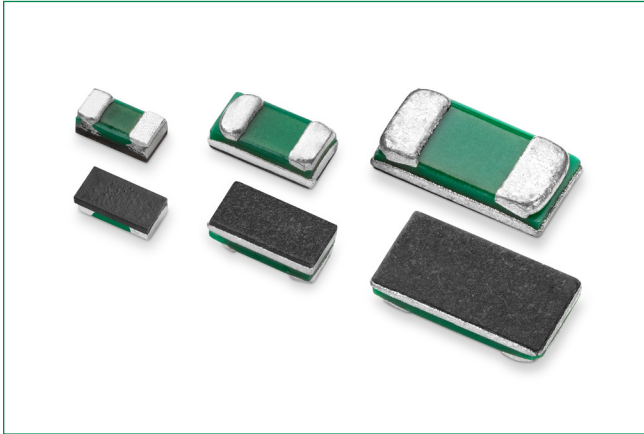


Surface Mount High Current Jumper

AEC-Q200 Qualified > WJC-A Series

HF **RoHS** **Pb**


Description

Littelfuse WJC-A Series is a high-current metal foil jumper chip with Kelvin sensing, low resistance, high power chip resistors exhibit excellent performance in resistance, noise performance, surface heat distribution and have a lower surface temperature.

Features

- Maximum resistance of 1 mΩ
- Maximum current of 40 A
- Glass epoxy substrate
- AEC-Q200 qualified

Benefits

- Small size
- High voltage

Application

- Power management
- Low ESL
- Server
- Automotive

Additional Information


Resources

Accessories

Samples

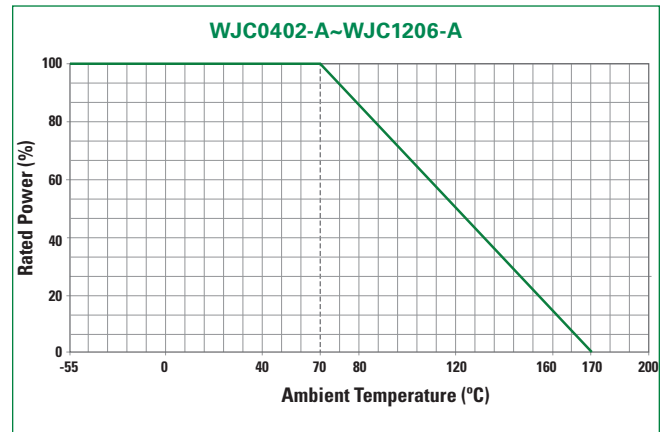
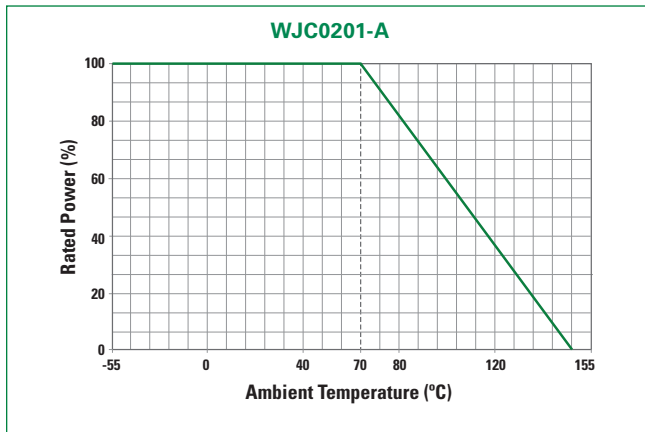
Electrical Specifications

Part Number	Resistance Value Max. (mΩ)	I _{MAX} (Amps)
WJC0201-A	1	8
WJC0402-A	0.5	20
WJC0603-A	0.2	26
WJC0805-A	0.2	35
WJC1206-A	0.2	40

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Temperature De-rating Curve



Storage / Environment Conditions

Products should be stored under the following environmental conditions.

Temperature: +5 to +35 °C

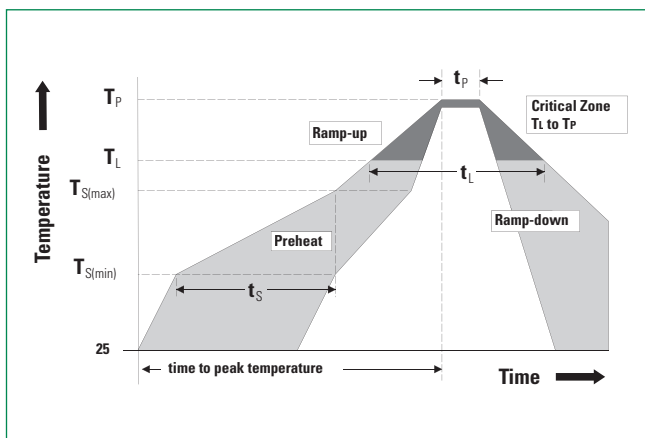
Humidity: 45 to 85% relative humidity

Do not keep products in environments where they may be subject to particulate contamination or harmful gases such as sulfuric acid or hydrogen chloride as it may cause oxidation on electrodes, resulting poor solderability.

Products should be stored in a space that does not expose to high temperatures, vibration, or direct sunlight.

Products should be stored in the original airtight packaging until use.

Soldering Parameters–Wave Soldering



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ($T_{S(max)}$ to T_p)	3 °C / second max
Preheat	
Temperature Minimum ($T_{S(min)}$)	150 °C
Temperature Maximum ($T_{S(max)}$)	200 °C
Time ($T_{S(min)}$ to $T_{S(max)}$)	60–180 seconds
Time maintained above	
Temperature Minimum (T_L)	217 °C
Time (t_L)	60–150 seconds
Peak Temperature (T_p)	260 +0 °C
Time within 5 °C of Actual Peak Temperature (t_p)	20–40 seconds
Ramp-Down Rate	6 °C / second Maximum
Time 25 °C to Peak Temperature	8 minutes Maximum

Surface Mount High Current Jumper

AEC-Q200 Qualified > WJC-A Series

AEC-Q200 Reliability Specifications

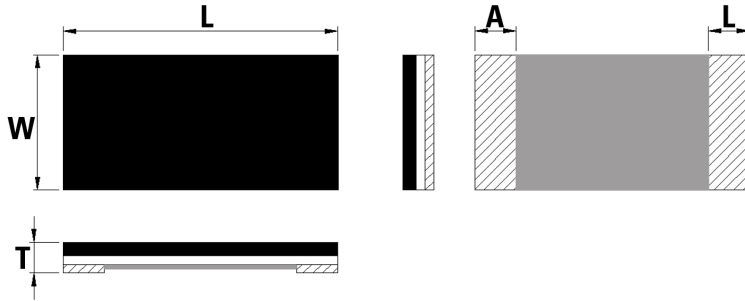
Test	Procedure	Specifications
High Temp. Exposure (Storage) MIL-STD-202, Method 108	Test Temp 170 °C Test Period: 1,000 hours No Electrical Load	±1.0%
Temp. Cycling (Thermal Shock) JESD22 Method JA-104	Repeat 1,000 cycles as follows: -55 +/-3 °C for 30 minutes 155 +/-3 °C for 30 minutes Transition time of 1 minute max	±1.0%
Biased Humidity MIL-STD-202, Method 103	Test conditions: 85 °C and 85% RH 10% of rated power Test Period 1,000 hours	±1.0%
Load Life (Operational Life) MIL-STD-202, Method 108	Test Temperature: 125 +/- 3 °C Applied voltage: rated power (derated Power will be required if temp exceeds the derating point of part) Test Period: 1,000 hours (condition D)	±1.0%
Resistance to Solvents MIL-STD-202, Method 215	3 minute soak, 2–3 ounce force, 10 strokes / repetition, 3 repetitions	No damage
Mechanical Shock MIL-STD-202, Method 213	Force: 100 G peak. Test duration: 6 ms, Half-sine waveform, Velocity: 12.3 ft / sec	±1.0%
Vibration MIL-STD-202, Method 204	Frequency: 10–2,000 Hz Acceleration: 5G Test duration: 20 minutes, 12 cycles	±1.0%
Resistance to Soldering Heat MIL-STD-202, Method 210	Condition B (Solder dip, no pre-heat) 260 °C	±1.0%
ESD AEC-Q200-002	HBM, 100 pF, 1.5 kΩ. Repetition: 5 times	±1.0%
Solderability J-STD-002	Non-activated flux dip: 5-10 seconds. SAC solder dip: 2 ± 0.5 seconds at 245 °C	95% coverage
Flammability UL-94	V-0 or V-1 are acceptable. Electrical test not required	Provide certificate
Board Flex AEC-Q200-005	90 mm span between fulcrums, 2 mm bend. 60 seconds minimum holding time	±1.0%
Terminal Strength (SMD) AEC-Q200-006	Force of 17.7 N 60 seconds	±1.0%
Flame Retardance AEC-Q200-001	Mounted parts subjected to voltages from 9.0 to 32 VDC (current clamped up to 500 A) in 1.0 VDC increments. Voltage applied for 1 hour minimum or until failure occurs	Must meet AEC-Q200 requirements

Surface Mount High Current Jumper

AEC-Q200 Qualified > WJC-A Series

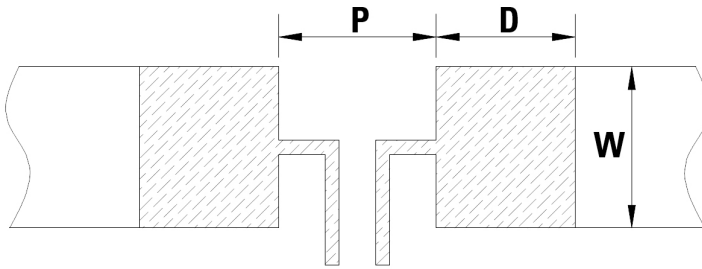
Dimensions

All dimensions in mm



Part Number	W	L	T	A
WJC0201-A	0.30±0.04	0.60±0.03	0.25±0.10	0.15±0.06
WJC0402-A	0.50±0.20	1.00±0.20	0.30±0.15	0.20±0.15
WJC0603-A	0.80±0.20	1.60±0.20	0.35±0.20	0.35±0.20
WJC0805-A	1.25±0.20	2.00±0.20	0.40±0.20	0.35±0.20
WJC1206-A	1.60±0.20	3.20±0.20	0.40±0.20	0.50±0.20

Recommended Land Pattern



Part Number	P	W	D	Loading
WJC0201-A	0.25 mm	0.33 mm	0.20 mm	0.064 W
WJC0402-A	0.40 mm	0.60 mm	0.60 mm	0.2 W
WJC0603-A	0.60 mm	0.92 mm	1.30 mm	0.135 W
WJC0805-A	0.80 mm	1.44 mm	1.40 mm	0.245 W
WJC1206-A	1.20 mm	1.84 mm	1.80 mm	0.32 W

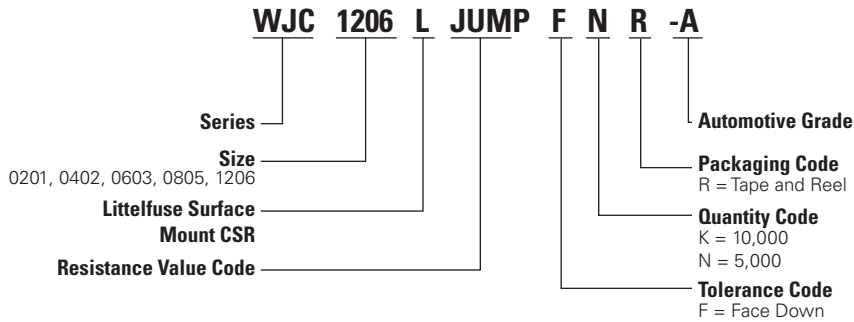
Packaging

Part Number	Halogen Free	Packaging Option	Quantity	Quantity & Packaging Codes
WJC0201-A	Yes	Tape and Reel	10000	KR
WJC0402-A	Yes	Tape and Reel	10000	KR
WJC0603-A	Yes	Tape and Reel	5000	NR
WJC0805-A	Yes	Tape and Reel	5000	NR
WJC1206-A	Yes	Tape and Reel	5000	NR

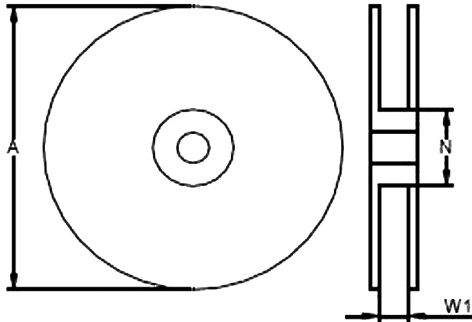
Surface Mount High Current Jumper

AEC-Q200 Qualified > WJC-A Series

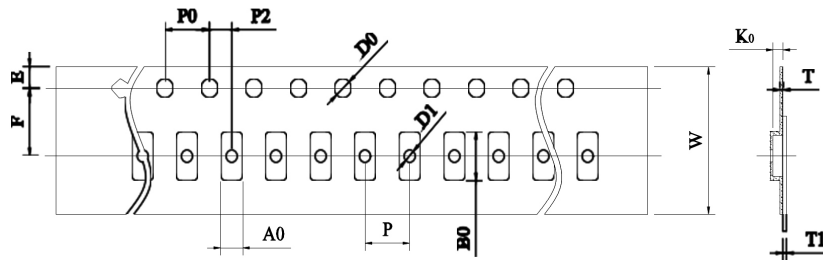
Part Numbering System



Tape and Reel Specifications



Part Number	A $\pm$ 5 (mm)	N $\pm$ 2 (mm)	W1 $\pm$ 1 (mm)
WJC-A	178	60	9.0



Part Number	W	P0	P	P2	A0	B0	D0	F	E	T	T1	K0
WJC0201-A	8.00 $\pm$ 0.20	4.00 $\pm$ 0.10	2.00 $\pm$ 0.10	2.00 $\pm$ 0.10	0.38 $\pm$ 0.10	0.68 $\pm$ 0.10	1.50 $\pm$ 0.10	3.50 $\pm$ 0.10	1.75 $\pm$ 0.10	0.45 $\pm$ 0.05	Max. 0.1	0.30 $\pm$ 0.05
WJC0402-A	8.00 $\pm$ 0.30	4.00 $\pm$ 0.10	2.00 $\pm$ 0.10	2.00 $\pm$ 0.10	0.65 $\pm$ 0.10	1.10 $\pm$ 0.10	1.50 $\pm$ 0.10	3.50 $\pm$ 0.10	1.75 $\pm$ 0.10	0.42 $\pm$ 0.05	/	/
WJC0603-A	8.00 $\pm$ 0.30	4.00 $\pm$ 0.10	4.00 $\pm$ 0.10	2.00 $\pm$ 0.10	0.98 $\pm$ 0.10	1.85 $\pm$ 0.10	1.50 $\pm$ 0.10	3.50 $\pm$ 0.10	1.75 $\pm$ 0.10	0.60 $\pm$ 0.05	/	/
WJC0805-A	8.00 $\pm$ 0.30	4.00 $\pm$ 0.10	4.00 $\pm$ 0.10	2.00 $\pm$ 0.10	1.55 $\pm$ 0.10	2.30 $\pm$ 0.10	1.50 $\pm$ 0.10	3.50 $\pm$ 0.10	1.75 $\pm$ 0.10	0.60 $\pm$ 0.10	/	/
WJC1206-A	8.00 $\pm$ 0.30	4.00 $\pm$ 0.10	4.00 $\pm$ 0.10	2.00 $\pm$ 0.10	2.05 $\pm$ 0.20	3.65 $\pm$ 0.20	1.50 $\pm$ 0.10	3.50 $\pm$ 0.10	1.75 $\pm$ 0.10	0.60 $\pm$ 0.10	/	/

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