



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

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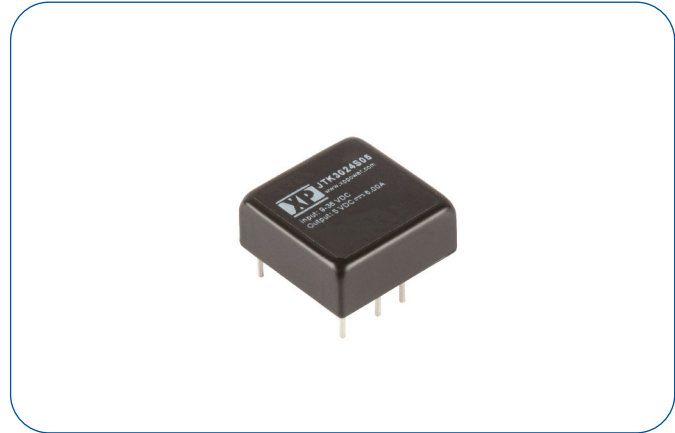
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### 30 Watts

- Single and Dual Outputs
- 1" x 1" Footprint
- -40 °C to +100 °C Operation
- Full Load at 55 °C Ambient
- 1600 VDC Isolation
- Output Trim  $\pm 10\%$
- Remote On/Off
- MTBF 370 kHrs
- 3 Year Warranty



#### Dimensions:

**JTK30:**  
1.0 x 1.0 x 0.43" (25.4 x 25.0 x 10.9 mm)

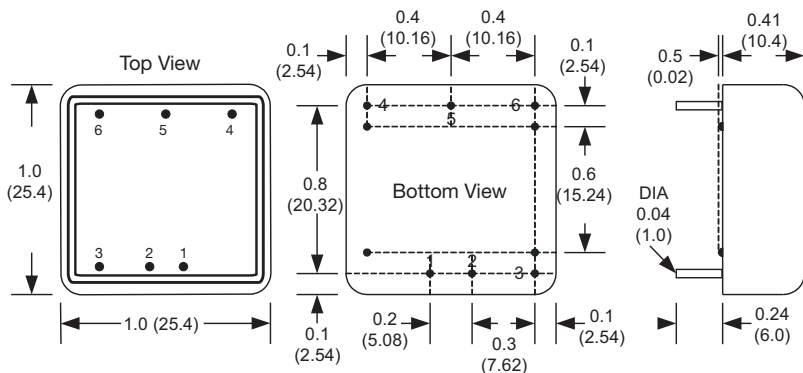
### Models & Ratings

Input Voltage	Output Voltage	Output Current	Input Current <sup>(1)</sup>		OVP setting	Efficiency	Max. capacitive load <sup>(2)</sup>	Model Number <sup>(3)</sup>
			No Load	Full Load				
9-36 V	3.3 V	7.0 A	10 mA	1095 mA	3.9 V	88%	10000 $\mu$ F	JTK3024S3V3
	5.0 V	6.0 A	10 mA	1405 mA	6.2 V	89%	7200 $\mu$ F	JTK3024S05
	12.0 V	2.5 A	10 mA	1405 mA	15.0 V	89%	1200 $\mu$ F	JTK3024S12
	15.0 V	2.0 A	10 mA	1375 mA	18.0 V	91%	1000 $\mu$ F	JTK3024S15
	$\pm 12.0$ V	$\pm 1.25$ A	10 mA	1405 mA	$\pm 15.0$ V	89%	$\pm 750$ $\mu$ F	JTK3024D12
18-75 V	$\pm 15$ V	$\pm 1.0$ A	10 mA	1375 mA	$\pm 18.0$ V	91%	$\pm 500$ $\mu$ F	JTK3024D15
	3.3 V	7.0 A	8 mA	540 mA	3.9 V	89%	10000 $\mu$ F	JTK3048S3V3
	5 V	6.0 A	8 mA	695 mA	6.2 V	90%	7200 $\mu$ F	JTK3048S05
	12 V	2.5 A	8 mA	695 mA	15.0 V	90%	1200 $\mu$ F	JTK3048S12
	15 V	2.0 A	8 mA	680 mA	18.0 V	92%	1000 $\mu$ F	JTK3048S15
	$\pm 12$ V	$\pm 1.25$ A	8 mA	695 mA	$\pm 15.0$ V	90%	$\pm 750$ $\mu$ F	JTK3048D12
$\pm 15$ V	$\pm 1.0$ A	8 mA	685 mA	$\pm 18.0$ V	91%	$\pm 500$ $\mu$ F	JTK3048D15	

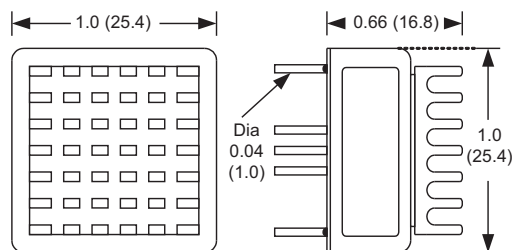
#### Notes

1. Input currents measured at nominal input voltage.
2. Maximum capacitive load is per output.
3. Add suffix '-HK' for optional heatsink.

### Mechanical Details



#### Optional Heatsink (-HK)



#### Notes

1. All dimensions are in inches (mm)
2. Weight: 0.042 lbs (19 g) approx.
3. Pin diameter: 0.04 $\pm$ 0.002 (1.0 $\pm$ 0.05)
4. Pin pitch tolerance:  $\pm 0.014$  ( $\pm 0.35$ )
5. Case tolerance:  $\pm 0.02$  ( $\pm 0.5$ )

Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	Trim	Common
6	-Vout	-Vout

### Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	9		36	VDC	24 V nominal
	18		75	VDC	48 V nominal
Input Reflected Ripple Current		30		mA pk-pk	Through 12 $\mu$ H inductor and 47 $\mu$ F capacitor
Input Surge			50	VDC for 100 ms	24 V models
			100	VDC for 100 ms	48 V models

### Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		30	VDC	See Models and Ratings table
Output Trim	$\pm 10$			%	Single Output Versions
Initial Set Accuracy			$\pm 1$	%	At full load
Minimum Load	0			%	No minimum load required
Line Regulation			$\pm 0.5$	%	From minimum to maximum input at full load
Load Regulation			0.5/1.0	%	From 0% to full load for single/dual output
Cross Regulation			$\pm 5$	%	On dual output models, when one output is at 100% load and other is varied from 25% load to full load
Ripple & Noise			75/60	mV pk-pk	Single output with 10 $\mu$ F/25 V X7R MLCC on output Dual output with 10 $\mu$ F/25 V X7R MLCC on each output measured using 20 MHz bandwidth
Overload Protection		170		%	
Short Circuit Protection					Trip and Restart (hiccup), with auto recovery
Maximum Capacitive Load					See Models and Ratings table
Temperature Coefficient			0.02	%/ $^{\circ}$ C	
Overvoltage Protection					See Models and Ratings table
Remote On/Off	Output is on if remote on/off (pin 3) is open Output turns off if remote on/off (pin 3) is low (<1.2 VDC)				

### General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		90		%	See Models and Ratings table
Isolation: Input to Output	1600			VDC	
Isolation: Input to Case	1600			VDC	
Switching Frequency		330		kHz	
Isolation Resistance	$10^9$			$\Omega$	
Isolation Capacitance			2000	pF	
Power Density			73	W/in <sup>3</sup>	
Mean Time Between Failure	370			kHrs	MIL-HDBK-217F, +25 $^{\circ}$ C GB
Weight		0.042 (19.0)		lb (g)	

### Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+100	$^{\circ}$ C	Derate from 100% load at +55 $^{\circ}$ C to 50% load at +80 $^{\circ}$ C or from 100% load at 60 $^{\circ}$ C to 50% load at 85 $^{\circ}$ C with optional heatsink
Storage Temperature	-55		+125	$^{\circ}$ C	
Case Temperature			+105	$^{\circ}$ C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection

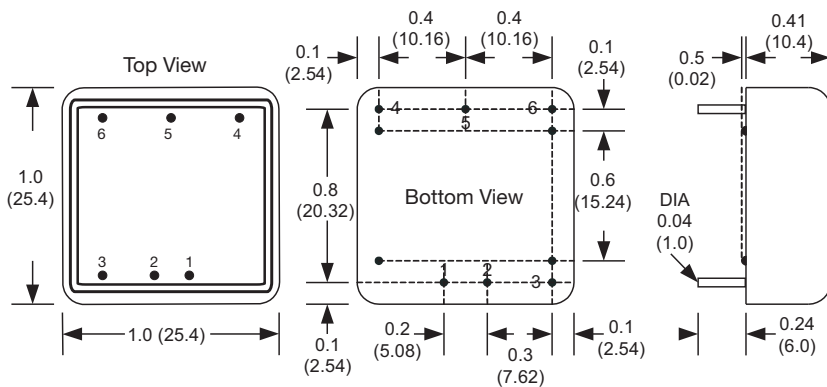
### EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55032	Class A	See Application Note
Radiated	EN55032	Class A	

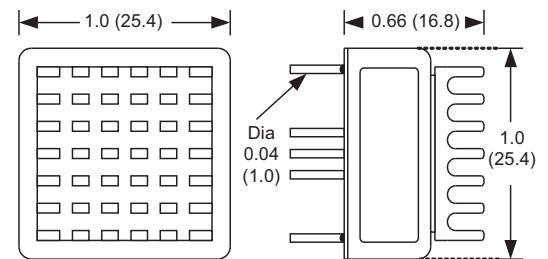
### EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD Immunity	EN61000-4-2	±6 kV / ±8 kV	A	Contact Discharge / Air Discharge
Radiated Immunity	EN61000-4-3	20 Vrms	A	
EFT/Burst	EN61000-4-4	2 kV	A	External input filter required, see applications note
Surge	EN61000-4-5	2 kV	A	External input filter required, see applications note
Conducted Immunity	EN61000-4-6	10 V rms	A	
Magnetic Fields	EN61000-4-8	100 A/m	A	

### Mechanical Details



### Optional Heatsink (-HK)



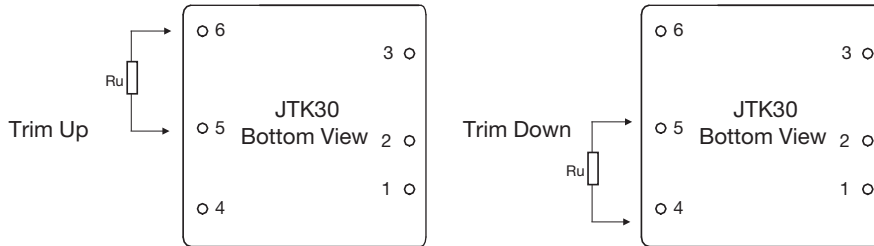
### Notes

- All dimensions are in inches (mm)
- Weight: 0.042 lbs (19 g) approx.
- Pin diameter: 0.04±0.002 (1.0±0.05)
- Pin pitch tolerance: ±0.014 (±0.35)
- Case tolerance: ±0.02 (±0.5)

Pin	Pin Connections	
	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	Trim	Common
6	-Vout	-Vout

### Application Notes

#### External Output Trimming



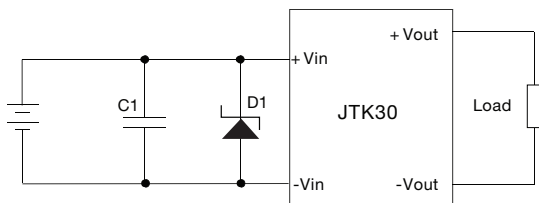
#### Trim Down Resistor Values (Rd)

Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
	Voutx0.99	Voutx0.98	Voutx0.97	Voutx0.96	Voutx0.95	Voutx0.94	Voutx0.93	Voutx0.92	Voutx0.91	Voutx0.90
3V3	72.61 k	32.55 k	19.20 k	12.52 k	8.51 k	5.84 k	3.94 k	2.51 k	1.39 k	0.50 k
5V	138.88 k	62.41 k	36.92 k	24.18 k	16.53 k	11.44 k	7.79 k	5.06 k	2.94 k	1.24 k
12V	413.55 k	184.55 k	108.22 k	70.05 k	47.15 k	31.88 k	20.98 k	12.80 k	6.44 k	1.35 k
15V	530.73 k	238.61 k	141.24 k	92.56 k	63.35 k	43.87 k	29.96 k	19.53 k	11.41 k	4.92 k

#### Trim Up Resistor Values (Ru)

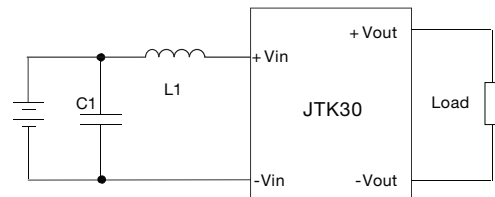
Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
	Voutx1.01	Voutx1.02	Voutx1.03	Voutx1.04	Voutx1.05	Voutx1.06	Voutx1.07	Voutx1.08	Voutx1.09	Voutx1.10
3V3	60.84 k	27.40 k	16.25 k	10.68 k	7.34 k	5.11 k	3.51 k	2.32 k	1.39 k	0.65 k
5V	106.87 k	47.76 k	28.06 k	18.21 k	12.30 k	8.36 k	5.55 k	3.44 k	1.79 k	0.48 k
12V	351.00 k	157.50 k	93.00 k	60.75 k	41.40 k	28.50 k	19.29 k	12.37 k	7.00 k	2.70 k
15V	422.77 k	189.89 k	112.26 k	73.44 k	50.15 k	34.63 k	23.54 k	15.22 k	8.75 k	3.58 k

#### External Filter for Surge and EFT



C1 is 330  $\mu$ F, 100 V electrolytic capacitor  
 D1 is 58 V, 3 kW TVS for 24 V input or 120 V, 3 kW TVS for 48 V input

#### External EMI Filter



Models	C1	L1
JTK3024	335 k / 50 V, X7R 1206	0.82 $\mu$ H
JTK3048	105 k / 50 V, X7R 1206	2.2 $\mu$ H