High Precision Low TCR Resistors

Token Ultra Precision Ten-Times More Accurate

Preview

The RE Series from Token Electronics is capped ultra precision metal-film resistors, as well as a complete selection of MIL-PRF-55182 and GJB244A-2001 quality standards. Token offers a low-cost alternative to traditional solutions for precision applications.

The RE is available in a resistance range of 10Ω ~ 15MΩ with a precision tolerance of ±0.02% and a temperature coefficient of resistance (TCR) of ±5PPM/°C, although other tolerances and TCRs are available.

The resistance element in these devices is a precisely controlled thin film of metal alloy deposited on a high quality alumina substrate. Plated caps are force-fitted before the assembly is trimmed using advanced laser techniques to ensure excellent performance and low electrical noise. Leads are welded to the end caps prior to the resistor being coated with epoxy.

Products equate Vishay, Ohmite, Caddock, IRC, EBG, Panasonic Precision Devices with more competitive price and fast delivery. Detailed precision RE specifications, both mechanical and electrical, please contact our sales representative for more information.

Production Standard :

Which is made referencing to Chinese National Quality Standard GJB244A-2001 standards, and USA Military/Established Reliability MIL-PRF-55182 in environmental and dimensional requirements.

Power Rating :

Power ratings are based on the following two conditions,

- ± 2.0 % maximum ΔR in 10 000 h load life.
- + 175 °C maximum operating temperature.

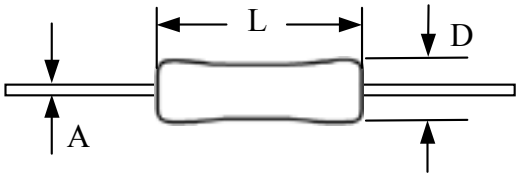
Applications :

- Measuring and calibration equipment,
- Telecom, Industrial process control systems,
- Test and measurement, Space and aircraft electronics.

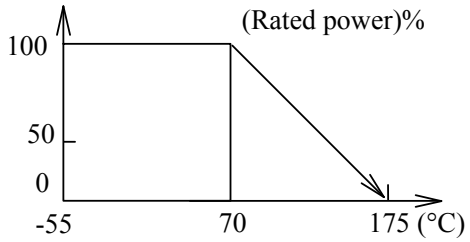
Features :

- Power rating from 0.125W to 1.5W.
- Covers all general type precision resistors.
- Military/Established Reliability and Stability.
- Extreme precision tolerance tight to ±0.02%.
- Temperature coefficient narrowed to ±5PPM/°C.
- Industrial grades, RoHS Compliant, metal film lacquer coated.

Metal Film (RE) Dimensions & Technical Characteristics



High Precision Resistor Coating Type (RE)
Dimensions



High Precision Resistor Coating Type (RE)
Power - Temperature Curve

Type		RE50	RE55	RE60	RE65	RE70	RE75
Rated Wattage (W)	70 °C	0.125	0.25	0.5	0.75	1.0	1.5
	125 °C	0.05	0.10	0.125	0.25	0.5	1.0
Max. Working Voltage (V)		200	200	250	300	350	500
Dimensions (mm)	L ± 0.3	4.0	6.7	9.6	11.8	13.9	17.7
	D ± 0.4	1.40	2.05	3.15	3.75	4.65	7.20
	A ± 0.05	0.40	0.60	0.60	0.60	0.80	0.80
Resistance Range (Ω)		20 ~ 200K	10 ~ 3M	10 ~ 5M	10 ~ 10M	10 ~ 15M	10 ~ 15M
Working Temperature Range		-55°C ~ +175°C					
Nominal Resistance Tolerance		B(±0.10%), C(±0.25%), D(±0.50%), F(±1.00%) between 5Ω to 3MΩ can be reached to A5(±0.05%) and A2(±0.02%)					
Temperature Coefficient PPM Normal test range(+25°C ~ +85°C) Special require range(-10°C ~ +50°C)		C6(±10PPM/°C), C5(±15PPM/°C), C3(±25PPM/°C), C2(±50PPM/°C) between 5Ω to 3MΩ can be reached to C7(±5PPM/°C)					

Remark: Please contact Token's Representatives if your requirement is not in above range.

Metal Film (RE) Dimensions & Technical Characteristics

Type	Item	Method	Requirement
Long Period	Life time	GJB244A (MIL-PRF-55182) 4.8.18 Rated Wattage,125°C,2000h 10000h	GJB244A (MIL-PRF-55182) 3.24 ΔR≤±(0.5%R+0.01Ω) ΔR≤±(2%R+0.01Ω)
	Humidity	GJB244A (MIL-PRF-55182) 4.8.18 -10°C ~ +65°C, RH<90% Rated Wattage, Cycle 240h.	GJB244A (MIL-PRF-55182)3.21 ΔR≤±(0.4%R+0.01Ω)
	High temp exposed	GJB244A 4.8.19 175°C 2000h	GJB244A (MIL-PRF-55182)3.25 ΔR≤±(2.0%R+0.01Ω)
Short Period	Dielectric voltage	GJB244A (MIL-PRF-55182) 4.8.12/4.8.23/4.8.10	GJB244A (MIL-PRF-55182) 3.18/3.29/3.16 ΔR≤±(0.15%R+0.01Ω) no physical damage, arc,isolation break through
	Lead strength Impact High frequency vibration	GJB244A (MIL-PRF-55182) 4.8.11/4.8.16/4.8.17	GJB244A (MIL-PRF-55182) 3.17/3.22/3.23 ΔR≤±(0.20%R+0.01Ω) no physical damage
	Solderability	GJB244A (MIL-PRF-55182) 4.8.14	GJB244A (MIL-PRF-55182)3.20 ΔR≤±(0.10%R+0.01Ω) no physical damage

How to Order

RE60 ❶ | 0.5W ❷ | 10R ❸ | D ❹ | C5 ❺ | P ❻

❶ Part Number: RE50, RE55,
RE60, RE65,
RE70, RE75.

❷ Rated Power (W)

Code	Temperature	Rated Power (W)
RE50	70 °C	0.125
RE55		0.25
RE60		0.5
RE65		0.75
RE70		1.0
RE75		1.5
RE50	125 °C	0.05
RE55		0.10
RE60		0.125
RE65		0.25
RE70		0.5
RE75		1.0

❸ Resistance Value (Ω):

Code	Resistance Value (Ω)
10R	10Ω
100R	100Ω
1K1	1.1KΩ
1M	1MΩ
10M	10MΩ

❹ Resistance Tolerance (%)

Code	Resistance Tolerance (%)
B	±0.10
C	±0.25
D	±0.50
F	±1.00

❺ Temperature Coefficient (ppm/°C)

Code	Temperature Coefficient (ppm/°C)
C6	±10 ppm/°C
C5	±15 ppm/°C
C3	±25 ppm/°C
C2	±50 ppm/°C

❻ Packaging: P (Bulk)

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