



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!



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40 Watts

JTL Series



- 4:1 Input Range
- High Power Density
- Single and Dual Outputs
- High Efficiency – Up to 92%
- Remote On/Off
- 1600 VDC Isolation
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 24 V (9-36 VDC), 48 V (18-75 VDC)
Input Current	• See table
Input Reflected Ripple Current	• 20 mA pk-pk through 12 μ H inductor
Input Reverse Voltage Protection	• None
Undervoltage Lockout	• 24 V models: ON 8.6 V, OFF 7.9 V typical 48 V models: ON 17.8 V, OFF 16 V typical
Input Filter	• Pi network
Input Surge	• 24 V models 50 VDC for 100 ms 48 V models 100 VDC for 100 ms

Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 10\%$
Minimum Load	• No minimum load required
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• Single output models: $\pm 0.5\%$ max Dual output models: $\pm 1\%$ max balanced outputs
Cross Regulation	• $\pm 5\%$ for dual outputs (see note 2)
Setpoint Accuracy	• $\pm 1\%$
Start Up Time	• 25 ms typical
Ripple & Noise	• 50 mV pk-pk max for 3.3 V & 5 V models, 75 mV pk-pk max for other single output models, 150 mV pk-pk max for dual output models, 20 MHz bandwidth, (see note 3)
Transient Response	• 3% max deviation, recovery to within 1% in $< 250 \mu$ s for a 25% load change
Temperature Coefficient	• 0.02%/ $^{\circ}$ 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	• $> 130\%$ of full load
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Remote On/Off	• On = Logic High (> 3.0) or Open Off = Logic Low (< 1.2 V) or short pin 2 to 3
Max 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	• 2500 pF max
Switching Frequency	• 270 kHz, typical
Power Density	• 25 W/in ³
MTBF	• 150 kHrs min to MIL-HDBK-217F at 25 $^{\circ}$ C, GB

Environmental

Operating Temperature	• -40° C to $+85^{\circ}$ C, see derating curve
Case Temperature	• $+105^{\circ}$ C max
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40° C to $+125^{\circ}$ C

EMC & Safety

Emissions	• EN55022, class A conducted and radiated with external components
ESD Immunity	• EN61000-4-2, level 3, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A (see note 4)
Surge	• EN61000-4-5, installation class 2, Perf Criteria A (see note 4)
Conducted Immunity	• EN61000-4-6, 3 Vrms, Perf Criteria A
Magnetic Fields	• EN61000-4-8, 1 A/m, Perf Criteria A

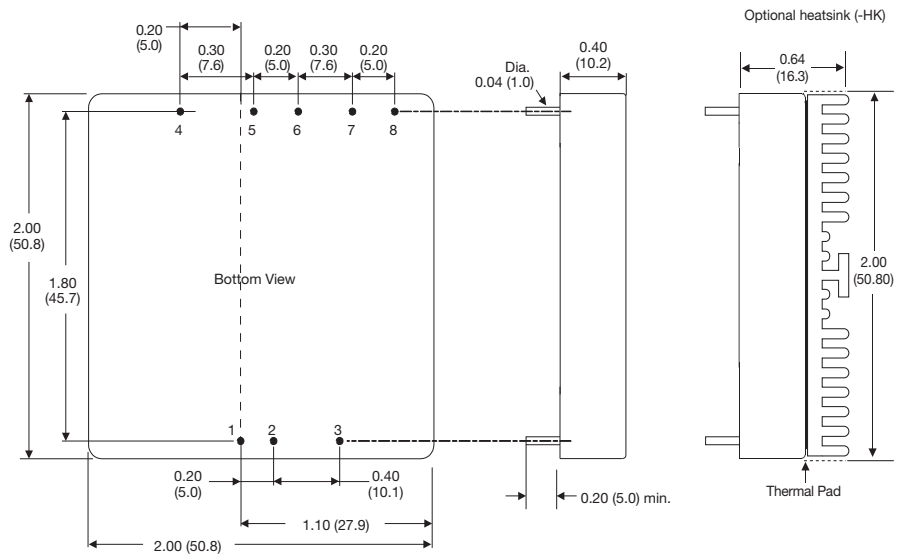
Models and Ratings

Input Voltage	Output Voltage	Output Current	Input Current ⁽¹⁾		Maximum Capacitive Load	Efficiency	Model Number
			No Load	Full Load			
9-36 VDC	3.3 V	10.00 A	80 mA	1600 mA	25000 μ F	89%	JTL4024S3V3
	5.0 V	8.00 A	100 mA	1900 mA	13000 μ F	91%	JTL4024S05
	12.0 V	3.35 A	50 mA	1930 mA	2300 μ F	90%	JTL4024S12
	15.0 V	2.65 A	50 mA	1910 mA	1500 μ F	90%	JTL4024S15
	\pm 12.0 V	\pm 1.65 A	60 mA	1920 mA	\pm 1200 μ F	89%	JTL4024D12
	\pm 15.0 V	\pm 1.35 A	60 mA	1960 mA	\pm 750 μ F	89%	JTL4024D15
18-75 VDC	3.3 V	10.00 A	60 mA	800 mA	25000 μ F	89%	JTL4048S3V3
	5.0 V	8.00 A	60 mA	940 mA	13000 μ F	92%	JTL4048S05
	12.0 V	3.35 A	30 mA	970 mA	2300 μ F	90%	JTL4048S12
	15.0 V	2.65 A	30 mA	940 mA	1500 μ F	91%	JTL4048S15
	\pm 12.0 V	\pm 1.65 A	30 mA	950 mA	\pm 1200 μ F	90%	JTL4048D12
	\pm 15.0 V	\pm 1.35 A	30 mA	970 mA	\pm 750 μ F	90%	JTL4048D15

Notes

- Input current specified at nominal 24 V or 48 V input.
- Cross regulation for duals is \pm 5% when one output is at 100% and the other is varied between 25% and 100%.
- Measured with 1 μ F ceramic capacitor across output rails.
- A 220 μ F/250 V capacitor across the input is required in order to meet EN61000-4-4 and EN61000-4-5.
- Efficiency is measured at full load and nominal input at 25 $^{\circ}$ C.
- For heatsink option, add '-HK' to the end of the part number.

Mechanical Details



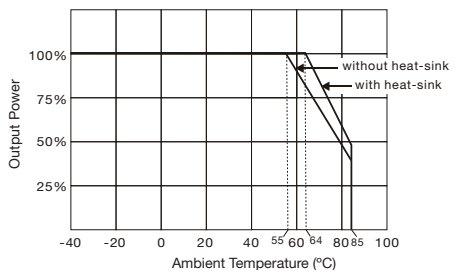
PIN CONNECTIONS		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	-Sense	+Vout
5	+Sense	Com
6	+Vout	Com
7	-Vout	-Vout
8	Trim	Trim

Notes

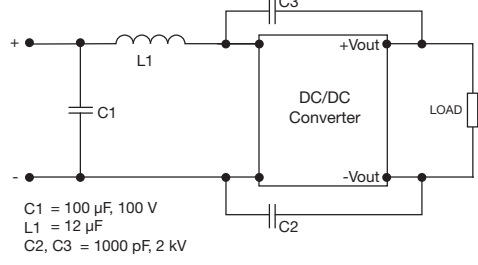
- All dimensions are in inches (mm).
- Weight: 0.07 lbs (30 g) approx
- Pin diameter: 0.04 \pm 0.002 (1.0 \pm 0.05)
- Pin pitch tolerance: \pm 0.014 (\pm 0.35)
- Case tolerance: \pm 0.02 (\pm 0.5)

Application Notes

Derating Curve



Input Filter



External Output Trim

