

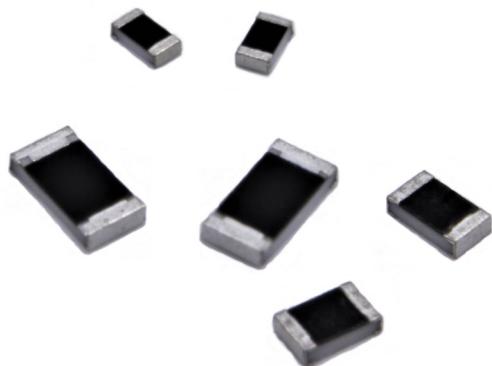
High Value Surface Mounted Resistors



LHR Series

Features:

- Resistance range to 10G ohms
- Low voltage coefficient of resistance



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

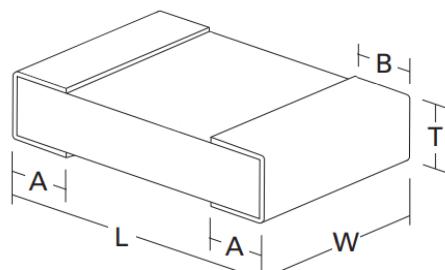
Electrical Data

	0603	0805	1206	
Limiting element voltage	V	50	150	200
Resistance range ¹	Ω	27M to 1G	27M to 10G	
Resistance tolerance	%		5, 10, 20	
Values		E24 preferred		
TCR	ppm/°C	+250 to -2000	+250 to -1000	
Power rating	W	Due to high ohmic values no power rating applies. The maximum power is LEV^2/R .		
Ambient temperature range	°C		-55 to +155	

Notes 1. Resistance value measurements are made at 15V.

Physical Data

Dimensions in mm and weight in mg						
	L	W	T	A	B	Wt. nom.
0603	1.6±0.15	0.8±0.15	0.45±0.1	0.3±0.2	0.3±0.2	2.1
0805	2.0±0.2	1.25±0.1	0.5±0.1	0.4±0.2	0.4±0.2	4.8
1206	3.2 +0.05/-0.2	1.6 +0.05/-0.15	0.6±0.1	0.5±0.2	0.5±0.25	9.3



Construction

The resistor material is screen printed onto a 96% alumina substrate and covered with a protection comprising of a glaze followed by an organic coating. This construction gives an insulated device.

Marking

All relevant information is recorded on the primary package or reel.

Solderability

Wrap-around terminations on LHR resistors have good leach resistance properties. They will withstand immersion in solder at 260°C for 30 seconds.

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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Performance Data

Test	Method	Maximum	Typical
Load life	1000 hours, cyclic load at $T_A = 70^\circ\text{C}$, LEV	$\pm\Delta R\%$	3
Short Term Overload	2.5 x LEV for 5 s	$\pm\Delta R\%$	2
Temperature Cycle	5 cycles, -55°C to $+155^\circ\text{C}$	$\pm\Delta R\%$	1
Resistance to Solder Heat	$260 \pm 5^\circ\text{C}$, 10 $\pm 1\text{s}$	$\pm\Delta R\%$	1
Voltage Proof		V	0603:100V 0805: 300V 1206: 400V

Voltage Coefficient of Resistance (VCR), 10 to 25V	%/V	Maximum	Typical
	0603	-2	-0.7
	0805	-1	-0.4
	1206	-0.8	-0.1

Packaging

LHR resistors are packed on 8mm wide paper tape on 178mm diameter reels of 5000 pieces. For full dimensional details see <https://www.ttelelectronics.com/TTElectronics/media/ProductFiles/ApplicationNotes/PS001-Packing-of-General-Purpose-Chip-Resistors.pdf>

Ordering Procedure

Example: LHR1206-4G7KT5 (1206, 4.7 gigohms $\pm 10\%$, Pb-free)



1	2	3	4	5
Type	Size	Value	Tolerance	Packing
LHR	0603	E24	J = $\pm 5\%$	T5 Tape & reel 5000/reel
	0805	3/4 characters	K = $\pm 10\%$	
	1206	M = megohms	M = $\pm 20\%$	
		G = gigohms		