

14A Series

Alumina Body Current Sense



FEATURES

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

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.

SERIES SPECIFICATIONS

| Series | Wattage | Ohms |
|--------|---------|-------------|
| 14A | 4 | 0.004-0.051 |

CHARACTERISTICS

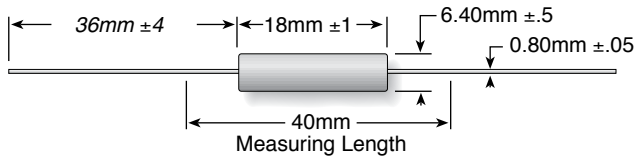
| | |
|--|---|
| Terminals | Solder-plated copper terminals or copper clad steel depending on ohmic value. |
| Encapsulation | Ceramic cased body |
| Derating | Linearly from 4W@70°C to 0W@250°C |
| Max.Voltage | $\sqrt{(P \times R)}$ RMS |
| Climatic Category | 55/200/56 |
| TCR | Varies from +150 to +1100ppm/°C based on resistance value. TCR increases as resistance value reduces from 51 to 4milliohms. 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. |

(continued)

14A Series

Alumina Body Current Sense

DIMENSIONS



| Series | Wattage | Length | Diam. | "M" | Lead |
|--------|---------|------------|--------------|------------|------------|
| 14A | 4 | 0.709 / 18 | 0.252 / 6.40 | 1.575 / 40 | 0.031/0.80 |

PERFORMANCE CHARACTERISTICS

| Test | Condition | Maximum ΔR |
|----------------------------------|--|--------------------|
| Endurance at Rated Power | 1000hrs Test | $\Delta R < 5\%$ |
| 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 | $\Delta R < 0.5\%$ |
| Long Term Damp Heat | 90-95% RH @40°C for 56 Days, IEC115-1, Clause 4.24 | $\Delta R < 5\%$ |
| Climatic Sequence | As per IEC 115-1, Clause 4.23 | $\Delta R < 5\%$ |
| Overload | 5 times rated wattage for 5 seconds | |

ORDERING INFORMATION



Standard 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 |