



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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20 Watts

JTM Series



- Wide 4:1 Input Range
- Single & Dual Outputs
- -40 °C to +105 °C Operating Temperature
- Overvoltage & Overcurrent Protection
- Remote On/Off
- 1600 VDC Isolation
- 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"> • See table
Undervoltage Lockout	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 24 V models 50 VDC for 100 ms • 48 V models 100 VDC for 100 ms

Output

Output Voltage	<ul style="list-style-type: none"> • See table
Output Voltage Trim	<ul style="list-style-type: none"> • ±10%, single outputs
Minimum Load	<ul style="list-style-type: none"> • No minimum load required
Line Regulation	<ul style="list-style-type: none"> • ±0.5% max
Load Regulation	<ul style="list-style-type: none"> • Single output models: ±0.5% max • Dual output models: ±1% max balanced outputs
Cross Regulation	<ul style="list-style-type: none"> • ±5% for dual outputs (see note 2)
Setpoint Accuracy	<ul style="list-style-type: none"> • ±1%
Start Up Time	<ul style="list-style-type: none"> • 20 ms typical
Ripple & Noise	<ul style="list-style-type: none"> • 75 mV pk-pk at 20 MHz bandwidth, (see note 3)
Transient Response	<ul style="list-style-type: none"> • 3% max deviation, recovery to within 1% in <250 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"> • 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	<ul style="list-style-type: none"> • >120% of full load typical
Short Circuit Protection	<ul style="list-style-type: none"> • Trip & restart (hiccup mode), auto recovery
Remote On/Off	<ul style="list-style-type: none"> • On = Logic High (3.0-12.0 V) or Open • Off = Logic Low (<1.2 V) or short pin 2 to 6 (see note 4)

General

Efficiency	<ul style="list-style-type: none"> • See table
Isolation	<ul style="list-style-type: none"> • 1600 VDC Input to Output • 1600 VDC Input to Case • 1600 VDC Output to Case
Switching Frequency	<ul style="list-style-type: none"> • 330 kHz typical
Power Density	<ul style="list-style-type: none"> • 25 W/in³
MTBF	<ul style="list-style-type: none"> • 560 kHrs min to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	<ul style="list-style-type: none"> • -40 °C to +105 °C, see derating curve
Case Temperature	<ul style="list-style-type: none"> • +105 °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"> • -40 °C to +125 °C

EMC & Safety

Emissions	<ul style="list-style-type: none"> • EN55022, class A conducted & radiated with external components - see application notes
ESD Immunity	<ul style="list-style-type: none"> • EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	<ul style="list-style-type: none"> • EN61000-4-3 10 V/m, Perf Criteria A
EFT/Burst	<ul style="list-style-type: none"> • EN61000-4-4 level 3, Perf Criteria B*
Surge	<ul style="list-style-type: none"> • EN61000-4-5 level 2, Perf Criteria B*
Conducted Immunity	<ul style="list-style-type: none"> • EN61000-4-6 10 V/rms, Perf Criteria A
Magnetic Field	<ul style="list-style-type: none"> • EN61000-4-8 1 A/m, Perf Criteria A

*External input capacitor required 220 μF/100 V

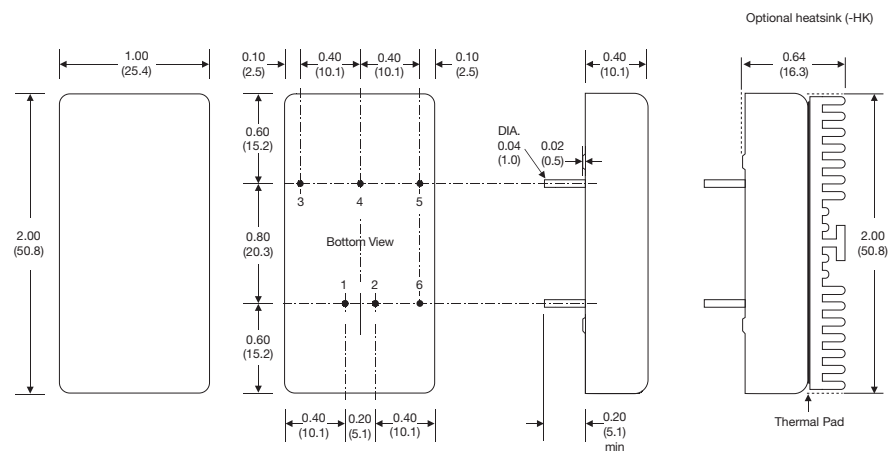
Models and Ratings

Input Voltage	Output Voltage	Output Current	Input Current ⁽¹⁾		Maximum Capacitive Load	Efficiency	Model Number
			No Load	Full Load			
9-36 VDC	3.3 VDC	5.500 A	50 mA	879 mA	10,000 μ F	89%	JTM2024S3V3
	5.0 VDC	4.000 A	50 mA	957 mA	6,800 μ F	91%	JTM2024S05
	12.0 VDC	1.670 A	22 mA	980 mA	1,000 μ F	89%	JTM2024S12
	15.0 VDC	1.330 A	22 mA	968 mA	680 μ F	89%	JTM2024S15
	\pm 5.0 VDC	\pm 2.000 A	65 mA	969 mA	\pm 2,200 μ F	89%	JTM2024D05
	\pm 12.0 VDC	\pm 0.835 A	25 mA	980 mA	\pm 470 μ F	88%	JTM2024D12
	\pm 15.0 VDC	\pm 0.665 A	25 mA	980 mA	\pm 330 μ F	89%	JTM2024D15
18-75 VDC	3.3 VDC	5.500 A	30 mA	440 mA	10,000 μ F	89%	JTM2048S3V3
	5.0 VDC	4.000 A	30 mA	473 mA	6,800 μ F	91%	JTM2048S05
	12.0 VDC	1.670 A	15 mA	484 mA	1,000 μ F	89%	JTM2048S12
	15.0 VDC	1.330 A	15 mA	484 mA	680 μ F	89%	JTM2048S15
	\pm 5.0 VDC	\pm 2.000 A	40 mA	484 mA	\pm 2,200 μ F	89%	JTM2048D05
	\pm 12.0 VDC	\pm 0.835 A	15 mA	490 mA	\pm 470 μ F	88%	JTM2048D12
	\pm 15.0 VDC	\pm 0.665 A	15 mA	490 mA	\pm 330 μ F	89%	JTM2048D15

Notes

1. Input current specified at nominal 24 V or 48 V input.
2. Cross regulation is \pm 5% when one output is at 100% and the other is varied between 25% and 100%.
3. Measured with 1 μ F ceramic capacitor across output rails.
4. Non-standard versions can have Remote On/Off function and pin removed. Contact sales for details.
5. For heatsink option add '-HK' to the end of the part number.

Mechanical Details



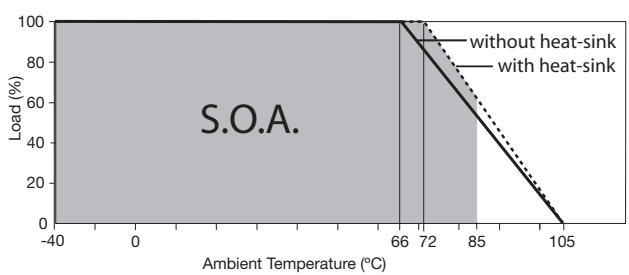
Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Com
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

Notes

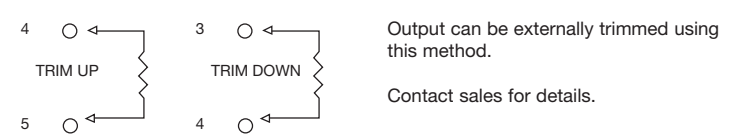
1. All dimensions are in inches (mm).
2. Weight: 0.07 lbs (30 g)
3. Pin diameter: 0.04 \pm 0.002 (1.0 \pm 0.05)
4. Pin pitch tolerance: \pm 0.014 (\pm 0.35)
5. Case tolerance: \pm 0.02 (\pm 0.5)
6. Stand-off tolerance: \pm 0.004 (\pm 0.1)

Application Notes

Derating Curve

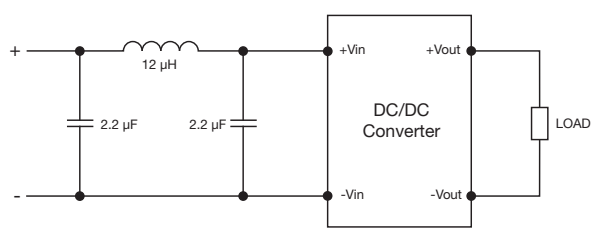


External Output Trim



Output can be externally trimmed using this method.
Contact sales for details.

Input Filter



Remote On/Off Control

Standard ROF logic is positive.
Output On 3.0-12.0 VDC or open circuit
Output Off <1.2 VDC or short circuit pins 2 & 6