# Low Resistance Metal Alloy Power Resistors



### **LOB** Series

### **Features**

- Ultra low resistance values to 0.005Ω
- Up to 5W rated power
- Tolerances from ±1% to ±5%
- Inherently non-inductive ( $\leq .02\mu$ H at 0.5MHz)
- Low temperature coefficient of resistance

**Flectrical Data** 

High stability over life



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

												LOB-1		LOB-3			LOB-
Continuous power dissipation at 25°C in free air					•••••	watts	LOB-3		3	LOB	-5	5					
ower rating leta pewer for 5 seconds watts				watts	35		15	5		25							
Overload และพุษณ์ คือ เพื่อจะการการการการการการการการการการการการการก				/atts	volts	1 <del></del> √1xR		√3xR	25		√5xF						
esista	sistan Marangen storage temperature ohms				hms	°C.	R005 tq R <u>4</u> 20		175 <sup>R</sup>	005 to	R100	175					
tandå t	r <b>d Value</b> emperatur nto accour	sipatic e. Amb nt whe	on - The m pient air te n selectin	naximu empera g a res	ım wattag ature, velo istor.	e rating city of	g depends cooling ai	upon r, therr	the amoy nal resista	ht Ash nce of	eat Which's neateandR	APDe RAIIErrEDC/tROZE AreRPEraRDEorBOTOURO R10, R12	ounding Ng ob	s wROOFileRi j&Q25villBar RO7,	01 - R01 Set RNAtr , R08, F	5, RO2 angter, the angter, th	maximu Shnust b
laxim	um work	ing v	oltage						١	/olts	√3xR		√5x	√5xR			
Operat Multemperiature I Data °C					-55 to 175 -55 to 175												
perat	Differing dissipate	SIC full ra	ted pow	Dat ver for	ta ced air co	oling	must be	provid	ed to rest	°C	e maximu	-55 to 175	80°⊂.		-55 to	175	
perat 2 1: Te hy	Different dissipate Dimen SICA		mated pow (mm) Data max	Dat ver for	ta ced air co max	oling fu	must be min	p <del>rovid</del>	ed to rest	trict th	e maximu	-55 to 175	80°⊂.	C	-55 to	175	:t point
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iperat e 1: Te hy imer	Difference dissipate Dimen SICA Type signs (n LOB-3	sions sions im) a 14.2	2±0.25	<b>)</b> /er for 	ta ced air co max 5±02 ±0.3 f <sup>3</sup>	ooling fu .38.1	must be min ±320 ±3.8 0	provid d r .8.13± .81±(	ed to rest	trict th .33.2	e maximu c 7 7	-55 to 175	80°C.	C	-55 to	175	:t point
operat e 1: Te hy imer ype	Director dissipate Dimen SICA Type signs (n LOB-3 LOB-5	full ra sions 1 L 111,2 23,3	2±0.2 7±0.2 7±0.2	2a /er for D 3.6 5.33 8.38	ced air cc max 5±02 ±0.ठ f <sup>3</sup> ±0.ठ 3	ooling fu 38.1 4.93	must be min	provid d r .8.13± .81±( .02±(	ed to rest	trict th .33.2 33.27 42.42	e maximu 	-55 to 175	80°C.	C	-55 to	175	:t point
Dperat te 1: Te Phy Dimer ype .0B-3	Difference Dimen SICA Type Isions (n LOB-3 LOB-5 14.22±	full re sions inn) a 14.2 23.3 0.25	2±0.2 2±0.2 7±0.2 5.33±0	)a ver for 3.6 5.33 8.38 0.25	ta max ±0.2 f <sup>3</sup> ±0.5 f <sup>3</sup> ±0.5 3 34.93±	ooling fu 38.1 4.93 1.75 3.18	must be min ±320 ±3.8 0 ±3.8 1 0.77±1	erovid d.r .8.13± .81±( .02±( 0.05	ed to rest 10m -0.5. 1.5 <u>C</u> nc 1.5	trict th 33.2 33.27 42.42	e maximu 	-55 to 175	80°C.		-55 to	$\frac{1}{1}$	t point

**Description** resistance values down to  $0.005 \Omega$  with virtually no LOB series power precision metal element resistors feature inductance. Available in 1, 3 and 5 watt rated axial leaded resistance values down to  $0.005 \Omega$  with virtually no packages, these resistors are compatible with automatic inductance. Available in 3 and 5 watt rated axial leaded inductance, available in 3 and 5 watt rated axial leaded insertion equipment. packages, these resistors are compatible with automatic

## insertion equipment Applications

Applications

- Switchneetergetweeterget
- Automotive Competitive Sensing circuits.
- Instrumentation.

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

elements are then encapsulated in a moulding compound.

#### 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.

#### BI Technologies IRC Welwyn



100

Temperature coefficient of resistance vs

### **LOB Series**



### Power derating percentage vs Free air ambient temperature

# Performance Data

Test	MIL-STD 202	<b>ΜΑΧ %Δ</b> R*	Unit
Load Life (1000 hours)	Method 108	±1%	%∆R
Thermal Shock	Method 107	±1%	%∆R
Vibration	Method 204	± 0.5%	%∆R
Mechanical Shock	Method 213	± 0.5%	%∆R
Dielectric strength	Method 301	± 0.5%	%∆R
Insulation resistance	Method 302	> 10 <sup>11</sup>	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)						
Туре	a max	b	С			
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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www.ttelectronics.com/resistors



### **LOB Series**

# **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	
1		2	3	4

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

1	2	3	4	5	
Туре	Value	Tolerance	Termination Finish	Packing	
LOB-3	R = ohms	F = ±1%	Omit for SnPb	SLT = Lead Tape	
LOB-5		H = ±3%	LF = Pb-free	LOB-3	1250/reel
		J = ±5%		LOB-5	800/reel

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 HPCR0402F27K0K9

 HPCR0402F2K00K9
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 HPCR0402F4K30K9
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 HPCR0402F68K0K9
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 HPCR0402F6K80K9
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 HPCR0402F7K50K9
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