

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

Safety

Safety Approvals	<ul style="list-style-type: none">• CE (Meets all applicable directives), UKCA (Meets all applicable legislation)
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*External input capacitor required 220 µF/100 V

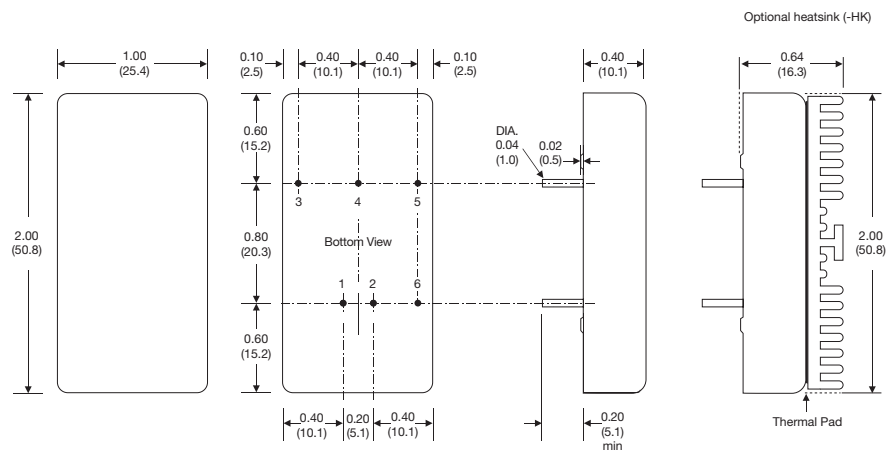
Models and Ratings

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
	± 5.0 VDC	± 2.000 A	65 mA	969 mA	$\pm 2,200$ μ F	89%	JTM2024D05
	± 12.0 VDC	± 0.835 A	25 mA	980 mA	± 470 μ F	88%	JTM2024D12
	± 15.0 VDC	± 0.665 A	25 mA	980 mA	± 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
	± 5.0 VDC	± 2.000 A	40 mA	484 mA	$\pm 2,200$ μ F	89%	JTM2048D05
	± 12.0 VDC	± 0.835 A	15 mA	490 mA	± 470 μ F	88%	JTM2048D12
	± 15.0 VDC	± 0.665 A	15 mA	490 mA	± 330 μ F	89%	JTM2048D15

Notes

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

Mechanical Details



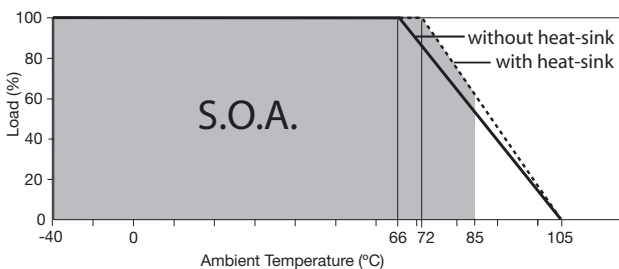
Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	Com
5	-Vout	-Vout
6	Remote On/Off	Remote On/Off

Notes

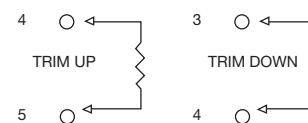
- All dimensions are in inches (mm).
- Weight: 0.07 lbs (30 g)
- Pin diameter: 0.04 ± 0.002 (1.0 ± 0.05)
- Pin pitch tolerance: ± 0.014 (± 0.35)
- Case tolerance: ± 0.02 (± 0.5)
- Stand-off tolerance: ± 0.004 (± 0.1)

Application Notes

Derating Curve



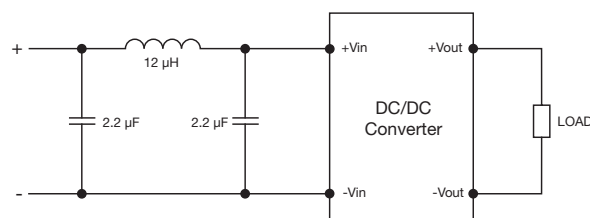
External Output Trim



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

Specifications subject to change without notice.