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

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

20 Watts

JCK Series

- 2:1 Input Range
- –40 °C to +100 °C Operating Temperature
- Single & Dual Outputs
- Remote On/Off
- High Efficiency – up to 93%
- 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 Surge	• 12 V models 36 VDC for 100 ms 24 V models 50 VDC for 100 ms 48 V models 100 VDC for 100 ms

Output

Output Voltage	• See table
Output Voltage Trim	• ±10% max on single outputs
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% for dual outputs (see note 2)
Setpoint Accuracy	• ±1% max
Start Up Delay	• <20 ms
Start Up Rise Time	• <5 ms
Ripple & Noise	• 75 mV pk-pk (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 ±12 V models: ±15 V typical ±15 V models: ±18 V typical
Overload Protection	• >140% of full load at nominal input
Short Circuit Protection	• Trip & restart (hiccup mode), auto recovery
Remote On/Off	• On = Logic High (>3.0 V) or Open Off = Logic Low (<1.2 V) or short pin 2 to pin 6
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	• 1200 pF typical
Isolation Resistance	• $10^9\Omega$ min
Switching Frequency	• 330 kHz typical
Power Density	• 25 W/in^3
MTBF	• >680 kHrs minimum to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -40 °C to +100 °C, derate from 100% load at +70 °C to 0% load at +100 °C
Case Temperature	• +100 °C max
Cooling	• Convection-cooled
Operating Humidity	• Up to 95% RH, non-condensing
Storage Temperature	• -40 °C to +125 °C

EMC

Emissions	• EN55022, Class A conducted & radiated with external components, see application note
ESD Immunity	• EN61000-4-2, 8 kV air, 6 kV contact, Perf Criteria A
Radiated Immunity	• EN61000-4-3 10 V/m, Perf Criteria A
EFT/Burst	• EN61000-4-4 level 3, Perf Criteria B*
Surge	• EN61000-4-5 level 2, Perf Criteria B*
Conducted Immunity	• EN61000-4-6 10 V/rms,Perf Criteria A
Magnetic Field	• EN61000-4-8 1 A/m, Perf Criteria A

**External input capacitor required 220 µF/100 V.*

Models and Ratings

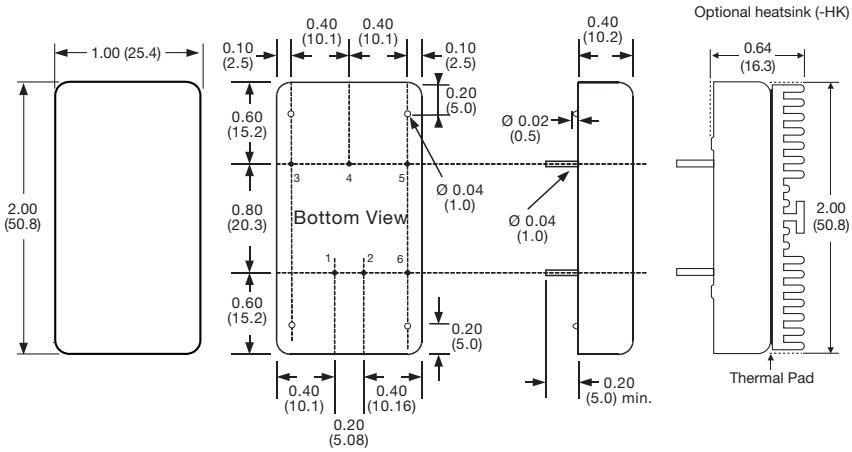
JCK20

Input Voltage	Output Voltage	Output Current	Input Current [1]		Maximum Capacitive Load	Efficiency	Model Number
			No Load	Full Load			
9-18 VDC	3.3 VDC	5.500 A	60 mA	1.74 A	10,000 µF	90%	JCK2012S3V3
	5.0 VDC	4.000 A	60 mA	1.87 A	6,800 µF	92%	JCK2012S05
	12.0 VDC	1.670 A	30 mA	1.92 A	1,000 µF	90%	JCK2012S12
	15.0 VDC	1.330 A	30 mA	1.92 A	680 µF	90%	JCK2012S15
	±12.0 VDC	±0.835 A	30 mA	1.94 A	±470 µF	89%	JCK2012D12
	±15.0 VDC	±0.665 A	30 mA	1.94 A	±330 µF	89%	JCK2012D15
18-36 VDC	3.3 VDC	5.500 A	35 mA	0.86 A	10,000 µF	91%	JCK2024S3V3
	5.0 VDC	4.000 A	35 mA	0.93 A	6,800 µF	93%	JCK2024S05
	12.0 VDC	1.670 A	25 mA	0.95 A	1,000 µF	91%	JCK2024S12
	15.0 VDC	1.330 A	25 mA	0.95 A	680 µF	91%	JCK2024S15
	±12.0 VDC	±0.835 A	30 mA	0.96 A	±470 µF	90%	JCK2024D12
	±15.0 VDC	±0.665 A	30 mA	0.96 A	±330 µF	90%	JCK2024D15
36-75 VDC	3.3 VDC	5.500 A	25 mA	0.43 A	10,000 µF	91%	JCK2048S3V3
	5.0 VDC	4.000 A	25 mA	0.46 A	6,800 µF	93%	JCK2048S05
	12.0 VDC	1.670 A	15 mA	0.47 A	1,000 µF	91%	JCK2048S12
	15.0 VDC	1.330 A	15 mA	0.47 A	680 µF	91%	JCK2048S15
	±12.0 VDC	±0.835 A	20 mA	0.48 A	±470 µF	90%	JCK2048D12
	±15.0 VDC	±0.665 A	20 mA	0.48 A	±330 µF	89%	JCK2048D15

Notes

1. *Input current specified at nominal 12, 24 V or 48 V input.*
2. *Cross regulation is ±5% when one output is at 100% and the other is varied between 25% and 100%.*
3. *Measured with 20 MHz bandwidth and 1 µF ceramic capacitor across output rails.*
4. *For heatsink option add '-HK' to the end of the part number.*

Mechanical Details



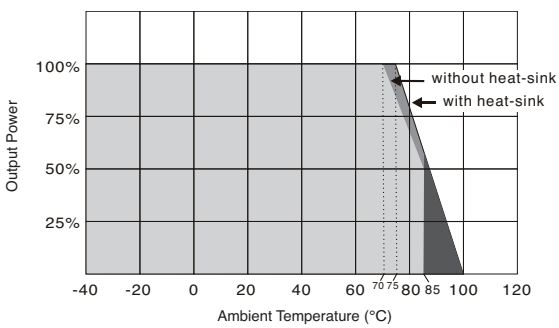
PIN CONNECTIONS		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Com
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

Notes

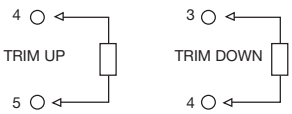
1. All dimensions are in inches (mm).
2. Weight: 0.07 lbs (30 g)
3. Pin diameter: 0.04 ±0.002 (1.0 ±0.05)
4. Pin pitch tolerance: ±0.014 (±0.35)
5. Case tolerance: ±0.02 (±0.5)

Application Notes

Derating Curve



External Output Trim



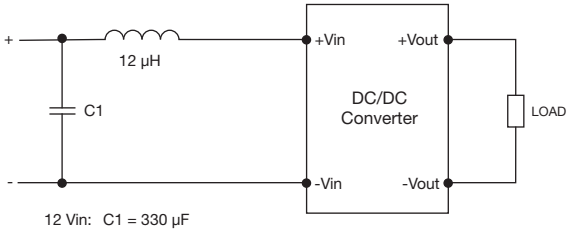
For 3.3 V output:
Trim +10%, R = 10 k typical
Trim - 10%, R = 15 k typical

For 5 V output:
Trim +10%, R = 10 k typical
Trim - 10%, R = 5 k typical

For 12 V output:
Trim +10%, R = 22 k typical
Trim - 10%, R = 5 k typical

For 15 V output:
Trim +10%, R = 20 k typical
Trim - 10%, R = 5 k typical

Input Filter



12 Vin: C1 = 330 µF
24 & 48 Vin: C1 = 220 µF

Remote On/Off Control

Output On >3.0 VDC or open circuit
Output Off <1.2 VDC or short circuit pins 2 & 6