



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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JTL Series



- 4:1 Input Range
- High Power Density
- Single, Dual and Triple Outputs
- High Efficiency – Up to 91%
- 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	• 20 mA pk-pk through 12 μ H inductor
Input Filter	• Pi network
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 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	• $\pm 10\%$ on single outputs models only
Minimum Load	• No minimum load required for single and dual output models, 10% required on all outputs for triple output models
Line Regulation	• $\pm 0.2\%$ max for single and dual output models, $\pm 1.0\%$ main, $\pm 5\%$ auxiliary for triple output models
Load Regulation	• Single output models: $\pm 0.5\%$ max Dual output models: $\pm 1\%$ max balanced outputs Triple output models: $\pm 1\%$ max main, $\pm 5\%$ auxiliaries
Cross Regulation	• $\pm 5\%$ for dual and triples output (see note 2)
Setpoint Accuracy	• $\pm 1\%$ ($\pm 5\%$ for triple auxiliaries)
Start Up Time	• 30 ms typical
Ripple & Noise	• 100 mV or 1% pk-pk, whichever is greater single & dual output models, 50/75 mV pk-pk main/auxiliary outputs of triple 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
Temp. 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 ± 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
Overtemperature Protection	• 115 $^{\circ}$ C typical
Remote On/Off	• On = Logic High (> 3.0) or Open Off = Logic Low (< 1.2 V) or short pin 2 to 3
Maximum Capacitive Load	• See table

General

Efficiency	• See table
Isolation Voltage	• 1600 VDC Input to Output 1600 VDC Input to Case 1600 VDC Output to Case
Switching Frequency	• 330 kHz typical
Power Density	• 37.5 W/in ³
MTBF	• 320 kHrs min to MIL-HDBK-217F at 25 $^{\circ}$ C, GB

Environmental

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

EMC

Emissions	• EN55022, class A conducted & radiated with external components, see application note
ESD Immunity	• EN61000-4-2, level 3, Perf Criteria A
Radiated Immunity	• EN61000-4-3 10 V/m Perf Criteria A*
EFT/Burst	• EN61000-4-4 level 3, Perf Criteria A*
Surge	• EN61000-4-5 installation class 2, Perf Criteria A
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 μ F/250 V

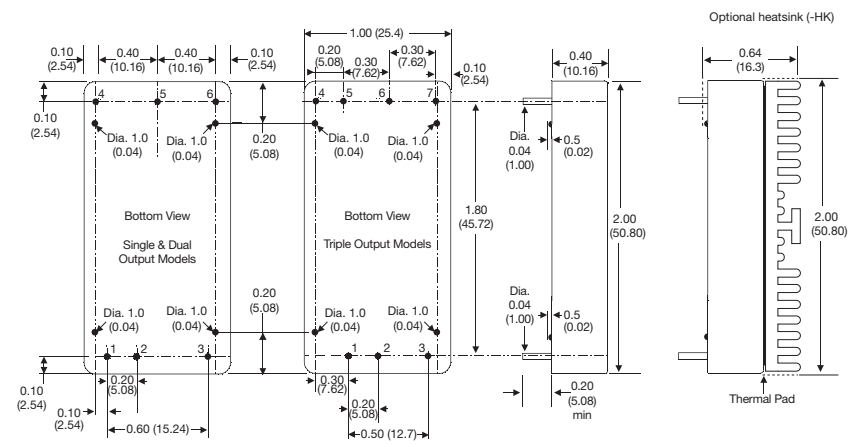
Models and Ratings

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	7.50 A	60 mA	1185 mA	20000 µF	89%	JTL3024S3V3
	5.0 V	6.00 A	100 mA	1420 mA	14000 µF	91%	JTL3024S05
	12.0 V	2.50 A	30 mA	1436 mA	2000 µF	90%	JTL3024S12
	15.0 V	2.00 A	30 mA	1420 mA	2000 µF	91%	JTL3024S15
	±5.0 V	±3.00 A	120 mA	1437 mA	±3000 µF	90%	JTL3024D05
	±12.0 V	±1.25 A	30 mA	1453 mA	±1300 µF	89%	JTL3024D12
	±15.0 V	±1.00 A	40 mA	1437 mA	±1300 µF	89%	JTL3024D15
	+3.3 V, ±12.0 V	5.00 A, ±0.42 A	80 mA	1287 mA	15000, ±220 µF	89%	JTL3024T0312
	+3.3 V, ±15.0 V	5.00 A, ±0.33 A	90 mA	1279 mA	15000, ±220 µF	89%	JTL3024T0315
	+5.0 V, ±12.0 V	4.00 A, ±0.42 A	100 mA	1440 mA	8000, ±220 µF	89%	JTL3024T0512
+5.0 V, ±15.0 V	4.00 A, ±0.33 A	110 mA	1431 mA	8000, ±220 µF	90%	JTL3024T0515	
18-75 VDC	3.3 V	7.50 A	50 mA	593 mA	20000 µF	89%	JTL3048S3V3
	5.0 V	6.00 A	60 mA	702 mA	14000 µF	91%	JTL3048S05
	12.0 V	2.50 A	30 mA	718 mA	2000 µF	90%	JTL3048S12
	15.0 V	2.00 A	30 mA	710 mA	2000 µF	90%	JTL3048S15
	±5.0 V	±3.00 A	70 mA	710 mA	±3000 µF	91%	JTL3048D05
	±12.0 V	±1.25 A	30 mA	718 mA	±1300 µF	90%	JTL3048D12
	±15.0 V	±1.00 A	40 mA	718 mA	±1300 µF	90%	JTL3048D15
	+3.3 V, ±12.0 V	5.00 A, ±0.42 A	50 mA	663 mA	15000, ±220 µF	89%	JTL3048T0312
	+3.3 V, ±15.0 V	5.00 A, ±0.33 A	50 mA	640 mA	15000, ±220 µF	89%	JTL3048T0315
	+5.0 V, ±12.0 V	4.00 A, ±0.42 A	60 mA	712 mA	8000, ±220 µF	91%	JTL3048T0512
+5.0 V, ±15.0 V	4.00 A, ±0.33 A	50 mA	707 mA	8000, ±220 µF	90%	JTL3048T0515	

Notes

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

Mechanical Details



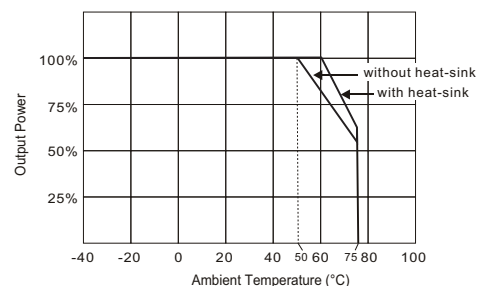
PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
3	Remote On/Off	Remote On/Off	Remote On/Off
4	+Vout	+Vout	+Vout 2
5	-Vout	Com	-Vout 3
6	Trim	-Vout	Com
7			+Vout 1

Notes

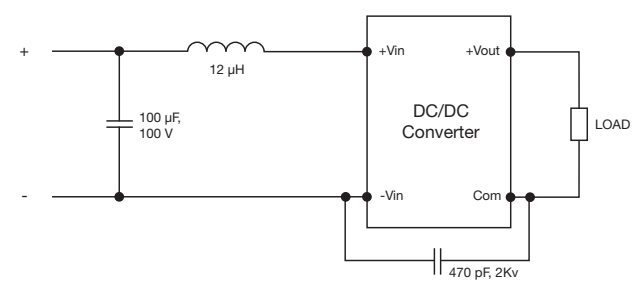
1. All dimensions are in inches (mm).
2. Weight: 0.07 lbs (30 g) approx
3. Pin diameter: 0.04 ±0.002 (1.0 ±0.05)
4. Pin pitch tolerance: ±0.014 (±0.35)
5. Case tolerance: ±0.02 (±0.5)

Application Notes

Derating Curve



Input Filter



External Output Trim

