



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



JTA Series



- 4:1 Input Range
- -40 °C to +100 °C Operating Temperature
- Single & Dual Outputs
- Overvoltage & Overcurrent Protection
- UL Safety Approvals
- Remote On/Off
- 3 Year Warranty

Specification

Input

Input Voltage Range	<ul style="list-style-type: none"> • 24 V (9-36 VDC) • 48 V (18-75 VDC)
Input Current	<ul style="list-style-type: none"> • JTA10: 1.65 A max at 9 VDC input • JTA15: 2.20 A max at 9 VDC input • JTA20: 2.90 A max at 9 VDC input
Input Filter	<ul style="list-style-type: none"> • Pi Network
Input Surge	<ul style="list-style-type: none"> • 24 V models: 50 VDC for 100ms • 48 V models: 100 VDC for 100 ms
Input Reflected Ripple Current	<ul style="list-style-type: none"> • 24 V models, with a 100 μF capacitor: JTA10: 20mA pk-pk, JTA15: 35mA pk-pk, JTA20: 60mA pk-pk, • 48 V models, with a 22 μF capacitor: JTA10: 30 mA pk-pk, JTA15: 20 mA pk-pk, JTA20: 30 mA pk-pk
Input Reverse Voltage Protection	<ul style="list-style-type: none"> • None

Output

Output Voltage	<ul style="list-style-type: none"> • See table
Output Voltage Trim	<ul style="list-style-type: none"> • $\pm 10\%$ (15 & 20 W models only)
Voltage Balance	<ul style="list-style-type: none"> • $\pm 1\%$ max dual models, 100% load
Minimum Load	<ul style="list-style-type: none"> • No minimum load required for single output models, 10% required for dual output models
Line Regulation	<ul style="list-style-type: none"> • $\pm 1\%$ max
Load Regulation	<ul style="list-style-type: none"> • Single output models: $\pm 1\%$ max • Dual output models: $\pm 2\%$ max for a 10-100% load change
Setpoint Accuracy	<ul style="list-style-type: none"> • $\pm 2\%$
Ripple & Noise	<ul style="list-style-type: none"> • Single output models: 50 mV pk-pk • Dual output models: 75 mV pk-pk typical at 20 MHz bandwidth
Transient Response	<ul style="list-style-type: none"> • 4% max deviation, recovery to within 1% in <500 μs for a 25% load change
Temperature Coefficient	<ul style="list-style-type: none"> • 0.02%/°C
Overvoltage Protection	<ul style="list-style-type: none"> • See table
Overcurrent Protection	<ul style="list-style-type: none"> • 120-190% • JTA10: Constant current, auto recovery • JTA15/20: Trip & restart (hiccup mode)
Short Circuit Protection	<ul style="list-style-type: none"> • Continuous with auto recovery
Remote On/Off	<ul style="list-style-type: none"> • On = Logic High or Open • Off = Logic Low or <1.8 V (15 & 20 W models only)
Maximum Capacitive Load	<ul style="list-style-type: none"> • Single outputs: 1000 μF, Dual outputs: 650 μF

General

Efficiency	<ul style="list-style-type: none"> • See table
Isolation Voltage	<ul style="list-style-type: none"> • 1500 VDC Input to Output
Isolation Resistance	<ul style="list-style-type: none"> • $10^9 \Omega$
Switching Frequency	<ul style="list-style-type: none"> • 300 kHz typical
Power Density	<ul style="list-style-type: none"> • JTA10: 11.4 W/in³ • JTA15: 10.4 W/in³ • JTA20: 13.9 W/in³
MTBF	<ul style="list-style-type: none"> • 1.0 MHrs to MIL-HDBK-217F at 25°C, GB

Environmental

Operating Temperature	<ul style="list-style-type: none"> • -40 °C to +100 °C, derate from 100% load at 70 °C (60 °C for JTA20) to no load at 100 °C
Case Temperature	<ul style="list-style-type: none"> • +100 °C max
Cooling	<ul style="list-style-type: none"> • Convection-cooled
Operating Humidity	<ul style="list-style-type: none"> • 5-95% RH, non-condensing
Storage Temperature	<ul style="list-style-type: none"> • -55 °C to +105 °C

EMC & Safety

Emissions	<ul style="list-style-type: none"> • EN55022, level A conducted (below -25 °C) level B conducted (-25 °C to +100 °C) (see note 1) • EN55022, level A radiated
ESD Immunity	<ul style="list-style-type: none"> • EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	<ul style="list-style-type: none"> • EN61000-4-3 3 Vrms, Perf Criteria A
Conducted Immunity	<ul style="list-style-type: none"> • EN61000-4-6 3 V/m, Perf Criteria A
Safety Approvals	<ul style="list-style-type: none"> • UL60950-1

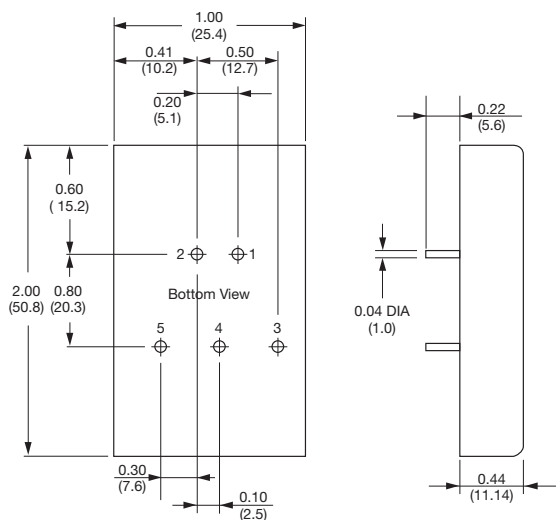
Models and Ratings

Input Voltage	Maximum Power	Overvoltage Protection	Output V1		Output V2		Efficiency ⁽²⁾	Model Number
			Voltage	Current	Voltage	Current		
9-36 VDC	6.6 W	3.9 V	3.3 V	2.00 A			77%	JTA1024S3V3
	10.0 W	6.8 V	5.0 V	2.00 A			79%	JTA1024S05
	10.0 W	15.0 V	12.0 V	0.83 A			81%	JTA1024S12
	10.0 W	18.0 V	15.0 V	0.67 A			81%	JTA1024S15
	10.0 W	6.8 V	+5.0 V	1.00 A	-5.0 V	1.00 A	80%	JTA1024D01
	10.0 W	15.0 V	+12.0 V	0.42 A	-12.0 V	0.42 A	80%	JTA1024D02
	10.0 W	18.0 V	+15.0 V	0.33 A	-15.0 V	0.33 A	80%	JTA1024D03
18-75 VDC	6.6 W	3.9 V	3.3 V	2.00 A			78%	JTA1048S3V3
	10.0 W	6.8 V	5.0 V	2.00 A			80%	JTA1048S05
	10.0 W	15.0 V	12.0 V	0.83 A			82%	JTA1048S12
	10.0 W	18.0 V	15.0 V	0.67 A			82%	JTA1048S15
	10.0 W	6.8 V	+5.0 V	1.00 A	-5.0 V	1.00 A	81%	JTA1048D01
	10.0 W	15.0 V	+12.0 V	0.42 A	-12.0 V	0.42 A	83%	JTA1048D02
	10.0 W	18.0 V	+15.0 V	0.33 A	-15.0 V	0.33 A	83%	JTA1048D03

Notes

- For EN55022 Level B performance below -25 °C, a 100 µF (24 VDC input), 22 µF (48 VDC input) electrolytic capacitor is required across the input of the converter.
- Efficiency is measured at nominal input, full load and 25 °C

Mechanical Details



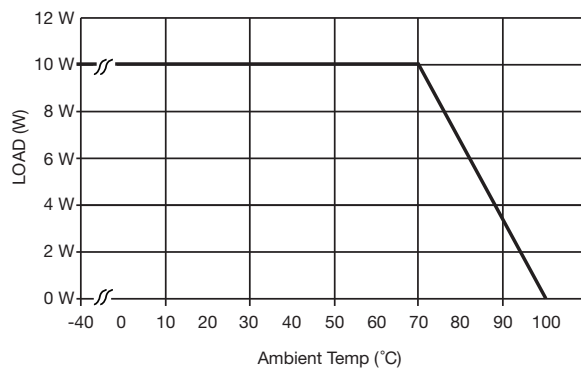
PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	+Input	+Input
2	-Input	-Input
3	+Output	+Output
4	No pin	Common
5	-Output	-Output

Notes

- All dimensions are in inches (mm)
- Weight: 0.06 lb (28 g) approx.
- Pin diameter tolerance: ±0.002 (±0.052)
- Pin pitch tolerance: ±0.01 (±0.25)
- Case tolerance: ±0.04 (±1.0)
- Packaging Style: Copper case with non-conducting base

Application Notes

Derating Curve



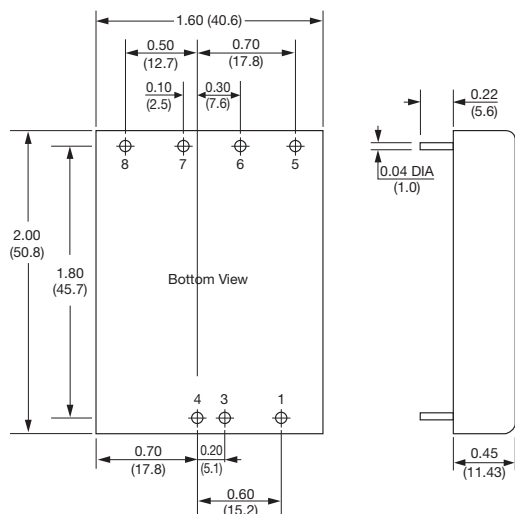
Models and Ratings

Input Voltage	Maximum Power	Overvoltage Protection	Output V1		Output V2		Efficiency ⁽²⁾	Model Number
			Voltage	Current	Voltage	Current		
9-36 VDC	10 W	3.9 V	3.3 V	3.000 A			76%	JTA1524S3V3
	15 W	6.8 V	5.0 V	3.000 A			80%	JTA1524S05
	15 W	15.0 V	12.0 V	1.250 A			82%	JTA1524S12
	15 W	18.0 V	15.0 V	1.000 A			82%	JTA1524S15
	15 W	6.8 V	+5.0 V	1.500 A	-5.0 V	1.500 A	80%	JTA1524D01
	15 W	15.0 V	+12.0 V	0.625 A	-12.0 V	0.625 A	82%	JTA1524D02
	15 W	18.0 V	+15.0 V	0.500 A	-15.0 V	0.500 A	82%	JTA1524D03
18-75 VDC	10 W	3.9 V	3.3 V	3.000 A			76%	JTA1548S3V3
	15 W	6.8 V	5.0 V	3.000 A			80%	JTA1548S05
	15 W	15.0 V	12.0 V	1.250 A			82%	JTA1548S12
	15 W	18.0 V	15.0 V	1.000 A			82%	JTA1548S15
	15 W	6.8 V	+5.0 V	1.500 A	-5.0 V	1.500 A	80%	JTA1548D01
	15 W	15.0 V	+12.0 V	0.625 A	-12.0 V	0.625 A	82%	JTA1548D02
	15 W	18.0 V	+15.0 V	0.500 A	-15.0 V	0.500 A	82%	JTA1548D03

Notes

- For EN55022 Level B performance below -25 °C, a 220 µF (24 VDC input), 47 µF (48 VDC input) electrolytic capacitor is required across the input of the converter.
- Efficiency is measured at nominal input, full load and 25 °C

Mechanical Details



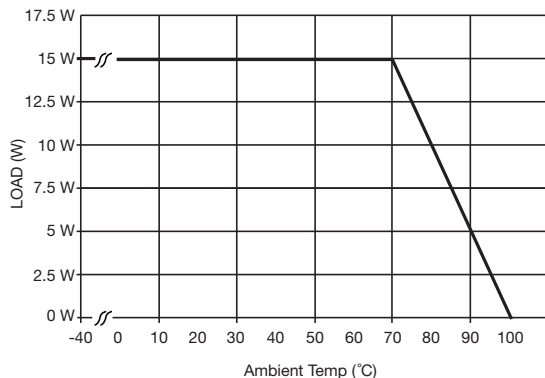
PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	On/Off control	On/Off control
3	-Vin	-Vin
4	+Vin	+Vin
5	Trim	Trim
6	-Vout	-Vout
7	+Vout	Common
8	No pin	+Vout

Notes

- All dimensions are in inches (mm)
- Weight: 0.11 lb (50 g) approx.
- Pin diameter tolerance: ±0.001 (±0.025)
- Pin pitch tolerance: ±0.01 (±0.25)
- Case tolerance: ±0.04 (±1.0)
- Packaging Style: Copper case with non-conducting base

Application Notes

Derating Curve



Output Trim

OUTPUT TRIM		
Output Voltage	R Trim Down (kΩ)	R Trim Up (kΩ)
3.3 V	(6.180 - (12.10 x ΔVo))/ΔVo	(3.484 - (7.511 x ΔVo))/ΔVo
5.0 V	(5.788 - (10.57 x ΔVo))/ΔVo	(5.788 - (8.250 x ΔVo))/ΔVo
12.0 V	(86.496 - (60.10 x ΔVo))/ΔVo	(19.763 - (14.366 x ΔVo))/ΔVo
15.0 V	(150.000 - (87.00 x ΔVo))/ΔVo	(25.585 - (14.516 x ΔVo))/ΔVo
±5.0 V	(68.296 - (48.10 x ΔVo))/ΔVo	(20.657 - (19.500 x ΔVo))/ΔVo
±12.0 V	(430.000 - (120.00 x ΔVo))/ΔVo	(42.141 - (13.793 x ΔVo))/ΔVo
±15.0 V	(743.000 - (177.00 x ΔVo))/ΔVo	(56.644 - (17.647 x ΔVo))/ΔVo

Note:

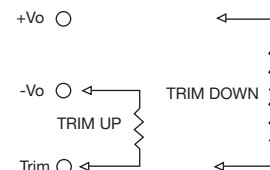
- ΔVo is the change in the trimmed output voltage from the nominal output voltage.

Example: JTA1524S05 trimmed to 5.3 V.
 For dual output models, Vo should be multiplied by 2.

$$\Delta V_o = 5.0 - 5.3 = 0.3 \text{ VDC}$$

The equation is $(5.788 - (8.25 \times \Delta V_o)) / \Delta V_o$

The value of resistor = $(5.788 - (8.25 \times 0.3)) / 0.3 = 11.04 \text{ k}\Omega$
 Connect the resistor between TRIM pin and -Vo pin.



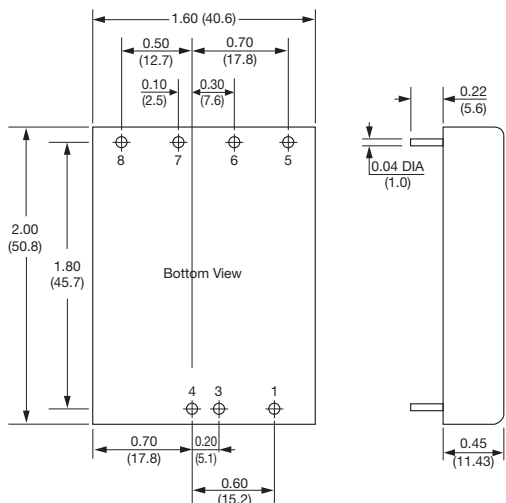
Models and Ratings

Input Voltage	Maximum Power	Overvoltage Protection	Output V1		Output V2		Efficiency ⁽²⁾	Model Number
			Voltage	Current	Voltage	Current		
9-36 VDC	13.2 W	3.9 V	3.3 V	4.00 A			78%	JTA2024S3V3
	20.0 W	6.8 V	5.0 V	4.00 A			81%	JTA2024S05
	20.0 W	15.0 V	12.0 V	1.67 A			83%	JTA2024S12
	20.0 W	18.0 V	15.0 V	1.33 A			83%	JTA2024S15
	20.0 W	6.8 V	+5.0 V	2.00 A	-5.0 V	2.00 A	83%	JTA2024D01
	20.0 W	15.0 V	+12.0 V	0.83 A	-12.0 V	0.83 A	83%	JTA2024D02
	20.0 W	18.0 V	+15.0 V	0.67 A	-15.0 V	0.67 A	83%	JTA2024D03
18-75 VDC	13.2 W	3.9 V	3.3 V	4.00 A			78%	JTA2048S3V3
	20.0 W	6.8 V	5.0 V	4.00 A			82%	JTA2048S05
	20.0 W	15.0 V	12.0 V	1.67 A			84%	JTA2048S12
	20.0 W	18.0 V	15.0 V	1.33 A			84%	JTA2048S15
	20.0 W	6.8 V	+5.0 V	2.00 A	-5.0 V	2.00 A	84%	JTA2048D01
	20.0 W	15.0 V	+12.0 V	0.83 A	-12.0 V	0.83 A	84%	JTA2048D02
	20.0 W	18.0 V	+15.0 V	0.67 A	-15.0 V	0.67 A	84%	JTA2048D03

Notes

- For EN55022 Level B performance below -25 °C, a 220 µF (24 VDC input), 47 µF (48 VDC input) electrolytic capacitor is required across the input of the converter.
- Efficiency is measured at nominal input, full load and 25 °C

Mechanical Details



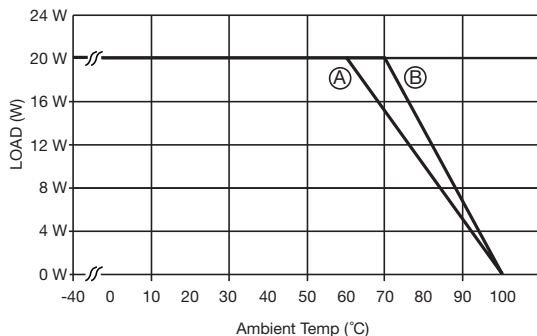
PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	On/Off control	On/Off control
3	-Vin	-Vin
4	+Vin	+Vin
5	Trim	Trim
6	-Vout	-Vout
7	+Vout	Common
8	No pin	+Vout

Notes

- All dimensions are in inches (mm)
- Weight: 0.11 lb (50 g) approx.
- Pin diameter tolerance: ±0.001 (±0.025)
- Pin pitch tolerance: ±0.01 (±0.25)
- Case tolerance: ±0.04 (±1.0)
- Packaging Style: Copper case with non-conducting base

Application Notes

Derating Curve



Curve A: Convection cooling
 100% load at +60 °C to 0% load at +100 °C

Curve B: 150 LFM airflow
 100% load at +70 °C to 0% load at +100 °C

Output Trim

Output voltage	OUTPUT TRIM	
	R Trim Down (kΩ)	R Trim Up (kΩ)
3.3 V	(6.180 - (12.10 x ΔVo))/ΔVo	(3.484 - (7.511 x ΔVo))/ΔVo
5.0 V	(5.788 - (10.57 x ΔVo))/ΔVo	(5.788 - (8.250 x ΔVo))/ΔVo
12.0 V	(86.496 - (60.10 x ΔVo))/ΔVo	(19.763 - (14.366 x ΔVo))/ΔVo
15.0 V	(150.000 - (87.00 x ΔVo))/ΔVo	(25.585 - (14.516 x ΔVo))/ΔVo
±5.0 V	(68.296 - (48.10 x ΔVo))/ΔVo	(20.657 - (19.500 x ΔVo))/ΔVo
±12.0 V	(430.000 - (120.00 x ΔVo))/ΔVo	(42.141 - (13.793 x ΔVo))/ΔVo
±15.0 V	(743.000 - (177.00 x ΔVo))/ΔVo	(56.644 - (17.647 x ΔVo))/ΔVo

Note:

- ΔVo is the change in the trimmed output voltage from the nominal output voltage.

Example: JTA2024S05 trimmed to 5.3 V. For dual output models, Vo should be multiplied by 2.

$$\Delta V_o = 5.0 - 5.3 = 0.3 \text{ VDC}$$

The equation is $(5.788 - (8.25 \times \Delta V_o)) / \Delta V_o$

The value of resistor = $(5.788 - (8.25 \times 0.3)) / 0.3 = 11.04 \text{ K}\Omega$

Connect the resistor between TRIM pin and -Vo pin.

