

OPEN-AIR LOW VALUE CURRENT SHUNT RESISTORS

0.001Ω to 0.15Ω, 1 WATT to 5 WATT

OA SERIES



Term.W is Pb-free and RoHS compliant



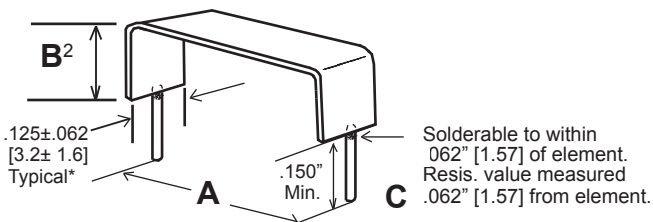
RESISTORS • CAPACITORS • COILS • DELAY LINES



← New narrow profile design offers significant space savings!

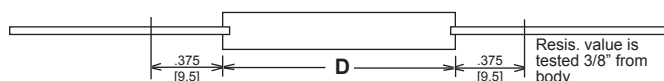
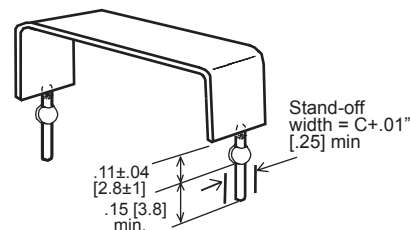
- Industry's widest range and lowest cost!
- Tolerances to ±0.5%, TC's to ±20ppm
- Available on exclusive **SWIFT™** delivery program!
- Option S: Axial lead (unformed element)
- Option E: Low Thermal EMF
- Option A: Stand-offs formed into lead wires
- Optional pin diameters and pin spacing

RCD's OA series offers cost-effective performance for a wide range of current shunt/sense applications³. 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] mm)

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	Option 80	Option 27		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.

³OA series not recommended for use in high vibration environments (encased designs such as LOR and ULV are preferable).

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)** if ≤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%).

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)

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: 10 to 25nH
 TEMP. CYCLING -40°C to +125°C (1000 cycles): 1% ΔR

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

