

The JCA03 series is housed in a 25.4 x 20.3 x 10.2 mm (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.

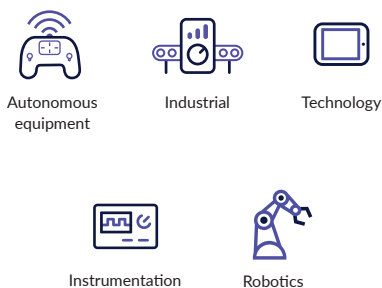
The 3W JCA03 has 1.5kVDC isolation between input and output, over voltage, overload & short circuit protection is standard. The operating temperature range is from -40°C to +100°C, with derating above +75°C.



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") metal case
- ▶ Industry standard pinout
- ▶ 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 10.1mm (1.00" x 0.80" x 0.40")

Models & ratings

Model number	Input voltage ⁽¹⁾	Output voltage	Output current	Efficiency	Input current ⁽²⁾	
					No load	Full load
JCA0305S03	4.5-9.0VDC	3.3VDC	0.910A	68%	28mA	873mA
JCA0305S05		5.0VDC	0.600A	74%	10mA	835mA
JCA0305S12		12.0VDC	0.260A	75%	15mA	805mA
JCA0305S15		15.0VDC	0.200A	74%	26mA	804mA
JCA0305D01		± 5.0 VDC	± 0.300 A	74%	15mA	778mA
JCA0305D02		± 12.0 VDC	± 0.130 A	74%	19mA	793mA
JCA0305D03		± 15.0 VDC	± 0.100 A	73%	25mA	820mA

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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 ⁽¹⁾	Output voltage	Output current	Efficiency	Input current ⁽²⁾	
					No load	Full load
JCA0312S03	9-18VDC	3.3VDC	0.910A	74%	8mA	333mA
JCA0312S05		5.0VDC	0.600A	75%	5mA	324mA
JCA0312S12		12.0VDC	0.260A	78%	5mA	315mA
JCA0312S15		15.0VDC	0.200A	77%	7mA	322mA
JCA0312D01		±5.0VDC	±0.300A	75%	10mA	325mA
JCA0312D02		±12.0VDC	±0.130A	75%	9mA	313mA
JCA0312D03		±15.0VDC	±0.100A	73%	11mA	322mA
JCA0324S03	18-36VDC	3.3VDC	0.910A	74%	3mA	165mA
JCA0324S05		5.0VDC	0.600A	77%	3mA	157mA
JCA0324S12		12.0VDC	0.260A	77%	4mA	154mA
JCA0324S15		15.0VDC	0.200A	77%	4mA	157mA
JCA0324D01		±5.0VDC	±0.300A	77%	3mA	156mA
JCA0324D02		±12.0VDC	±0.130A	77%	5mA	154mA
JCA0324D03		±15.0VDC	±0.100A	75%	6mA	160mA
JCA0348S03	36-75VDC	3.3VDC	0.910A	73%	3mA	82mA
JCA0348S05		5.0VDC	0.600A	74%	5mA	82mA
JCA0348S12		12.0VDC	0.260A	75%	6mA	79mA
JCA0348S15		15.0VDC	0.200A	75%	6mA	81mA
JCA0348D01		±5.0VDC	±0.300A	76%	2mA	79mA
JCA0348D02		±12.0VDC	±0.130A	76%	3mA	78mA
JCA0348D03		±15.0VDC	±0.100A	74%	3mA	82mA

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		0.57 (6.25)		W/cm ³ (W/in ³)	
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	

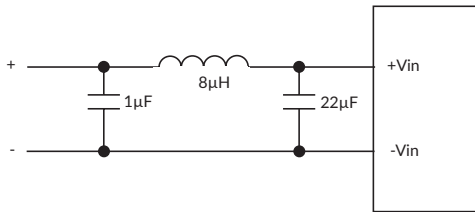
Immunity - EMC

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	

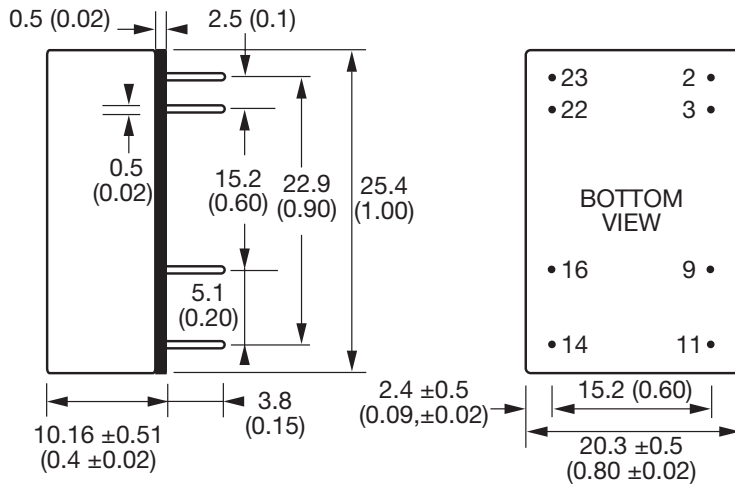
Application notes

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:

- All dimensions in mm (inches)
- Weight: 12g (0.03lbs)
- Pin diameter tolerance: ± 0.02 (± 0.00079)
- Pin pitch tolerance: ± 0.25 (± 0.01)
- Case tolerance: ± 0.5 (± 0.02)

Specifications subject to change without notice.