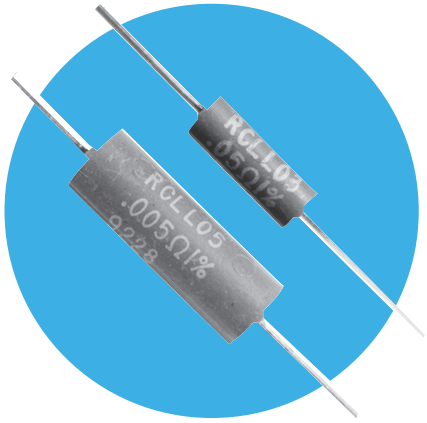
Resistors

Low Resistance Metal Element Resistors



LOB Series

- Ultra low resistance values to 0.005Ω
- Available in 1, 3 and 5 watt rated packages
- Tolerances from ±1% to ±5%
- Inherently non-inductive (≤.02µH 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

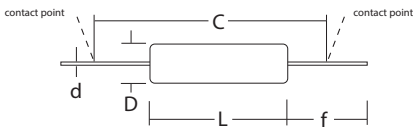
		LOB-1	LOB-3	LOB-5
Continuous power dissipation at 25°C in free air	watts	1	3	5
Overload power for 5 seconds	watts	5	15	25
Resistance range	ohms	R005 to R100	R005 to R120	R005 to R100
Maximum working voltage	volts	$\sqrt{1xR}$	$\sqrt{3xR}$	$\sqrt{5xR}$
Operating temperature	℃	-55 to 175	-55 to 175	-55 to 175

* Power Dissipation - The maximum wattage rating depends upon the amount of heat which can be transferred to the surroundings while not exceeding the maximum element temperature. Ambient air temperature, velocity of cooling air, thermal resistance of heat and the temperature of surrounding objects will affect this transfer, this must be taken into account when selecting a resistor.

Physical Data

Dimensions (mm)

Type	L	D	f	d	C nom
LOB-1	9.9±0.3	3.6±02	38.1±32	0.813±0.05	33.27
LOB-3	14.22±0.25	5.33±0.25	34.93±3.18	0.81±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 0.005 Ω with virtually no inductance. Available in 1, 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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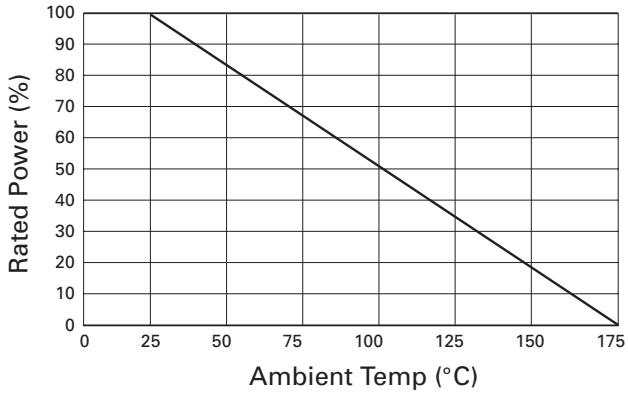
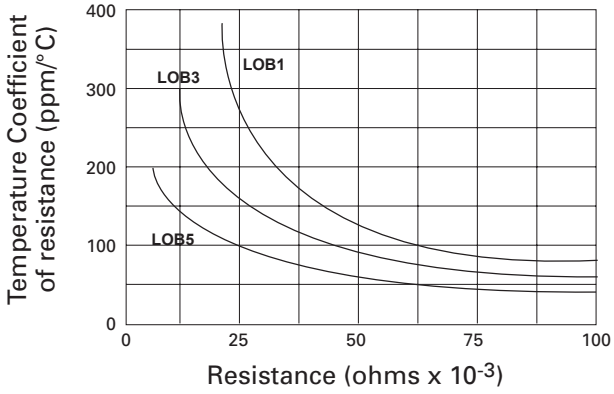
Power derating percentage vs Free air ambient temperature



Temperature coefficient of resistance vs Resistance value



Test	MIL-STD 202	MAX %ΔR*	Unit
Load life (2000 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

*±0.0005 ohm allowance for test/contact error.

Packaging

Resistors are supplied taped and reeled.
Bulk packaging available.

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Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: LOB3-R01JI (LOB3, 10 milliohms ±5%, Pb-free)

L	O	B	3	-	R	0	1	J	I	
1					2			3	4	

1 Type	2 Value	3 Tolerance	4 Packing & Termination Finish	
LOB1	R = ohms	F* = ±1%	I = Standard packing & Pb-free	
LOB3		H = ±3%	PB = Standard packing & SnPb	
LOB5		J* = ±5%	LOB1	Taped, 3500/reel
		* preferred	LOB3	Taped, 1250/reel
			LOB5	Taped, 800/reel

USA (IRC) Part Number: LOB-3R010FLFSLT (LOB3, 10 milliohms ±5%, Pb-free)

L	O	B	-	3	R	0	1	0	F	L	F	S	L	T
1					2				3	4		5		

1 Type	2 Value	3 Tolerance	4 Termination Finish	5 Packing	
LOB-1	R = ohms	F = ±1%	Omit for SnPb	SLT = Lead Tape*	
LOB-3		H = ±3%	LF = Pb-free	LOB-1	3500/reel
LOB-5		J = ±5%		LOB-3	1250/reel
				LOB-5	800/reel
				BLK = Bulk	
				LOB-1	1500/box
				LOB-3	800/box
				LOB-5	200/box

* preferred

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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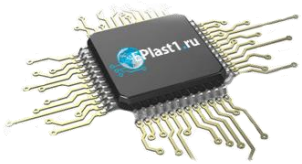
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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