

14AFR Current Sense resistors feature a high temperature ceramic body which affords the user higher power densities than similar products which utilize silicone based epoxy molding compounds. The internal construction involves a straight, low inductance, 3-piece welded metal element at 1% tolerance. This series is stocked in 9 popular resistance values for easy accessibility.

## FEATURES

- Ideal for current sensing applications
- 1% Tolerance standard
- Fixed resistance measuring point
- Low inductance
- RoHS compliant

## SPECIFICATIONS

### Material

**Terminals:** Solder-plated copper terminals or copper clad steel depending on ohmic value.

**Encapsulation:** Ceramic cased body

**Derating:** Linearly from 4W@70°C to 0W@250°C

### Electrical

**Max.Voltage:**  $\sqrt{PxR}$  RMS

**Climatic Category:** 55/200/56

**TCR:** Varies from +150 to +1100ppm/°C based on resistance value. TCR increases as resistance value reduces from 51 to 4millionhms. TCR is tested as per IEC Specification 115-1 Clause 4.8.4.2

**Tolerance:** ±1% standard. Others available.

**Power rating:** 4W@70°C

**Dielectric withstanding voltage:** 1000 VRMS for 3 and 5 watt; 500 VRMS for 2 watt.

**Insulation resistance:** Not less than 1000MΩ.

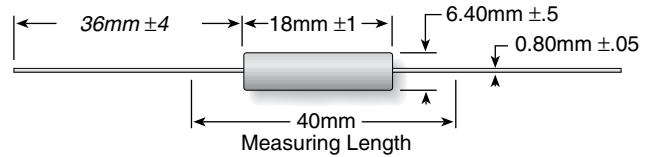
**Thermal EMF:** Less than ±2μV/°C.

**Temperature range:** -55°C to 275°C.



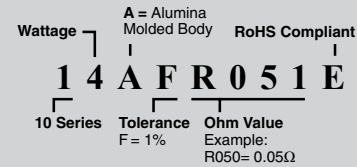
# 14A Series

## Alumina Body Current Sense



| Series | Wattage | Ohms        | Dimensions (in. / mm) |              |            |            |
|--------|---------|-------------|-----------------------|--------------|------------|------------|
|        |         |             | Length                | Diam.        | "M"        | Lead       |
| 14A    | 4       | 0.004-0.051 | 0.709 / 18            | 0.252 / 6.40 | 1.575 / 40 | 0.031/0.80 |

## ORDERING INFORMATION



Check product availability at [www.ohmite.com](http://www.ohmite.com)

## PERFORMANCE CHARACTERISTICS

| Test                      | Condition  | Maximum ΔR |
|---------------------------|--|------------|
| Endurance at Rated Power  | 1000hrs Test   | ΔR <5%     |
| Terminal Strength         | Pull Strength of 50N for 10sec, IEC115-1, Clause 4.16 Test Ua1 |            |
| Solderability             | 95% Coverage as per MIL STD 202F, Test 208                     |            |
| Resistance to Solder Heat | -260°C for 10sec as per IEC115-1, Clause 4.18                  | ΔR <0.5%   |
| Long Term Damp Heat       | -90-95% RH @40°C for 56 Days, IEC115-1, Clause 4.24            | ΔR <5%     |
| Climatic Sequence         | As per IEC 115-1, Clause 4.23                                  | ΔR <5%     |
| Overload                  | 5 times rated wattage for 5 seconds                            |            |

## STD. PART NUMBERS

| Ohmic value | Part Number |
|-------------|-------------|
| 0.004       | 14AFR004E   |
| 0.005       | 14AFR005E   |
| 0.008       | 14AFR008E   |
| 0.010       | 14AFR010E   |
| 0.015       | 14AFR015E   |
| 0.022       | 14AFR022E   |
| 0.033       | 14AFR033E   |
| 0.047       | 14AFR047E   |
| 0.051       | 14AFR051E   |