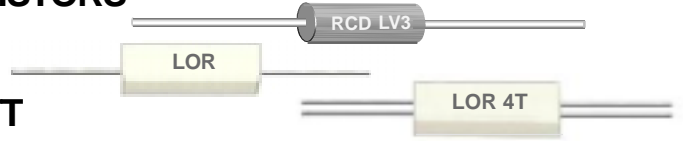


# PRECISION LOW-OHM METAL PLATE RESISTORS

## LV3 SERIES - MOLDED 3-WATT

## LOR SERIES - CERAMIC 3- & 5-WATT



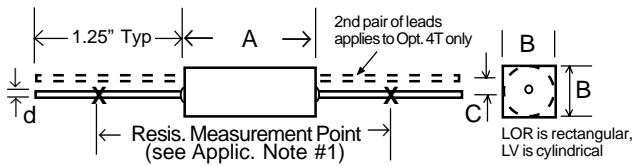
- Ideal for current sense applications
- 0.0025Ω to .25Ω, 0.5% to 10%
- Low TC, high pulse capability
- Non-inductive metal element
- Available on RCD's exclusive **SWIFT™** delivery program!
- Choice of 2-terminal or 4-terminal designs



Series LOR rectangular shape and high thermal conductivity ceramic case efficiently transfers heat from the internal element resulting in excellent stability and overload capability. Series LV3 molded design offers improved uniformity for high-volume auto-placement applications. The resistance element of LOR and LV3 is non-inductive and constructed from near-zero TCR alloy minimizing thermal instability. Construction is flame retardant, solvent- and moisture-resistant.

### OPTIONS

- Opt.18: .040" lead dia. on LOR3 (.040" is std on LOR5)
- Option 4T: 4 Terminal
- Option E: Low thermal emf design
- Non-std resistance values, custom marking, burn-in, etc.



### STANDARD RESISTANCE VALUES AND CODES

(Non-standard values available, most popular values listed in bold)  
 .0025Ω (R0025), .003Ω (R003), **.005Ω** (R005), .0068Ω (R0068), .0075Ω (R0075), .0082Ω (R0082), **.01Ω** (R010 if ≤1%, R01 if ≥2%), .012Ω (R012), **.015Ω** (R015), **.02Ω** (R020 if ≤1%, R02 if ≥2%), .022Ω (R022), **.025Ω** (R025), **.03Ω** (R030 if ≤1%, R03 if ≥2%), .033Ω (R033), **.04Ω** (R040 if ≤1%, R04 if ≥2%), **.05Ω** (R050 if ≤1%, R05 if ≥2%), .068Ω (R068), **.07Ω** (R070 if ≤1%, R07 if ≥2%), .075Ω (R075), **.08Ω** (R080 if ≤1%, R08 if ≥2%), **.1Ω** (R100 if ≤1%, R10 if ≥2%), .15Ω (R150 if ≤1%, R15 if ≥2%), .2Ω (R200 if ≤1%, R20 if ≥2%), .25Ω (R250 if ≤1%, R25 if ≥2%).

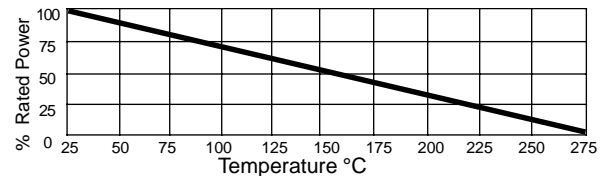
RCD TYPE	WATTAGE @25°C	CURRENT RATING <sup>1</sup>	RESISTANCE RANGE (OHMS)	RESISTANCE MEASUREMENT POINT ±.062 [1.6]	DIMENSIONS			
					A ±.04 [1]	B ±.032 [.8]	d ±.002 [.05]	C <sup>2</sup> ±.032 [.8]
LOR3	3W	25A	.0025 to .25	1.310 [33.3]	.551 [14]	.256 [6.5]	.032 [.8] <sup>3</sup>	.075 [1.9]
LOR5	5W	40A	.0025 to .25	1.670 [42.4]	.880 [22.35]	.320 [8.13]	.040 [1]	.100 [2.54]
LV3	3W	25A	.005 to 0.1	1.310 [33.3]	.513 [13]	.142 [3.6]	.032 [.8]	n/a

<sup>1</sup> Max. current is based on  $I = (P/R)^{1/2}$ , not to exceed the value listed (increased levels avail). <sup>2</sup> Dim. C applies only to Opt.4T <sup>3</sup> Specify opt.18 for .040 [1mm] lead dia

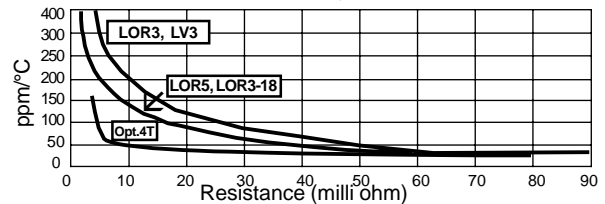
### PERFORMANCE CHARACTERISTICS

Test Parameter	Performance, Typ.
Load Life	0.5% +5mΩ
Vibration	0.05% +5mΩ
Overload	5 Sec, 5X rated W (NTE Current Rating)
Temp. Coefficient	(per chart, 4wire conn. at body)
Temp. Range	-55° to +275°C
Dielectric Strength	1000 VAC
Insulation Res.	10,000MΩ min dry
Terminal Strength	10 lb. min.
Solderability	per Mil-STD-202, m.208
Inductance	5nH to 20nH typ

### POWER DERATING



### TEMPERATURE COEFFICIENT (typ.)



### APPLICATION NOTES:

- 1) 3W parts to be measured at 1.31" [33.3mm], 5W parts at 1.67" [42.4mm]. Also available per customer requirement.
- 2) 18AWG (0.040" dia) leads are standard on LOR5 and available on LOR3 (specify opt. 18). RCD recommends .040" leads, since the heavier gauge results in lower lead resistance, improved heat transfer, and lower in-circuit TCR (.032" leadwires have resistivity of ~1mΩ/in., 0.04" dia. have ~0.6mΩ/in). An extra inch of .032" leadwire in the circuit will increase the TC of a 10mΩ resistor by roughly 350ppm. Keep leadwires short for best TC stability.
- 3) To achieve utmost precision in current sense or shunt applications, RCD offers LOR3 & LOR5 in 4-terminal version, specify opt.4T (eliminates lead resistance when utilized in Kelvin configuration). Request App. note #R31 for performance comparison of 2- vs. 4-terminal.

### P/N DESIGNATION:

**LOR3** R05 - **J** **B** **W**

**RCD Type** (LOR3, LOR5, or LV3) \_\_\_\_\_

**Options:** E, 4T, 18 (leave blank if standard) \_\_\_\_\_

**Resis. Code** (see table above): \_\_\_\_\_  
 0.5% & 1%: 3 signif. digits & multiplier; R010=0.01Ω, R150=0.15Ω  
 2%-10%: use 2 signif.digits & multiplier; R01=.01Ω, R10=.1Ω, etc.  
 Use extra digits as needed R005, R0025, R0075, R012, etc.

**Tolerance Code:** D=0.5%, F=1%, G=2%, H=3%, J=5%, K=10% \_\_\_\_\_

**Packaging:** B = bulk (std.), T = Tape & Reel (not avail. on option 4T) \_\_\_\_\_

**Termination:** W= Lead-free, Q= Tin/Lead (leave blank if either is acceptable, in which case RCD will select based on lowest price and quickest delivery) \_\_\_\_\_