Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

30 Watts

JCK Series

- 2:1 Input Range
- Operating Temperature –40 °C to +75 °C
- Single and Dual Outputs
- High Efficiency – Up to 92%
- Remote On/Off
- 1600 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
Undervoltage Lockout	• 12 V models: ON 8.6 V, OFF 7.9 V typical 24 V models: ON 17.8 V, OFF 16 V typical 48 V models: ON 33.5 V, OFF 30.5 V typical
Input Reflected Ripple Current	• 20 mA pk-pk through 12 uH inductor
Input Surge	• 12 V models 25 VDC for 100 ms 24 V models 50 VDC for 100 ms 48 V models 100 VDC for 100 ms
Input Filter	• Pi network

Output

Output Voltage	• See table
Output Voltage Trim	• ±10% on single outputs models only
Start Up Delay	• 30 ms max
Minimum Load	• No minimum load required
Line Regulation	• ±0.5% max
Load Regulation	• Single output models: ±0.5% max Dual output models: ±1% max balanced outputs
Cross Regulation	• ±5% (see note 2)
Setpoint Accuracy	• ±1%
Ripple & Noise	• 100 mV pk-pk, 20 MHz bandwidth (see note 3)
Transient Response	• 3% max deviation, recovery to within 1% in <250 µs for a 25% load change
Temperature Coefficient	• 0.02%/°C
Overvoltage Protection	• 3.3 V models: 3.9 V typical 5 V models: 6.2 V typical 12 V models: 15 V typical 15 V models: 18 V typical ±5 V models: ±6.2 V typical ±12 V models: ±15 V typical ±15 V models: ±18 V typical
Overload Protection	• >150% of full load
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Remote On/Off	• See application notes
Maximum Capacitive Load	• See table

General

Efficiency	• See table
Isolation	• 1600 VDC Input to Output 1600 VDC Input to Case 1600 VDC Output to Case
Isolation Capacitance	• 1500 pF typical
Switching Frequency	• 330 kHz typical
Power Density	• 37.5 W/in^3
MTBF	• 430 kHrs min to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -40 °C to 75 °C, see derating curve
Case Temperature	• +105 °C max
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +125 °C

EMC

Emissions	• EN55022 level A conducted & radiated with external components, see application notes
ESD Immunity	• EN61000-4-2, level 3, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A[4]
Surge	• EN61000-4-5, installation class 3, Perf Criteria A[4]
Conducted Immunity	• EN61000-4-6, 10 Vrms, Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m, Perf Criteria A

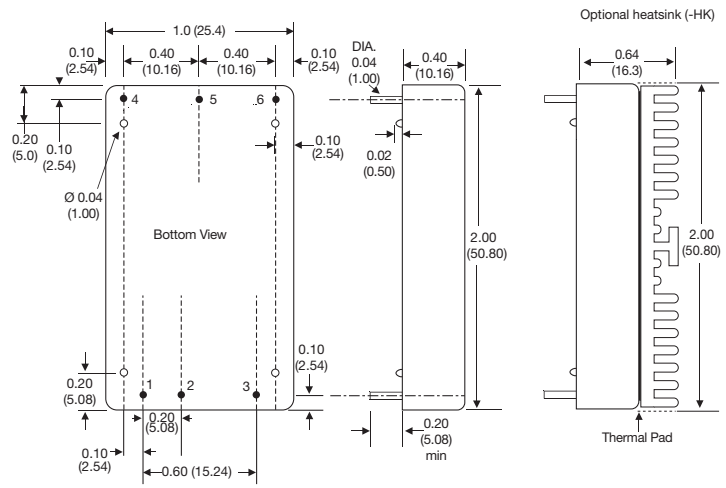
Models and Ratings

Input Voltage	Output Voltage	Output Current	Input Current[1]		Maximum Capacitive Load	Efficiency	Model Number
			No Load	Full Load			
9-18 VDC	3.3 V	8.00 A	80 mA	2426 mA	20000 µF	89%	JCK3012S3V3
	5.0 V	6.00 A	180 mA	2874 mA	14000 µF	91%	JCK3012S05
	5.1 V	6.00 A	160 mA	2874 mA	14000 µF	92%	JCK3012S5V1
	12.0 V	2.50 A	30 mA	2809 mA	2000 µF	91%	JCK3012S12
	15.0 V	2.00 A	30 mA	2809 mA	2000 µF	92%	JCK3012S15
	±5.0 V	±3.00 A	180 mA	2874 mA	±3000 µF	89%	JCK3012D05
	±12.0 V	±1.25 A	50 mA	2874 mA	±1250 µF	90%	JCK3012D12
	±15.0 V	±1.00 A	50 mA	2874 mA	±1000 µF	91%	JCK3012D15
18-36 VDC	3.3 V	8.00 A	70 mA	1185 mA	20000 µF	91%	JCK3024S3V3
	5.0 V	6.00 A	100 mA	1420 mA	14000 µF	92%	JCK3024S05
	5.1 V	6.00 A	100 mA	1448 mA	14000 µF	92%	JCK3024S5V1
	12.0 V	2.50 A	20 mA	1436 mA	2000 µF	92%	JCK3024S12
	15.0 V	2.00 A	40 mA	1420 mA	2000 µF	92%	JCK3024S15
	±5.0 V	±3.00 A	100 mA	1437 mA	±3000 µF	90%	JCK3024D05
	±12.0 V	±1.25 A	40 mA	1453 mA	±1250 µF	91%	JCK3024D12
	±15.0 V	±1.00 A	50 mA	1437 mA	±1000 µF	91%	JCK3024D15
36-75 VDC	3.3 V	8.00 A	50 mA	593 mA	20000 µF	90%	JCK3048S3V3
	5.0 V	6.00 A	70 mA	702 mA	14000 µF	91%	JCK3048S05
	5.1 V	6.00 A	70 mA	724 mA	14000 µF	91%	JCK3048S5V1
	12.0 V	2.50 A	30 mA	718 mA	2000 µF	91%	JCK3048S12
	15.0 V	2.00 A	30 mA	710 mA	2000 µF	91%	JCK3048S15
	±5.0 V	±3.00 A	70 mA	710 mA	±3000 µF	90%	JCK3048D05
	±12.0 V	±1.25 A	50 mA	718 mA	±1250 µF	90%	JCK3048D12
	±15.0 V	±1.00 A	40 mA	718 mA	±1000 µF	90%	JCK3048D15

Notes

1. *Input current specified at nominal input.*
2. *Cross regulation for duals is ±5% when one output is at 100% and the other is varied between 25% and 100%.*
3. *Measured with 1 µF ceramic capacitor across output rails.*
4. *A 220 µF/250 V capacitor across the input is required in order to meet EN61000-4-4 and EN61000-4-5.*
5. *For heatsink option add '-HK' to the end of the part number.*

Mechanical Details



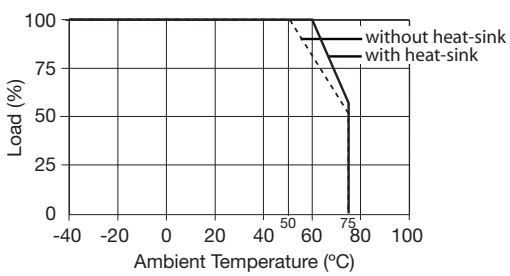
PIN CONNECTIONS		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	-Vout	Com
6	Trim	-Vout

Notes

1. All dimensions are in inches (mm).
2. Weight: 0.07 lbs (31 g) approx
3. Pin diameter: 0.04 ±0.002 (1.0 ±0.05)
4. Pin pitch tolerance: ±0.014 (±0.35)
5. Case tolerance: ±0.02 (±0.5)

Application Notes

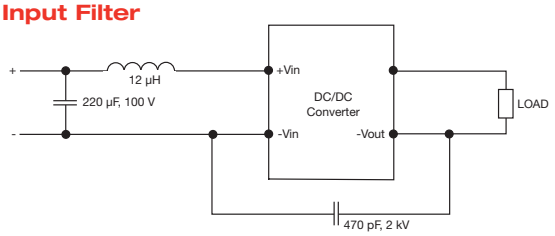
Derating Curve



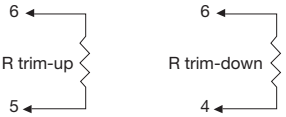
Remote On/Off Control

Output On >3.0 VDC or open circuit
Output Off <1.2 VDC or short circuit pins 2 & 3

Input Filter



External Output Trim



Output can be externally trimmed using this method.

Contact sales for details.