

The JCA02 series is housed in a 25.4 x 20.3 x 10.2mm (1" x 0.8" x 0.4") PCB mount metal case. Featuring a 2:1 input voltage range of 4.5 to 9VDC, 9 to 18VDC, 18 to 36VDC or 36 to 75VDC with regulated single outputs of 3.3, 5, 12 & 15VDC and dual outputs ± 5 , ± 12 or ± 15 VDC.

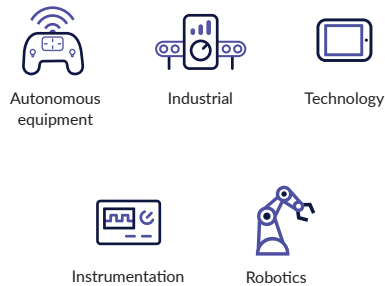
The 2W JCA02 has 1.5kVDC isolation between input and output, over voltage, overload & short circuit protection is standard. The operating temperature range is from -40°C to +100°C, with derating above +75°C.



Features

- ▶ Regulated single & dual outputs
- ▶ 2:1 input range
- ▶ Single outputs 3.3 to 15VDC
- ▶ Dual outputs ± 5.0 to ± 15 VDC
- ▶ 25.4 x 20.3mm (1.0" x 0.8") footprint, 10.2mm profile
- ▶ Metal case
- ▶ 1.5kVDC isolation
- ▶ -40°C to +100°C operating temperature
- ▶ Full power to +75°C
- ▶ 3 year warranty

Applications



Dimensions

25.4 x 20.3 x 10.2mm (1.00" x 0.80" x 0.40")

Documentation

For further information click the link or scan the code

→ xppower.com



Models & ratings

Model number	Input voltage	Output voltage ⁽¹⁾	Output current	Efficiency	Input current ⁽²⁾	
					No load	Full load
JCA0205S03	4.5-9.0VDC	3.3VDC	0.600A	69%	28mA	560mA
JCA0205S05		5.0VDC	0.400A	73%	10mA	535mA
JCA0205S12		12.0VDC	0.170A	74%	15mA	526mA
JCA0205S15		15.0VDC	0.140A	74%	26mA	559mA
JCA0205D01		± 5.0 VDC	± 0.200 A	74%	15mA	502mA
JCA0205D02		± 12.0 VDC	± 0.085 A	73%	19mA	537mA
JCA0205D03		± 15.0 VDC	± 0.070 A	70%	25mA	560mA

Continued on page 2

Notes:

1. Nominal input voltage 5, 12, 24 or 48VDC
2. Input current is at nominal input voltage

3. Efficiency is measured at nominal input and full load at +25°C

Models & ratings

Model number	Input voltage	Output voltage ⁽¹⁾	Output current	Efficiency	Input current ⁽²⁾	
					No load	Full load
JCA0212S03	9-18VDC	3.3VDC	0.600A	72%	8mA	225mA
JCA0212S05		5.0VDC	0.400A	74%	5mA	224mA
JCA0212S12		12.0VDC	0.170A	74%	5mA	223mA
JCA0212S15		15.0VDC	0.140A	74%	7mA	227mA
JCA0212D01		±5.0VDC	±0.200A	74%	10mA	219mA
JCA0212D02		±12.0VDC	±0.085A	74%	9mA	223mA
JCA0212D03		±15.0VDC	±0.070A	73%	11mA	232mA
JCA0224S03	18-36VDC	3.3VDC	0.600A	73%	3mA	112mA
JCA0224S05		5.0VDC	0.400A	75%	3mA	107mA
JCA0224S12		12.0VDC	0.170A	75%	4mA	109mA
JCA0224S15		15.0VDC	0.140A	75%	4mA	111mA
JCA0224D01		±5.0VDC	±0.200A	76%	3mA	107mA
JCA0224D02		±12.0VDC	±0.085A	76%	5mA	108mA
JCA0224D03		±15.0VDC	±0.070A	73%	6mA	115mA
JCA0248S03	36-75VDC	3.3VDC	0.600A	71%	3mA	62mA
JCA0248S05		5.0VDC	0.400A	70%	5mA	58mA
JCA0248S12		12.0VDC	0.170A	70%	3mA	58mA
JCA0248S15		15.0VDC	0.140A	72%	3mA	59mA
JCA0248D01		±5.0VDC	±0.200A	73%	2mA	56mA
JCA0248D02		±12.0VDC	±0.085A	73%	3mA	57mA
JCA0248D03		±15.0VDC	±0.070A	70%	3mA	60mA

Notes:

1. Nominal input voltage 5, 12, 24 or 48VDC.
 2. Input current is at nominal input voltage.

3. Efficiency is measured at nominal input and full load at +25°C.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	4.5		9	VDC	5VDC nominal
	9		18		12VDC nominal
	18		36		24VDC nominal
	36		75		48VDC nominal
Input current	See models & ratings table				
Input filter	Pi network				
Input reflected ripple		80		mA	5VDC input models, 30mA all others, 12μH inductor, 5Hz to 20MHz
Input surge		10		VDC	5VDC models (for 1s max)
		25			12VDC models (for 1s max)
		50			24VDC models (for 1s max)
		100			48VDC models (for 1s max)

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Initial set accuracy			±1	%	Single outputs models only
Minimum load	0			%	No minimum load required
Line regulation		±0.3		%	
Load regulation		±1		%	
Cross regulation		±5.0		%	Dual output models
Start up delay		30		ms	
Start up rise time		3.5		ms	
Transient response			4	%	Deviation, recovery to within 1% in <500µs for a 25% load change at 1A/µs
Ripple & noise		50		mV	Measured with 20MHz bandwidth
Overcurrent protection		150		%	Trip and restart (hiccup mode)
Short circuit protection	Continuous with auto recovery				
Temperature coefficient		±0.05		%/°C	
Overvoltage protection		150		%	Recycle input to reset
Temperature coefficient		±0.05		%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models & ratings table				
Isolation: input to output		1500		VDC	Basic insulation
Isolation: input to case		500			
Isolation: output to case		500			
Switching frequency		300		kHz	
Power density		102.4 (6.25)		W/cm³ (W/in³)	
Mean time between failure		2		mhrs	MIL-HDBK-217F, +25°C GB

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+100	°C	Output power derates from 100% load at +75°C linearly to 0% load at +100°C
Storage temperature	-55		+125	°C	
Case temperature			+100	°C	
Cooling	Convection cooled				
Operating humidity			95	%	RH, non condensing

Safety approvals

Certification	Standard	Notes & conditions
UL	UL62368-1, IEC62368-1	
EN	EN62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Level A	Level B with external components, see application note
Radiated	EN55032	Level B	

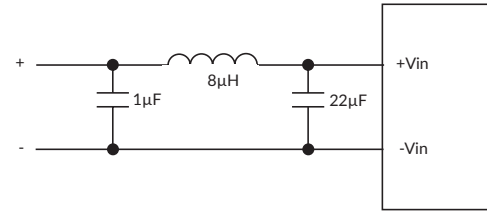
Immunity - EMC

Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	Level 2	A	
Radiated immunity	EN61000-4-3	3V/m	A	
Conducted immunity	EN61000-4-6	3Vrms	A	
Magnetic fields	EN61000-4-8	10A/m	A	

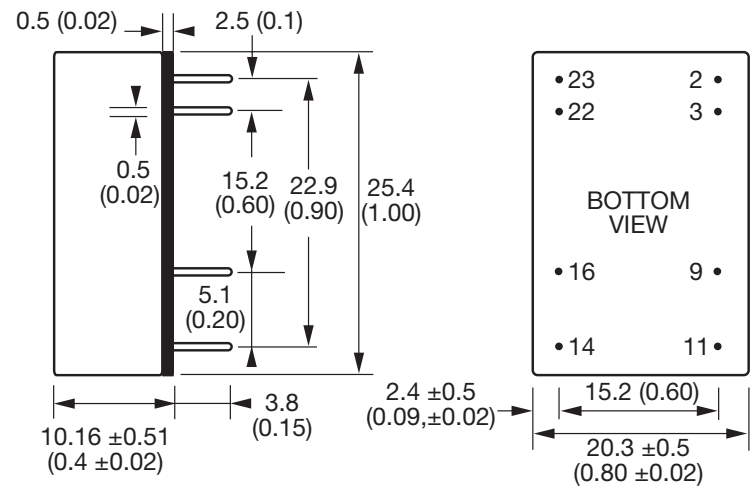
Application notes

Input filter

To meet level B conducted emissions.



Mechanical details



Pin connections		
Pin	Single	Dual
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

Notes:

1. All dimensions in mm (inches)

2. Weight: 12g (0.03lbs)

3. Pin diameter tolerance: ±0.02 (±0.00079)
4. Pin pitch tolerance: ±0.25 (±0.01)

5. Case tolerance: ±0.5 (±0.02)