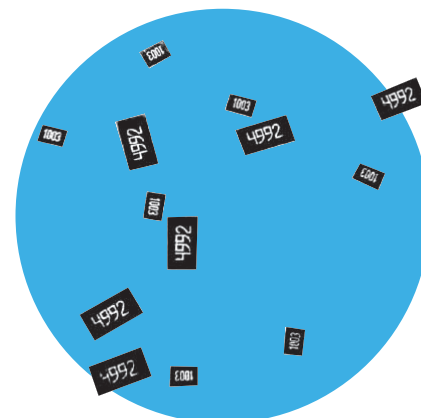


# Lower Range High Voltage Chip Resistors

## LHVC Series

- Superior voltage performance over commercial range chips
- 0603 to 2512 sizes
- Resistance 50K to 10M
- RoHS compliant

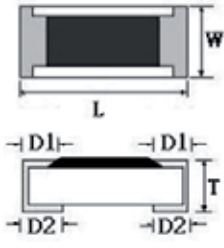


 All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

## Electrical Data

|                              |                  | LHVC0603         | LHVC0805 | LHVC1206 | LHVC2010   | LHVC2512 |
|------------------------------|------------------|------------------|----------|----------|------------|----------|
| Power rating at 70°C         | watts            | 0.1              | 0.125    | 0.25     | 0.5        | 1        |
| Resistance range             | ohms             | 100K to 10M      |          |          | 50K to 10M |          |
| Limiting element voltage     | dc / ac pk volts | 200              | 400      | 500      | 1600       | 2000     |
| 5s Overload voltage          | dc / ac pk volts | 400              | 800      | 1000     | 2500       | 3000     |
| Dielectric withstand voltage | dc / ac pk volts | 300              | 500      |          |            |          |
| TCR                          | ppm/°C           | ±200             |          |          |            |          |
| Resistance tolerance         | %                | 1, 5             |          |          |            |          |
| Standard values              |                  | 5%: E24, 1%: E96 |          |          |            |          |
| Ambient temperature range    | °C               | -55 to +155      |          |          |            |          |

## Physical Data

| Dimensions (mm) and weight (mg) |           |                 |           |           |           |          |  |
|---------------------------------|-----------|-----------------|-----------|-----------|-----------|----------|---------------------------------------------------------------------------------------|
| Type                            | L         | W               | T         | D1        | D2        | Wt. nom. |                                                                                       |
| LHVC0603                        | 1.6 ±0.1  | 0.8 +0.15/-0.1  | 0.45 ±0.1 | 0.3 ±0.2  | 0.3 ±0.2  | 2.1      |                                                                                       |
| LHVC0805                        | 2 ±0.15   | 1.25 +0.15/-0.1 | 0.55 ±0.1 | 0.4 ±0.2  | 0.4 ±0.2  | 4.7      |                                                                                       |
| LHVC1206                        | 3.1 ±0.15 | 1.55 +0.15/-0.1 | 0.55 ±0.1 | 0.45 ±0.2 | 0.45 ±0.2 | 8.5      |                                                                                       |
| LHVC2010                        | 5 ±0.1    | 2.5 +0.15/-0.1  | 0.55 ±0.1 | 0.6 ±0.25 | 0.5 ±0.3  | 25       |                                                                                       |
| LHVC2512                        | 6.35 ±0.1 | 3.2 +0.15/-0.1  | 0.55 ±0.1 | 0.6 ±0.25 | 0.5 ±0.2  | 44       |                                                                                       |

## Construction

Pd/Ag terminations are applied to the top and bottom of an alumina substrate. A resistive element is printed between the top face conductors, which is then adjusted to value and protected.

A wraparound conductor is applied to join the top and bottom sides. The terminations are electroplated with a Ni barrier layer prior to plating with a Sn finish.

## Marking

Where space allows, LHVC resistors are marked with value in three or four characters. The coding is two digits for E24 or three digits for E96 followed by one multiplier expressing the number of zeros. For E96 values on LHVC0603 standard EIA-96 codes are used, consisting of a 2 digit value code and one letter multiplier code.

## Solvent Resistance

The body protection and marking are resistant to all normal industrial solvents suitable for printed circuits.

## General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.  
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LHVC Series

Flammability

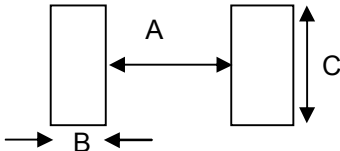
The resistor will not burn or emit incandescent particles under any condition of applied temperature or overload.

Solderability

95% min coverage (MIL-STD 202F / 208H, 235C 2 secs)

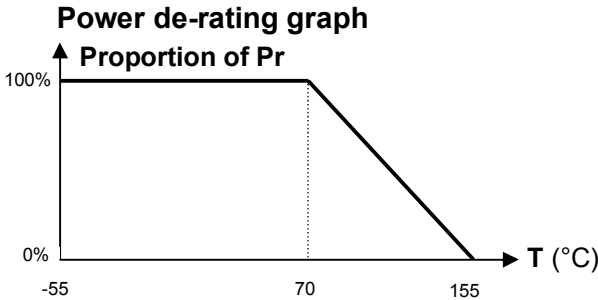
Mounting (nominal dimensions in mm)

| Type     | A   | B   | C    |
|----------|-----|-----|------|
| LHVC0603 | 0.7 | 0.7 | 1.0  |
| LHVC0805 | 1.0 | 0.8 | 1.50 |
| LHVC1206 | 2.0 | 1.0 | 1.75 |
| LHVC2010 | 4.0 | 1.2 | 2.75 |
| LHVC2512 | 5.3 | 1.2 | 3.5  |



Performance Data

|                                                      | Maximum                                 |
|------------------------------------------------------|-----------------------------------------|
| Load at rated power<br>(1000hrs cyclic load at 70°C) | ΔR% ±3                                  |
| De-rating from rated power at 70°C                   | See Graph                               |
| Short term overload<br>(6.25 x rated power for 5s)   | ΔR% ±2                                  |
| Temperature rapid change<br>(-55 / +155°C, 5 cycles) | 1% tolerance: ±0.5,<br>5% tolerance: ±1 |
| Damp heat steady state                               | ΔR% ±3                                  |
| Insulation resistance                                | ΔR% >1000MΩ                             |



Packaging

The standard packing for LHVC0603, 0805 and 1206 is in 8mm wide paper tape, for LHVC2010 is in 12mm widepaper tape and for LHVC2512 is in 12mm wide plastic tape. This is wound on a reel of 178mm diameter.

Ordering Procedure

Example: LHVC0805 at 100 kilohms and 1% tolerance on reel of 5000 pieces:

**LHVC0805-100KFT5**

Type \_\_\_\_\_

Value (use IEC62 code) \_\_\_\_\_

Tolerance (use IEC62 code) \_\_\_\_\_

|   |    |
|---|----|
| F | 1% |
| J | 5% |

Packing \_\_\_\_\_

|    |    |                    |              |          |
|----|----|--------------------|--------------|----------|
| T5 | T4 | 0603 / 0805 / 1206 | 5,000 / reel | Standard |
| T4 |    |                    |              |          |

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