Features

- Thick film
- High voltage
- Wide resistance range
- RoHS compliant*
- UL/IEC 60950 & 60065 compatible
- UL 1676 recognized

Applications

- High voltage applications
- Consumer electronics

CHV Series - Thick Film High Voltage Chip Resistors

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Agency Recognition

Description	
UL1676	File Number: E466353

Electrical Characteristics

Specification		Model				
		CHV0603	CHV0805	CHV1206	CHV2010	CHV2512
Power Rating @ 70 °C		0.1 W	0.125 W	0.25 W	0.5 W	1.0 W
Operating Temperature Range		-55 °C to +155 °C				
Maximum Working Voltage		200 V	400 V	800 V	2000 V	3000 V
Maximum Overload Voltage		400 V	800 V	1600 V	3000 V	4000 V
Resistance Range	1 % E-96 + E-24	100 kΩ ~ 10 MΩ				
	5 % E-24	100 kΩ ~ 22 MΩ		100 kΩ ~ 100 MΩ		
Temperature Coefficient	1 %	±100 PPM/°C				
	5 %	±200 PPM/°C				

Environmental Characteristics

Test	Conditions	Specification
Short Time Overload	5 times rated power or max overload voltage for 5 seconds	Δ R ≤ ± (2 % + 0.1 Ω)
Solderability	+245 ±5 °C for 3 ± 0.5 seconds	Over 95 % coverage
Resistance to Solder Heat	+260 ±5 °C for 10 ±1 seconds	Δ R ≤ ± (1 % + 0.1 Ω)
Load Life Humidity	+40 ±2 °C, 90~95 % 1.5 hours ON, 0.5 hours OFF for 1000 hours at rated power	Δ R ≤ ± (5 % + 0.1 Ω)
Load Life	+70°C 1.5 hours ON, 0.5 hours OFF for 1000 hours at rated power	Δ R ≤ ± (5 % + 0.1 Ω)
Temperature Cycle	-55 °C (30 minutes), +25 °C (2~3 minutes), +155 °C (30 minutes), +25 °C (2~3 minutes) for five cycles	Δ R ≤ ± (5 % + 0.05 Ω)
Voltage Coefficient of Resistance (VCR)	Max. Test Voltage: 500 V VL: 10 % RCWV or Max. RCWV VH: 100 % RCWV or Max. RCWV	R ≤ 1 MΩ: ±100 ppm/V 1 MΩ < R < 10 MΩ: ±200 ppm/V R ≥ 10 MΩ: ±300 ppm/V

How to Order

CHV 2512 - F X - 1000 E LF

Model
(CHV = Thick Film High Voltage Chip Resistor

Size
- 0603
- 0805
- 1206
- 2010
- 2512

Resistance Tolerance
F = ±1 % (Use with "X" TCR Code)
J = ±5 % (Use with "W" TCR Code)

TCR
X = ±100 PPM/°C
W = ±200 PPM/°C

Resistance Value
1 % Tolerance: First three digits are significant, fourth digit represents the number of zeroes to follow
5 % Tolerance: First two digits are significant, third digit represents the number of zeroes to follow

Packaging
E = Paper tape:
- 5,000 pcs. on 7 " plastic reel (CHV0603, CHV0805, CHV1206)
- 4,000 pcs. on 7 " plastic reel (CHV2010, CHV2512)

Termination
LF = Tin-plated (RoHS compliant)

WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
** Bourns® products have not been specifically designed and tested for FDA Class III applications and their use in such applications is neither recommended nor supported.

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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CHV Series - Thick Film High Voltage Chip Resistors

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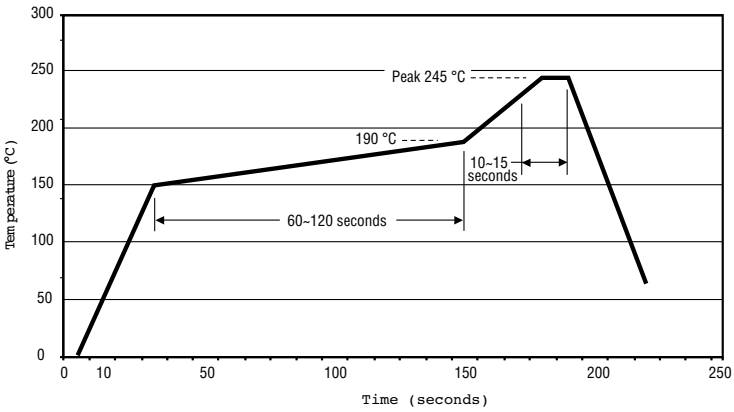
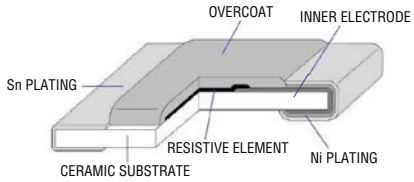
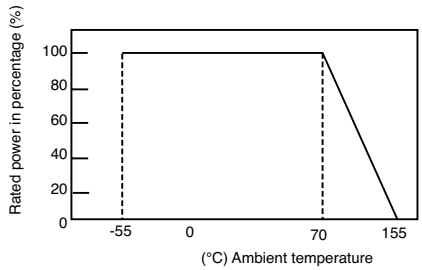
Soldering Profile



Construction

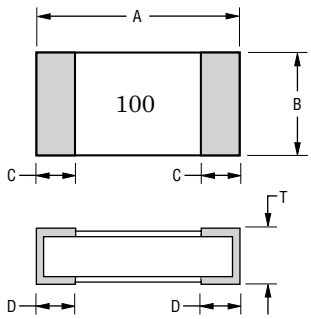


Derating Curve



Product Dimensions

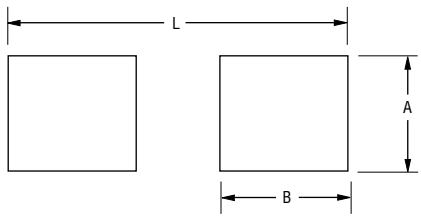
Dim.	Model				
	CHV0603	CHV0805	CHV1206	CHV2010	CHV2512
A	1.60 ± 0.10 (0.063 ± 0.004)	2.00 ± 0.10 (0.079 ± 0.004)	3.10 ± 0.10 (0.122 ± 0.004)	5.00 ± 0.20 (0.197 ± 0.008)	6.40 ± 0.20 (0.252 ± 0.008)
B	0.80 ± 0.10 (0.031 ± 0.004)	1.25 ± 0.10 (0.049 ± 0.004)	1.60 ± 0.10 (0.063 ± 0.004)	2.50 ± 0.20 (0.098 ± 0.008)	3.20 ± 0.20 (0.126 ± 0.008)
C	0.30 ± 0.20 (0.012 ± 0.008)	0.40 ± 0.20 (0.016 ± 0.008)	0.50 ± 0.20 (0.020 ± 0.008)	0.65 ± 0.25 (0.026 ± 0.010)	0.65 ± 0.25 (0.026 ± 0.010)
D	0.30 ± 0.20 (0.012 ± 0.008)	0.40 ± 0.20 (0.016 ± 0.008)	0.50 ± 0.20 (0.020 ± 0.008)	0.60 ± 0.25 (0.024 ± 0.010)	0.90 ± 0.25 (0.035 ± 0.010)
T	0.45 ± 0.10 (0.018 ± 0.004)	0.50 ± 0.10 (0.020 ± 0.004)	0.55 ± 0.10 (0.022 ± 0.004)	0.60 ± 0.10 (0.024 ± 0.004)	0.60 ± 0.15 (0.024 ± 0.006)



DIMENSIONS: MM / (INCHES)

Recommended Land Pattern

Dim.	Model				
	CHV0603	CHV0805	CHV1206	CHV2010	CHV2512
A	0.90 (0.035)	1.30 (0.051)	1.80 (0.071)	3.00 (0.118)	3.70 (0.146)
B	1.00 (0.039)	1.15 (0.045)	1.30 (0.051)	1.50 (0.059)	1.60 (0.063)
L	3.00 (0.118)	3.50 (0.138)	4.70 (0.185)	6.80 (0.268)	7.60 (0.299)



DIMENSIONS: MM / (INCHES)

Resistor Markings

CHV0603
CHV0805
CHV1206
CHV2010
CHV2512

3-Digit
E-24 ±5 % Marking

30 X 10¹
Value = 300 ohms

CHV0805
CHV1206
CHV2010
CHV2512

4-Digit
E-96/E-24 Marking

154 X 10²
Value = 15.4K ohms

CHV0603

3-Digit
E-24 ±1 % Marking

222 X 10²
Value = 2.2K ohms

CHV0603

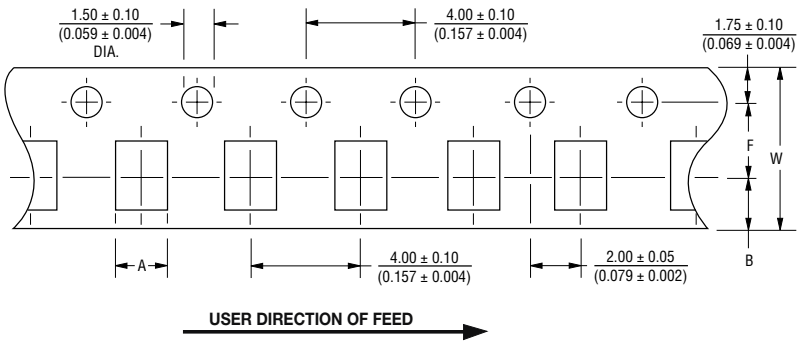
3-Digit
E-96 ±1 % Marking

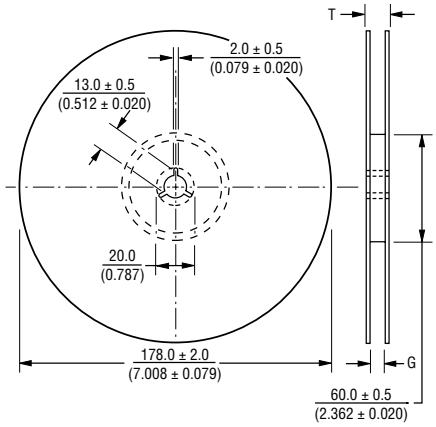
10 X 10⁰
Value = 10 ohms

Marking Explanation

- The chip color is red to identify high voltage product.
- 1 % Tolerance: 4 digits, first three digits are significant, fourth digit represents the number of zeros to follow.
- 5 % Tolerance: 3 digits, first two digits are significant, third digit represents the number of zeros to follow.

Packaging Dimensions - Tape





DIMENSIONS: MM / (INCHES)

Dim.	Model				
	CHV0603	CHV0805	CHV1206	CHV2010	CHV2512
A	1.10 ± 0.20 (0.043 ± 0.008)	1.60 ± 0.20 (0.063 ± 0.008)	2.00 ± 0.20 (0.079 ± 0.008)	2.80 ± 0.20 (0.110 ± 0.008)	3.50 ± 0.20 (0.138 ± 0.008)
B	1.90 ± 0.30 (0.075 ± 0.012)	2.40 ± 0.30 (0.094 ± 0.012)	3.57 ± 0.30 (0.141 ± 0.012)	5.50 ± 0.30 (0.217 ± 0.012)	6.70 ± 0.30 (0.264 ± 0.012)
W	8.00 ± 0.05 (0.315 ± 0.002)	8.00 ± 0.05 (0.315 ± 0.002)	8.00 ± 0.05 (0.315 ± 0.002)	12.00 ± 0.05 (0.472 ± 0.002)	12.00 ± 0.05 (0.472 ± 0.002)
F	3.50 ± 0.05 (0.138 ± 0.002)	3.50 ± 0.05 (0.138 ± 0.002)	3.50 ± 0.05 (0.138 ± 0.002)	5.50 ± 0.05 (0.217 ± 0.002)	5.50 ± 0.05 (0.217 ± 0.002)
G	10.0 ± 1.5 (0.394 ± 0.059)	10.0 ± 1.5 (0.394 ± 0.059)	10.0 ± 1.5 (0.394 ± 0.059)	13.8 ± 1.5 (0.543 ± 0.059)	13.8 ± 1.5 (0.543 ± 0.059)
T	14.9 (0.587)	14.9 (0.587)	14.9 (0.587)	16.7 (0.657)	16.7 (0.657)

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