



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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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



50 Watts

- Regulated Single Output
- Wide 4:1 Input Range
- 2" x 1" Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +105 °C
- ITE Safety Approvals
- Remote On/Off
- High Power Density
- Optional Heatsink
- Six-sided Metal Case
- 3 Year Warranty



Dimensions:

JWL50:

2.00 x 1.00 x 0.43" (50.8 x 25.4 x 11.0 mm)

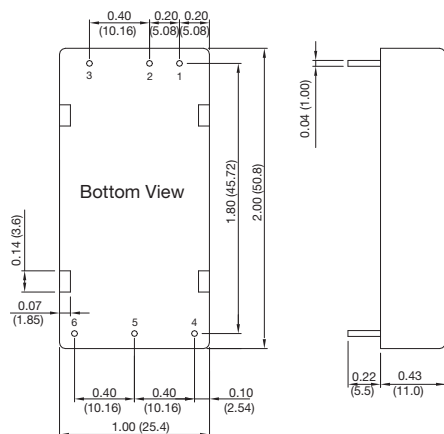
Models & Ratings

Input voltage	Output voltage	Output current	Input current ^(1,2)		Overvoltage Protection	Maximum capacitive load ⁽³⁾	Efficiency	Model number ⁽⁴⁾
			No load	Full load				
9-36V	3V3	10.00 A	80 mA	1.53 A	3.9 V	26000 µF	90%	JWL5024S3V3
	5V	10.00 A	60 mA	2.29 A	6.2 V	17000 µF	91%	JWL5024S05
	12V	4.17 A	80 mA	2.27 A	15.0 V	3000 µF	92%	JWL5024S12
	15V	3.33 A	80 mA	2.26 A	18.0 V	2000 µF	92%	JWL5024S15
	24V	2.08 A	80 mA	2.29 A	30 V	750 µF	91%	JWL5024S24
18-75V	3V3	10.00 A	40 mA	0.76 A	3.9 V	26000 µF	90%	JWL5048S3V3
	5V	10.00 A	30 mA	1.15 A	6.2 V	17000 µF	91%	JWL5048S05
	12V	4.17 A	60 mA	1.13 A	15.0 V	3000 µF	92%	JWL5048S12
	15V	3.33 A	60 mA	1.13 A	18.0 V	2000 µF	92%	JWL5048S15
	24V	2.08 A	50 mA	1.14 A	30 V	750 µF	91%	JWL5048S24

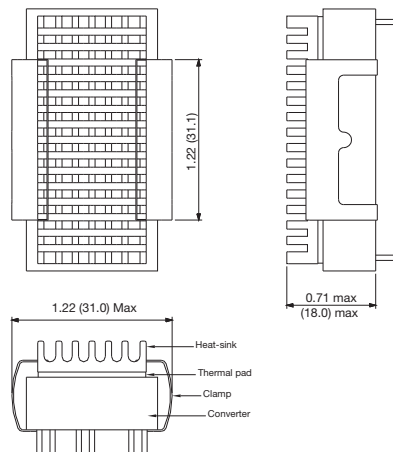
Notes

1. Input currents measured at nominal input voltage.
2. Input current is typically 2.5 mA at nominal input voltage when output is turned off using remote on/off.
3. Maximum capacitive load is per output.
4. Add suffix "-HK" for optional heatsink.

Mechanical Details



Optional Heatsink (-HK)



Pin Connections

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

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.074 lbs (34.0g) approx.
3. Tolerance: X.XX±0.01 (X.X±0.25)
X.XXX±0.005 (X.XX±0.13)
4. Pin Tolerance: ±0.002 (±0.05)

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	9		36	VDC	24 V nominal
	18		75	VDC	48 V nominal
Input Filter	Internal Pi type				
Input Surge			50	VDC for 1 s	24 V models
			100		48 V models
Remote On/Off	ON: Logic high (3.5-12 V) or open circuit OFF: Logic low (<1.2 V) or short pin 2 to pin 6				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		30	VDC	See Models and Ratings table
Initial Set Accuracy			±1.0	%	At full load
Output Trim			±10	%	See Application Notes
Minimum Load				A	No minimum load required
Line Regulation			±0.5	%	From minimum to maximum input at full load
Load Regulation			±0.5	%	From 0 to full load
Transient Response		3	5	% deviation	Recovery within 1% in less than 250 µs for a 25% load change.
Ripple & Noise			100/150	mV pk-pk	3.3 & 5V output / other models. 20 MHz bandwidth. Measured using 1µF MLCC & 10µF tantalum capacitor.
Overload Protection		150		%	
Short Circuit Protection					Continuous Trip & Restart (Hiccup mode), with auto recovery
Maximum Capacitive Load					See Models and Ratings table
Temperature Coefficient			0.02	%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		90		%	See Models and Ratings table
Isolation: Input to Output	1500			VDC	60 s
Isolation Resistance	10 ⁹			Ω	At 500 VDC
Isolation Capacitance			2200	pF	
Switching Frequency		285		kHz	
Power Density			58	W/in ³	
Mean Time Between Failure		230		kHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.074 (34.0)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+105	°C	See Derating Curve.
Storage Temperature	-50		+125	°C	
Case Temperature			+105	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection
Thermal impedance to air			12.1/9.8	°C/W	No heatsink / with heatsink

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class A	See Application Notes

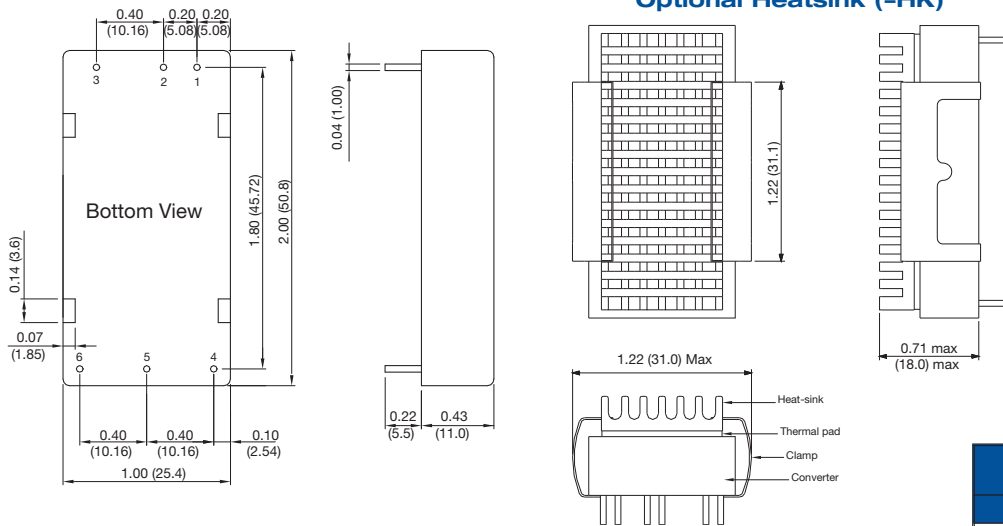
EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±8 kV air discharge, ±6 kV contact	A	
Radiated	EN61000-4-3	10 V/m	A	
EFT/Burst	EN61000-4-4	±2 kV	A	With external capacitor, suggested part is CHEMI-CON KY 220µF/100V
Surge	EN61000-4-5	±1 kV	A	With external capacitor, suggested part is CHEMI-CON KY 220µF/100V
Conducted	EN61000-4-6	10 V rms	A	

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
CB Report	IEC60950-1	Information Technology
UL	UL/cUL60950-1	Information Technology

Mechanical Details



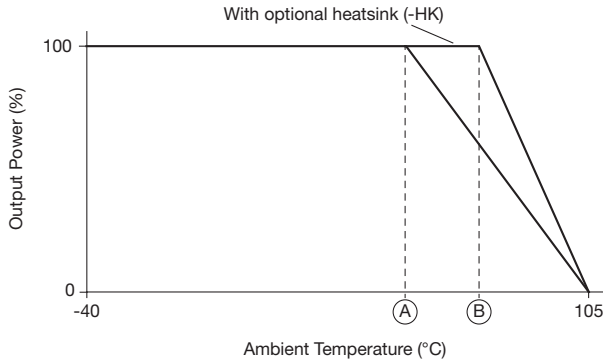
Notes

- All dimensions are in inches (mm)
- Weight: 0.074 lbs (34.0g) approx.
- Tolerance: X.XX±0.01 (X.X±0.25)
X.XXX±0.005 (X.XX±0.13)
- Pin Tolerance: ±0.002 (±0.05)

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

Application Notes

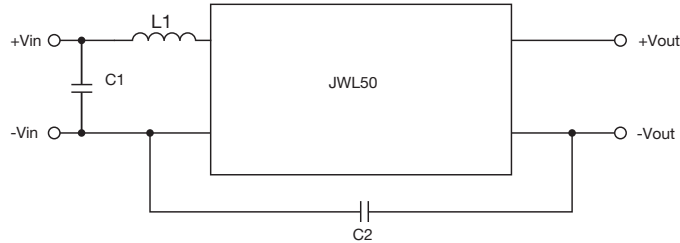
Derating Curve



Models - JWL50	Max Ambient Temperature	
	No Heatsink (A)	With Heatsink (B)
24S3V3, 48S3V3	61°C	69°C
24S12, 24S15 48S12, 48S15	53°C	62°C
24S05, 24S24, 48S05, 48S24	46°C	57°C

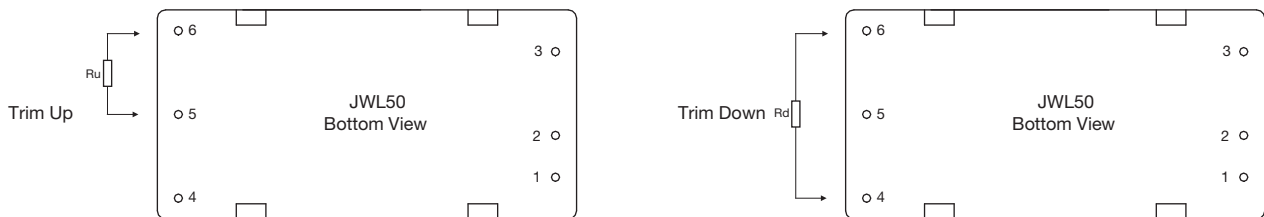
Application Notes

EMI Filter for Conducted Emissions



Class	Model	C1	C2	L1
Class A	24V	10 μ F/50V 1210 X7S MLCC	1000 pF/2kV 1206 MLCC	1.5 μ H
	48V	3.3 μ F/100V 1210 X7S MLCC	1000 pF/2kV 1206 MLCC	6.8 μ H

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
24V	333.39 k	148.80 k	87.26 k	56.50 k	38.04 k	25.73 k	16.94 k	10.35 k	5.22 k	1.12 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
24V	243.70 k	108.50 k	63.43 k	40.90 k	27.38 k	18.37 k	11.93 k	7.10 k	3.34 k	0.34 k