Resistors

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



Electronics

All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

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	voltage dc / ac pk volts		400 800 1000		2500	3000	
Dielectric withstand voltage	dc / ac pk volts	300 500					
TCR	ppm/°C	±100					
Resistance tolerance	%	1, 5					
Standard values		5%: E24, 1%: E96					
Ambient temperature range	°C	-55 to +155					

Physical Data

Туре	L	W	Т	D1	D2	Wt. nom.	r.
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. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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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)

Туре	A	В	С	
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	→ B ←
LHVC2512	5.3	1.2	3.5	

Performance Data

		Maximum	Power de-rating graph
Load at rated power (1000hrs cyclic load at 70°C)	∆ R%	±3	Proportion of Pr
De-rating from rated power at 70°C		See Graph	
Short term overload (6.25 x rated power for 5s)	∆ R%	±2	
Temperature rapid change (-55 / +155°C, 5 cycles)	∆ R%	1% tolerance: ±0.5, 5% tolerance: ±1	
Damp heat steady state	∆ R%	±3	0% └───── T (°C)
Insulation resistance		>1000M	-55 70 155

Packaging

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

Ordering Procedure

Example: LHVC0805-100KFT5 (0805, 100 kilohms ±1%, Pb-free)

L H V C 0 8 0 5 - 1 0 0 K F T 5 1 2 3 4 5									
1	2	3	5	5 6					
Туре	Size	Value	Tolerance	Packing					
LHVC	0603	E24 = 3/4 characters	F = ±1%	T5	Таре	0603 / 0805 / 1206	5000/reel		
	0805	E96 = 3/4 characters	J = ±5%	T4	Tape	2010 / 2512	4000/reel		
	1206	K = kilohms							
	2010	M = megohms							
	2512		-						

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TT Electronics:

<u>LHVC2010-10MFT4</u> <u>LHVC1206-100KFT5</u> <u>LHVC0805-10MFT5</u> <u>LHVC2010-100KFT4</u> <u>LHVC1206-10MFT5</u> LHVC0805-100KFT5 LHVC1206-1M0FT5 LHVC2010-1M0FT4 LHVC0805-1M0FT5