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.

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4/6 Watts
JTC Series

- 4:1 Input Range
- DIP–24 Metal Package
- Operating Temperature –40 °C to +100 °C
- Single & Dual Outputs
- Continuous Short Circuit Protection
- 1500 VDC Isolation, 3500 VDC Option
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 24 V (9-36 VDC) 48 V (18-72 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Reflected Ripple	• 35 mA pk-pk through 12 µH inductor
Input Surge	• 24 V models 40 VDC for 100 ms 48 V models 80 VDC for 100 ms
Undervoltage Lockout	• None
Input Reverse Voltage Protection	• None

Output

Output Voltage	• See table
Output Voltage Balance	• ±1% max, dual output models
Minimum Load	• No minimum load required
Initial Set Accuracy	• ±1% max
Start Up Delay	• <800 ms
Start Up Rise Time	• <10 ms
Line Regulation	• ±0.5% max
Load Regulation	• ±0.5% max, ±1.5% max for 3.3 V and ±3.3 V models
Cross Regulation	• ±5% on dual output models (see note 4)
Transient Response	• <1.5% max deviation, recovery to within 1% in 200 µs for a 50% load change
Ripple & Noise	• 60 mV pk-pk for 3.3 V to 15 V models, 100 mV pk-pk for 18 V models, 150 mV pk-pk for 24 V models, 20 MHz bandwidth
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Maximum Capacitive Load	• See tables
Temperature Coefficient	• ±0.02/°C max

General

Efficiency	• See tables
Isolation Voltage	• 1500 VDC Input to Output, for optional high isolation version 3500 VDC input to output add suffix '-H' to model number 1000 VDC Input to Case 1000 VDC Output to Case
Isolation Resistance	• $10^9\Omega$
Switching Frequency	• 266 kHz typical
Power Density	• JTC04: 10 W/in^3, JTC06: 15 W/in^3
MTBF	• >1.0 MHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -40 °C to +100 °C, derate from 100% load at +85 °C to no load at +100 °C
Case Temperature	• +100 °C max
Storage Temperature	• -40 °C to +125 °C
Humidity	• Up to 95%, non-condensing
Cooling	• Natural convection

EMC

Emissions	• EN55022 class A conducted with external components - see application note
ESD Immunity	• EN61000-4-2, 8 kV air discharge Perf Criteria A, 4 kV contact discharge Perf Criteria A
EFT/Burst	• EN61000-4-4, level 1, Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 Vrms, Perf Criteria A
Magnetic Fields	• EN61000-4-8, 1 A/m, Perf Criteria A

Models and Ratings

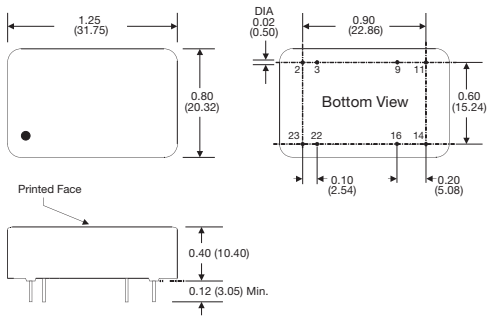
Input Voltage	Output Voltage	Output Current	Input Current[2]		Maximum Capacitive Load[3]	Efficiency	Model Number[1]
			No Load	Full Load			
9-36 V	3.3 V	1200 mA	12 mA	220 mA	1000 µF	75%	JTC0424S3V3
	5.0 V	800 mA	15 mA	211 mA	1000 µF	79%	JTC0424S05
	9.0 V	445 mA	12 mA	201 mA	220 µF	83%	JTC0424S09
	12.0 V	333 mA	15 mA	203 mA	100 µF	82%	JTC0424S12
	15.0 V	267 mA	15 mA	203 mA	220 µF	82%	JTC0424S15
	18.0 V	223 mA	15 mA	203 mA	10 µF	82%	JTC0424S18
	24.0 V	167 mA	18 mA	203 mA	220 µF	82%	JTC0424S24
	±3.3 V	±606 mA	12 mA	222 mA	±470 µF	75%	JTC0424D03
	±5.0 V	±400 mA	15 mA	211 mA	±100 µF	79%	JTC0424D05
	±9.0 V	±222 mA	18 mA	208 mA	±47 µF	80%	JTC0424D09
	±12.0 V	±167 mA	15 mA	203 mA	±47 µF	82%	JTC0424D12
	±15.0 V	±134 mA	20 mA	208 mA	±10 µF	80%	JTC0424D15
	±24.0 V	±84 mA	18 mA	208 mA	±22 µF	80%	JTC0424D24
18-72 V	3.3 V	1200 mA	10 mA	110 mA	1000 µF	76%	JTC0448S3V3
	5.0 V	800 mA	8 mA	106 mA	470 µF	79%	JTC0448S05
	9.0 V	445 mA	10 mA	100 mA	330 µF	83%	JTC0448S09
	12.0 V	333 mA	12 mA	104 mA	1000 µF	80%	JTC0448S12
	15.0 V	267 mA	10 mA	99 mA	47 µF	84%	JTC0448S15
	18.0 V	223 mA	10 mA	99 mA	10 µF	84%	JTC0448S18
	24.0 V	167 mA	15 mA	102 mA	22 µF	82%	JTC0448S24
	±3.3 V	±606 mA	10 mA	107 mA	±680 µF	78%	JTC0448D03
	±5.0 V	±400 mA	15 mA	106 mA	±330 µF	79%	JTC0448D05
	±9.0 V	±222 mA	15 mA	104 mA	±47 µF	80%	JTC0448D09
	±12.0 V	±167 mA	12 mA	102 mA	±100 µF	82%	JTC0448D12
	±15.0 V	±134 mA	15 mA	104 mA	±100 µF	80%	JTC0448D15
	±24.0 V	±84 mA	15 mA	104 mA	±10 µF	80%	JTC0448D24

Input Voltage	Output Voltage	Output Current	Input Current[2]		Maximum Capacitive Load[3]	Efficiency	Model Number[1]
			No Load	Full Load			
9-36 V	3.3 V	1400 mA	12 mA	253 mA	1000 µF	76%	JTC0624S3V3
	5.0 V	1200 mA	10 mA	312 mA	1000 µF	80%	JTC0624S05
	9.0 V	667 mA	12 mA	301 mA	220 µF	83%	JTC0624S09
	12.0 V	500 mA	15 mA	301 mA	1000 µF	83%	JTC0624S12
	15.0 V	400 mA	18 mA	301 mA	470 µF	83%	JTC0624S15
	18.0 V	334 mA	15 mA	301 mA	47 µF	83%	JTC0624S18
	24.0 V	250 mA	18 mA	305 mA	47 µF	82%	JTC0624S24
	±3.3 V	±909 mA	12 mA	338 mA	±470 µF	74%	JTC0624D03
	±5.0 V	±600 mA	10 mA	312 mA	±680 µF	80%	JTC0624D05
	±9.0 V	±333 mA	18 mA	309 mA	±100 µF	81%	JTC0624D09
	±12.0 V	±250 mA	20 mA	301 mA	±330 µF	83%	JTC0624D12
	±15.0 V	±200 mA	22 mA	305 mA	±100 µF	82%	JTC0624D15
	±24.0 V	±125 mA	18 mA	312 mA	±22 µF	80%	JTC0624D24
18-72 V	3.3 V	1400 mA	15 mA	126 mA	1000 µF	76%	JTC0648S3V3
	5.0 V	1200 mA	8 mA	156 mA	1000 µF	80%	JTC0648S05
	9.0 V	667 mA	10 mA	153 mA	220 µF	82%	JTC0648S09
	12.0 V	500 mA	10 mA	151 mA	1000 µF	83%	JTC0648S12
	15.0 V	400 mA	10 mA	149 mA	100 µF	84%	JTC0648S15
	18.0 V	334 mA	10 mA	151 mA	10 µF	83%	JTC0648S18
	24.0 V	250 mA	12 mA	151 mA	22 µF	83%	JTC0648S24
	±3.3 V	±909 mA	10 mA	162 mA	±330 µF	77%	JTC0648D03
	±5.0 V	±600 mA	10 mA	158 mA	±470 µF	79%	JTC0648D05
	±9.0 V	±333 mA	15 mA	154 mA	±100 µF	81%	JTC0648D09
	±12.0 V	±250 mA	10 mA	152 mA	±100 µF	82%	JTC0648D12
	±15.0 V	±200 mA	15 mA	149 mA	±47 µF	84%	JTC0648D15
	±24.0 V	±125 mA	15 mA	154 mA	±22 µF	81%	JTC0648D24

Notes

1. *For optional 3500 VDC isolation add suffix '-H' to model number. For optional plastic case, add suffix'-P' to model number. For both options add suffix '-HP to model number.*
2. *Input current measured at nominal input voltage.*
3. *Maximum capacitive load is per output.*
4. *Cross regulation for duals is ±5% when one output is at 100% and the other is varied between 25% and 100%.*

Mechanical Details and Application Note



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

1. All dimensions are in inches (mm)
2. Weight: 0.04 lbs (17 g) approx.
3. Pin diameter: 0.02 ±0.002 (0.5 ±0.005)
4. Pin pitch tolerance: ±0.014 (±0.35)
5. Case tolerance: ±0.02 (±0.5)

Input Filter