

LOB Series

Features

- Ultra low resistance values to 0.005Ω
- Up to 5W rated power
- Tolerances from $\pm 1\%$ to $\pm 5\%$
- Inherently non-inductive ($\leq 0.02\mu\text{H}$ at 0.5MHz)
- Low temperature coefficient of resistance
- High stability over life



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

Electrical Data

		LOB-3	LOB-5
Power rating at 25°C ¹	watts	3	5
Overload power for 5 seconds	watts	15	25
Resistance range	ohms	R005 to R120	R005 to R100
Standard values	ohms	R005, R01, R015, R02, R025, R03, R04, R05, R06, R07, R08, R10, R12	R005, R01, R015, R02, R025, R03, R04, R05, R06, R07, R08, R10,
Maximum working voltage	volts	$\sqrt{3 \times R}$	$\sqrt{5 \times R}$
Operating temperature	$^\circ\text{C}$	-55 to 175	-55 to 175

Note 1: To dissipate full rated power forced air cooling must be provided to restrict the maximum body temperature to 180°C .

Physical Data

Dimensions (mm)					
Type	L	D	f	d	C nom
LOB-3	14.22 ± 0.25	5.33 ± 0.25	34.93 ± 3.18	0.77 ± 0.05	33.27
LOB-5	23.37 ± 0.25	8.38 ± 0.25	31.75 ± 3.18	1.02 ± 0.05	42.42

Description

LOB Series power precision metal element resistors feature resistance values down to 0.005Ω with virtually no inductance. Available in 3 and 5 watt rated axial leaded packages, these resistors are compatible with automatic insertion equipment.

Construction

LOB Series resistors feature tinned copper leads welded directly to a low temperature coefficient resistance element in a highly automated proprietary process. The leaded resistor elements are then encapsulated in a moulding compound.

Applications

- Switchmode and linear power supplies.
- Automotive current-sensing circuits.
- Instrumentation.

General Note

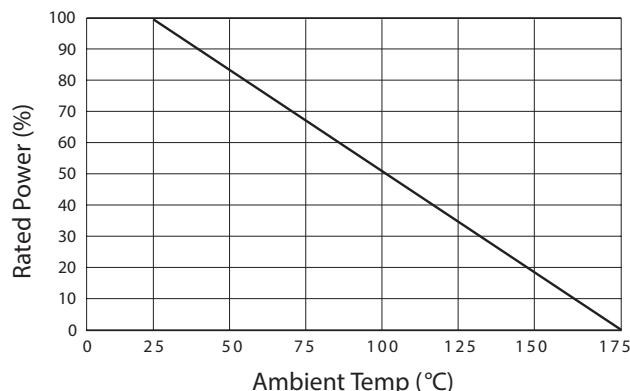
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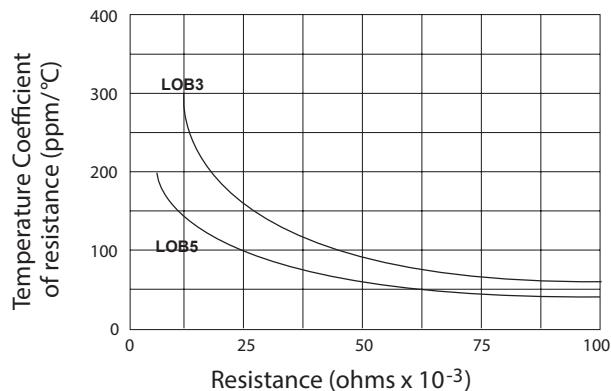
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LOB Series

Power derating percentage vs Free air ambient temperature



Temperature coefficient of resistance vs Resistance value



Performance Data

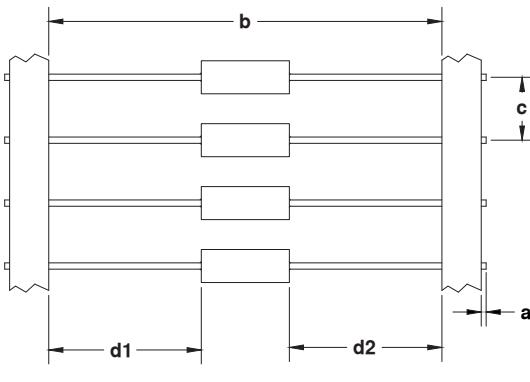
Test	MIL-STD 202	MAX %ΔR*	Unit
Load Life (1000 hours)	Method 108	±1%	%ΔR
Thermal Shock	Method 107	±1%	%ΔR
Vibration	Method 204	± 0.5%	%ΔR
Mechanical Shock	Method 213	± 0.5%	%ΔR
Dielectric strength	Method 301	± 0.5%	%ΔR
Insulation resistance	Method 302	> 10 ¹¹	ohms

*±0.005 ohm allowance for test/contact error.

Packaging

Resistors are supplied taped and reeled (see Ordering Procedure for reel quantities.) The taping dimensions are shown below.

Taping dimensions, inches (mm)			
Type	a max	b	c
LOB-3	0.031 (0.8)	2.5±0.031 (63.5±0.8)	0.4±0.015 (10.2±0.4)
LOB-5	0.031 (0.8)	2.5±0.031 (63.5±0.8)	0.4±0.015 (10.2±0.4)



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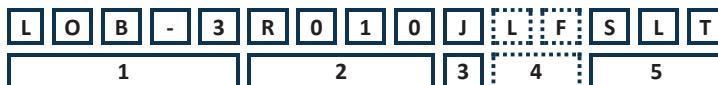
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Ordering Procedure

Global Part Number Example: **LOB-3R010JLFSLT** (LOB-3, 10 millionohms $\pm 5\%$, Pb-free)



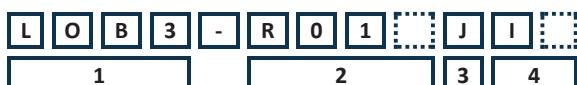
1 Type	2 Value	3 Tolerance ¹	4 Termination	5 Packing
LOB-3	4 characters	F = $\pm 1\%$	Omit for SnPb	SLT = Standard lead tape
LOB-5	R = ohms	H = $\pm 3\%$ J = $\pm 5\%$	LF = Pb-free	LOB-3 1250/reel LOB-5 800/reel

Note 1: Preferred tolerances are 1% and 5%

Legacy Part Numbers

This product has a legacy part number format. This is still available for ordering, but for new designs use of the Global Part Number is recommended.

Legacy Part Number Example: **LOB3-R01JI** (LOB3, 10 millionohms $\pm 5\%$, Pb-free)



1 Type	2 Value	3 Tolerance ¹	4 Termination & Packing
LOB3	3/4 characters	F = $\pm 1\%$	I = Pb-free, standard pack
LOB5	R = ohms	H = $\pm 3\%$ J = $\pm 5\%$	PB = SnPb, standard pack LOB3 1250/reel LOB5 800/reel

Note 1: Preferred tolerances are 1% and 5%

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