	JCA0448S15
	±5.0 VDC	±0.40 A	7 mA	108 mA	80%	400 µF	JCA0448D01
	±12.0 VDC	±0.17 A	8 mA	107 mA	82%	250 µF	JCA0448D02
	±15.0 VDC	±0.14 A	10 mA	109 mA	82%	150 µF	JCA0448D03

Input Voltage[1]	Output Voltage	Output Current	Input Current[2]		Efficiency	Max. Capacitance	Model Number
			No Load	Full Load			
4.5-9.0 VDC	3.3 VDC	1.52 A	44 mA	1286 mA	82%	1000 µF	JCA0605S03
	5.0 VDC	1.00 A	66 mA	1208 mA	84%	1000 µF	JCA0605S05
	12.0 VDC	0.50 A	9 mA	1451 mA	84%	330 µF	JCA0605S12
	15.0 VDC	0.40 A	10 mA	1419 mA	84%	330 µF	JCA0605S15
	±5.0 VDC	±0.50 A	12 mA	1239 mA	81%	500 µF	JCA0605D01
	±12.0 VDC	±0.25 A	34 mA	1431 mA	83%	300 µF	JCA0605D02
	±15.0 VDC	±0.20 A	25 mA	1430 mA	83%	200 µF	JCA0605D03
9-18 VDC	3.3 VDC	1.52 A	38 mA	505 mA	82%	1520 µF	JCA0612S03
	5.0 VDC	1.00 A	46 mA	492 mA	82%	1000 µF	JCA0612S05
	12.0 VDC	0.50 A	18 mA	591 mA	84%	222 µF	JCA0612S12
	15.0 VDC	0.40 A	22 mA	589 mA	85%	330 µF	JCA0612S15
	±5.0 VDC	±0.50 A	15 mA	513 mA	82%	500 µF	JCA0612D01
	±12.0 VDC	±0.25 A	21 mA	591 mA	84%	150 µF	JCA0612D02
	±15.0 VDC	±0.20 A	25 mA	597 mA	83%	100 µF	JCA0612D03
18-36 VDC	3.3 VDC	1.52 A	21 mA	255 mA	82%	1520 µF	JCA0624S03
	5.0 VDC	1.00 A	34 mA	252 mA	82%	1000 µF	JCA0624S05
	12.0 VDC	0.50 A	13 mA	297 mA	84%	500 µF	JCA0624S12
	15.0 VDC	0.40 A	13 mA	297 mA	84%	330 µF	JCA0624S15
	±5.0 VDC	±0.50 A	11 mA	257 mA	81%	500 µF	JCA0624D01
	±12.0 VDC	±0.25 A	16 mA	299 mA	84%	300 µF	JCA0624D02
	±15.0 VDC	±0.20 A	17 mA	296 mA	84%	200 µF	JCA0624D03
36-75 VDC	3.3 VDC	1.52 A	13 mA	130 mA	82%	1520 µF	JCA0648S03
	5.0 VDC	1.00 A	14 mA	128 mA	81%	1000 µF	JCA0648S05
	12.0 VDC	0.50 A	6 mA	149 mA	84%	500 µF	JCA0648S12
	15.0 VDC	0.40 A	7 mA	149 mA	84%	330 µF	JCA0648S15
	±5.0 VDC	±0.50 A	7 mA	131 mA	80%	500 µF	JCA0648D01
	±12.0 VDC	±0.25 A	8 mA	150 mA	83%	300 µF	JCA0648D02
	±15.0 VDC	±0.20 A	10 mA	150 mA	83%	200 µF	JCA0648D03

Notes

1. Nominal input voltage 5, 12, 24 or 48 VDC.
2. Input current is at nominal input voltage.
3. Efficiency is measured at nominal input and full load at 25 °C.

Mechanical Details and Application Note



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

1. All dimensions are in inches (mm)
2. Weight: 0.03 lbs (12 g)
3. Pin diameter tolerance: ±0.00079 (±0.02)
4. Pin pitch tolerance: ±0.01 (±0.25)
5. Case tolerance: ±0.02 (±0.5)

Input Filter

To meet level B conducted emissions.

