

OPEN-AIR LOW VALUE CURRENT SHUNT RESISTORS

0.001Ω to 0.15Ω, 1 WATT to 5 WATT

OA SERIES



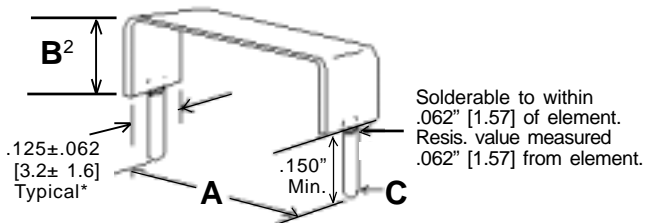
RESISTORS • CAPACITORS • COILS • DELAY LINES



← New narrow profile design offers significant space savings!

- Industry's widest range and lowest cost!
- Tolerances to ±0.5%, TC's to ±20ppm
- Available on exclusive **SWIFT™** delivery program!
- Option S: Axial lead (unformed element)
- Option E: Low Thermal EMF
- Option A: Stand-offs formed into lead wires
- Optional pin diameters and pin spacing

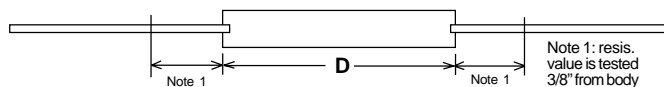
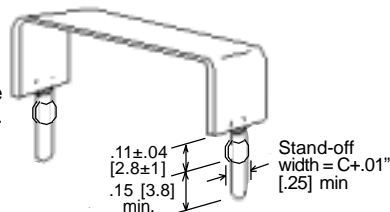
RCD's OA series offers cost-effective performance for a wide range of current shunt/sense applications. The non-insulated open-air design features non-inductive performance and excellent stability/overload capacity. Numerous design modifications and custom styles are available... current ratings up to 100A, surface mount designs, military screening/burn-in, marking, insulation, intermediate values, etc. Custom shunts have been an RCD specialty over 30 years! Contact factory for assistance.



Typical shape depicted--actual shape may vary within envelope given. Overall length not to exceed Dim.A +.12" [3]. Dimensions in inches [mm].
* Most values are .125 [3.2] wide, lowest 2W-5W are .187 [4.75] wide, highest 1W-2W values are .062 [1.6] wide

Option 'A' Stand-offs:

For stand-off, specify Opt. A (e.g. OA2BA, OA5AA). Resis. value is measured at bottom of stand-off.



Option 'S' Straight Axial Lead Design (lead length = 1.25" [31.8] min)

SPECIFICATIONS

| RCD Type | Power Rating ¹ | Current Rating ¹ | | Resistance Range | A (lead spacing) ±.040 [1] | | B Max. ² | C (lead diameter) | | D Max. |
|----------|---------------------------|-----------------------------|----------------|------------------|----------------------------|-----------------------|-------------------------|-------------------|-----------------|-------------|
| | | With Std. Lead | With Opt. Lead | | Standard | Optional ² | | Standard | Optional | |
| OA1A | 1W | 14A | 17A | .001Ω-.08Ω | .40 [10.5] | .2" [5], .275" [7] | .35 [8.9] ² | 20AWG | 18AWG (Opt. 18) | 1.20 [30.5] |
| OA1B | 1W | 17A | 14A | .001Ω-.08Ω | .45 [11.4] | .2" [5], .275" [7] | .30 [7.6] ² | 18AWG | 20AWG (Opt. 20) | 1.20 [30.5] |
| OA2A | 2W | 22A | 24A | .001Ω-.1Ω | .40 [10.5] | .2" [5], .275" [7] | .70 [17.8] ² | 20AWG | 18AWG (Opt. 18) | 1.95 [49.5] |
| OA2B | 2W | 24A | 22A | .001Ω-.1Ω | .60 [15.2] | .2" [5], .275" [7] | .60 [15.2] ² | 18AWG | 20AWG (Opt. 20) | 1.95 [49.5] |
| OA3A | 3W | 26A | 24A | .001Ω-.12Ω | .60 [15.2] | .2" [5], .275" [7] | .90 [22.9] ² | 18AWG | 20AWG (Opt. 20) | 2.50 [63.5] |
| OA5A | 5W | 32A | 40A | .0025Ω-.15Ω | .80 [20.3] | .2" [5], .275" [7] | 1.0 [25.4] ² | 18AWG | 16AWG (Opt. 16) | 2.94 [74.7] |

¹Units not to exceed wattage or current rating, whichever is less. Current rating is based on standard lead diameter, increased ratings available.
²Dim.B applies only to parts formed to the standard lead spacing (increase accordingly for options 80 & 27). Custom pin spacings are available.

STANDARD RESISTANCE VALUES AND CODES

Intermediate values available, most popular values listed in bold:
.001Ω (R001), .0015Ω (R0015), .002Ω (R002), .0025Ω (R0025), .003Ω (R003), **.005Ω** (R005), .0068Ω (R0068), .0075Ω (R0075), .0082Ω (R0082), **.01Ω** (R010 if ≤1%, R01 ≥2%), .012Ω (R012), **.015Ω** (R015), **.02Ω** (R020 if ≤1%, R02 ≥2%), .022Ω (R022), **.025Ω** (R025), **.03Ω** (R030 if ≤1%, R03 ≥2%), .033Ω (R033), **.04Ω** (R040 if ≤1%, R04 ≥2%), **.05Ω** (R050 ≤1%, R05 ≥2%), .068Ω (R068), **.07Ω** (R070 if ≤1%, R07 ≥2%), .075Ω (R075), **.08Ω** (R080 if ≤1%, R08 ≥2%), **.1Ω** (R100 if ≤1%, R10 ≥2%).

TYPICAL OPERATING CHARACTERISTICS:

TEMPERATURE RANGE: -55 to +275°C
DERATING: derate power & current rating by 0.4%/°C above 25°C
OVERLOAD: 5 x rated power for 5 seconds
LOAD LIFE @ 25°C (1000 hrs): 1% ΔR
MOISTURE No Load (1000 hrs): 1% ΔR
INDUCTANCE: <10nH
TEMP. CYCLING -40°C to +125°C (1000 cycles): 1% ΔR

TOLERANCE AND T.C. OPTIONS

| Resistance Range | Tol. Range | Temp. Coef. (ppm/°C) | |
|---|------------|----------------------|--------------|
| | | Typical | Best Avail.* |
| .001 to .0049Ω (OA5A=.0025 to .005Ω) | 3% to 10% | 900ppm | 200ppm |
| .005 to .0099Ω (OA5A=.006 to .015Ω) | 1% to 10% | 600ppm | 100ppm |
| .010 to .024Ω (OA5A=.016 to .025Ω) | 1% to 10% | 200ppm | 50ppm |
| .025 to .049Ω | 1% to 10% | 100ppm | 30ppm |
| .05 to .10Ω | 1% to 10% | 50ppm | 20ppm |

* TC options vary depending on size and value (consult factory for availability)

P/N DESIGNATION: OA2A □ □ □ - R001 - J B □ W

