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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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### 30 Watts

- Single and Dual Outputs
- 2:1 Input Range
- 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:

##### JCM30:

1.0 x 1.0 x 0.41" (25.4 x 25.0 x 10.4 mm)

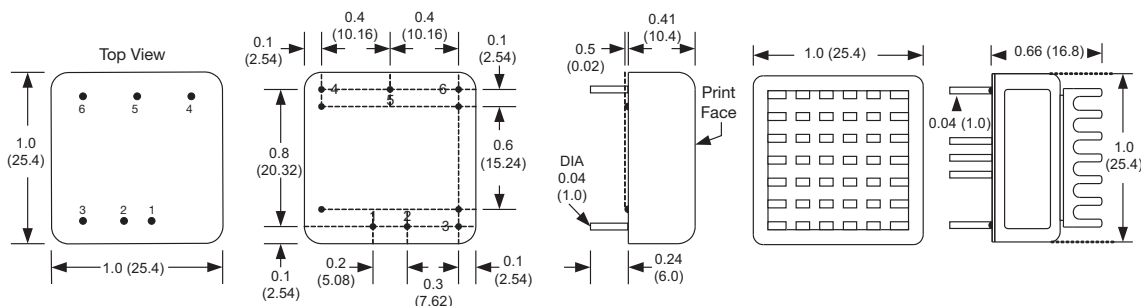
### Models & Ratings

Input Voltage	Output Voltage	Output Current	Input Current <sup>(1)</sup>		OVP setting	Efficiency	Max. capacitive load	Model Number <sup>(3)</sup>
			No Load	Full Load				
9-18 V	3.3 V	7.0 A	10 mA	2215 mA	3.9 V	87%	10000 $\mu$ F	JCM3012S3V3
	5.0 V	6.0 A	10 mA	2810 mA	6.2 V	89%	7200 $\mu$ F	JCM3012S05
	12.0 V	2.5 A	12 mA	2810 mA	15.0 V	89%	1200 $\mu$ F	JCM3012S12
	15.0 V	2.0 A	12 mA	2810 mA	18.0 V	89%	1000 $\mu$ F	JCM3012S15
	$\pm 12.0$ V	$\pm 1.25$ A	12 mA	2810 mA	$\pm 15.0$ V	89%	$\pm 750$ $\mu$ F	JCM3012D12
18-36 V	$\pm 15$ V	$\pm 1.0$ A	14 mA	2780 mA	$\pm 18.0$ V	90%	$\pm 500$ $\mu$ F	JCM3012D15
	3.3 V	7.0 A	10 mA	1105 mA	3.9 V	87%	10000 $\mu$ F	JCM3024S3V3
	5 V	6.0 A	10 mA	1390 mA	6.2 V	90%	7200 $\mu$ F	JCM3024S05
	12 V	2.5 A	10 mA	1375 mA	15.0 V	91%	1200 $\mu$ F	JCM3024S12
	15 V	2.0 A	10 mA	1375 mA	18.0 V	91%	1000 $\mu$ F	JCM3024S15
36-75 V	$\pm 12$ V	$\pm 1.25$ A	10 mA	1375 mA	$\pm 15.0$ V	91%	$\pm 750$ $\mu$ F	JCM3024D12
	$\pm 15$ V	$\pm 1.0$ A	10 mA	1375 mA	$\pm 18.0$ V	92%	$\pm 500$ $\mu$ F	JCM3024D15
	3.3 V	7.0 A	8 mA	545 mA	3.9 V	88%	10000 $\mu$ F	JCM3048S3V3
	5 V	6.0 A	8 mA	695 mA	6.2 V	90%	7200 $\mu$ F	JCM3048S05
	12 V	2.5 A	8 mA	695 mA	15.0 V	90%	1200 $\mu$ F	JCM3048S12
36-75 V	15 V	2.0 A	8 mA	685 mA	18.0 V	91%	1000 $\mu$ F	JCM3048S15
	$\pm 12$ V	$\pm 1.25$ A	8 mA	685 mA	$\pm 15.0$ V	91%	$\pm 750$ $\mu$ F	JCM3048D12
	$\pm 15$ V	$\pm 1.0$ A	8 mA	680 mA	$\pm 18.0$ V	92%	$\pm 500$ $\mu$ F	JCM3048D15

### Notes

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

### Mechanical Details



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

### 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:  $\pm 0.02$  ( $\pm 0.5$ )

### Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	9		18	VDC	12 V nominal
	18		36	VDC	24 V nominal
	36		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			25	VDC for 100 ms	12 V models
			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 10 $\mu$ F X7R MLCC Dual output with 10 $\mu$ F/25 V X7R MLCC on each output measured using 20 MHz bandwidth
Overload Protection		150		%	
Short Circuit Protection					Continuous trip and restart (hiccup), with auto recovery
Maximum Capacitive Load					See Models and Ratings table
Temperature Coefficient			0.02	%/ $^{\circ}$ C	
Over Protection Voltage					See Models and Ratings table
Remote On/Off	Output is on if remote on/off (pin 3) is open or high (3.0 to 12 VDC) Output turns off if remote on/off (pin 3) is low (<1.2 VDC max)				

### 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		270		kHz	3.3 and 5.0 V
		330			Other models
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	See derating curve
Storage Temperature	-55		+125	$^{\circ}$ C	
Case Temperature			+105	$^{\circ}$ C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection

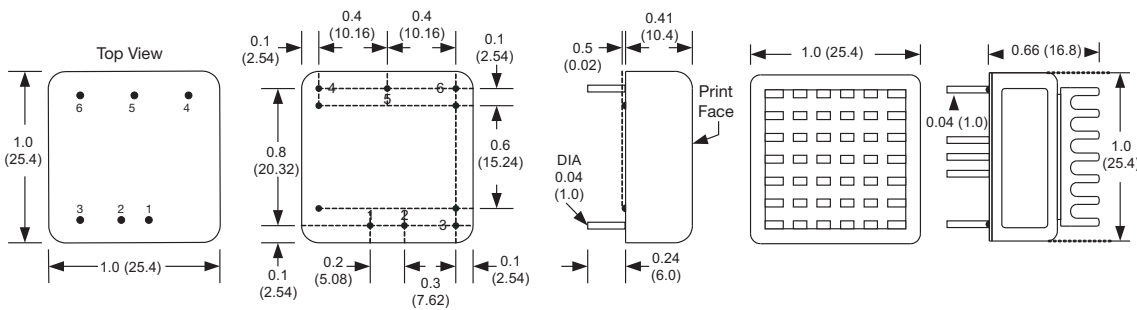
### EMC: Emissions

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/Air Discharge
Radiated Immunity	EN61000-4-3	20 V/m	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	A	
Magnetic Fields	EN61000-4-8	100 A/m	A	

### Mechanical Details

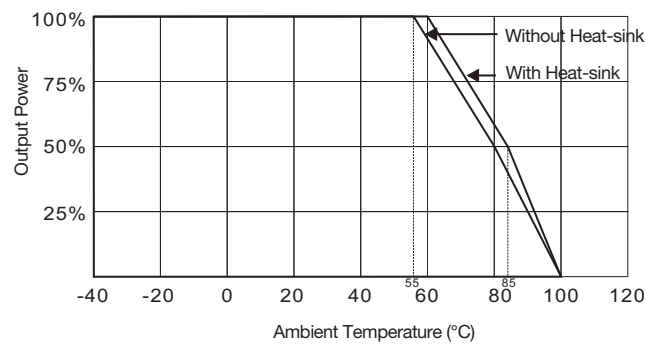


Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/Off
4	+Vout	+Vout
5	Trim	Common
6	-Vout	-Vout

### Notes

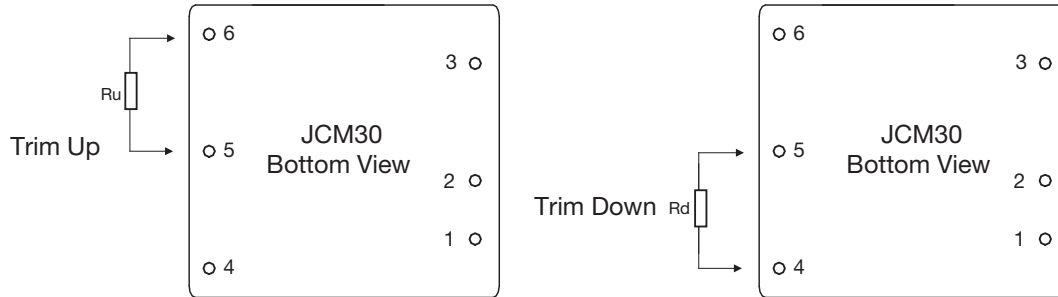
- All dimensions are in inches (mm)
- Weight: 0.042 lbs (19 g) approx.
- Pin diameter: 0.04±0.002 (1.0 ±0.05)
- Pin pitch tolerance: ±0.014 (±0.35)
- Case tolerance: ±0.02 (±0.5)

### Derating Curve



### Application Notes

#### External Output Trimming



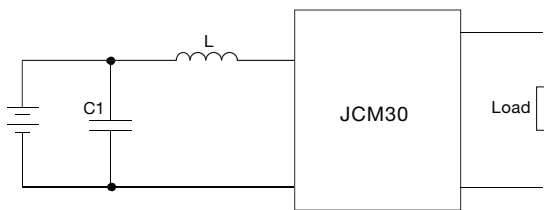
#### Trim Down Resistor Values (Rd)

Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
3V3	817.5 k	362.2 k	215.4 k	143.0 k	99.7 k	71.1 k	50.6 k	35.3 k	23.4 k	14.0 k
5V	119.9 k	63.6 k	40.4 k	27.7 k	19.7 k	14.2 k	10.2 k	7.1 k	4.7 k	2.7 k
12V	345.0 k	164.8 k	98.9 k	64.6 k	43.7 k	29.6 k	19.4 k	11.7 k	5.7 k	0.87 k
15V	174.3 k	91.1 k	56.6 k	37.7 k	25.8 k	17.6 k	11.6 k	7.0 k	3.5 k	0.55 k

#### Trim Up Resistor Values (Ru)

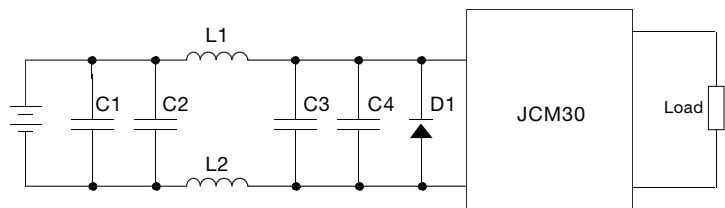
Models	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
3V3	567.6 k	263.2 k	158.5 k	105.5 k	73.5 k	52.1 k	36.8 k	25.2 k	16.3 k	9.1 k
5V	618.0 k	223.4 k	133.3 k	93.4 k	70.9 k	56.4 k	46.4 k	38.9 k	33.2 k	28.7 k
12V	1015.7 k	448.9 k	280.6 k	199.8 k	152.4 k	121.2 k	99.1 k	82.6 k	69.9 k	59.7 k
15V	661.5 k	231.3 k	134.0 k	91.0 k	66.8 k	51.3 k	40.4 k	32.5 k	26.4 k	21.5 k

#### EMI Filter (Only needed for 12 V input versions)



C1 = 1206, 335 k/50 V, X7R  
L = 0.82  $\mu$ H

#### EFT/Surge Filter



	C1	C2	L1	L2	C3	C4	D1
JCM3012	330 $\mu$ F/100 V	470 $\mu$ F/100 V	1 $\mu$ H	1 $\mu$ H	330 $\mu$ F/100	470 $\mu$ F/100	None
JCM3024	330 $\mu$ F/100 V	None	Short	Short	None	None	TVS, 58 V, 3 kW
JCM3048	330 $\mu$ F/100 V	None	Short	Short	None	None	TVS, 120 V, 3 kW