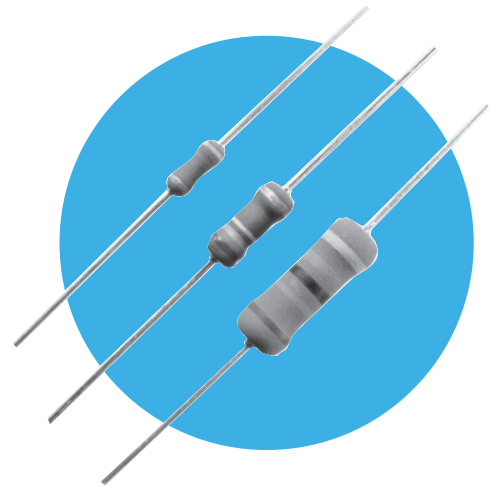


High Value Thick Film Resistors

GC Series

OBSOLETE

- High working voltage to 10kV
- Values up to 900M
- Custom product available
- High stability thick film
- Surface mount ZI-form option



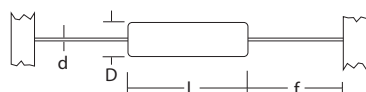
All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

| | | GC55 | GC65 | GC70 |
|---------------------------|---------------------|---------------------|-------------|------------|
| Power rating at 70° C | watts | 0.25 | 0.5 | 1.0 |
| Resistance range | ohms | 47K to 900M | 47K to 900M | 47K to 33M |
| Limiting element voltage | Volts dc or ac Peak | 1700 | 3500 | 10000 |
| Isolation voltage | volts | | 700 | |
| TCR (20° C to 70° C) | ppm/° C | | 100 | |
| Resistance tolerance | % | | 1,5 | |
| Values | | E24 & E96 preferred | | |
| Thermal impedance | °C/watt | 140 | 90 | 70 |
| Ambient temperature range | °C | | - 55 to 155 | |

Physical Data

| Dimensions (mm) and Weight (g) | | | | | | | |
|--------------------------------|--------|--------|--------|--------|----------------------|-----------------|---------|
| Type | L max. | D max. | f min. | d nom. | PCB mounting centres | Min bend radius | Wt nom. |
| GC55 | 6.2 | 2.5 | 21.0 | 0.6 | 10.2 | 0.6 | 0.3 |
| GC65 | 9.0 | 3.6 | 19.6 | 0.8 | 13.7 | 1.2 | 0.6 |
| GC70 | 14.5 | 5.3 | 23.6 | 0.8 | 20.3 | 1.2 | 1.1 |



Construction

Thick film material is fired on to high grade ceramic rods. Tin plated steel caps are force fitted and the termination wires are welded to the caps. The value is obtained by a helical cut in the film and finally the resistor body is given a high temperature protective coating.

Terminations

Material Solder coated copper wire.

Strength The terminations satisfy the requirements of IEC 68.2.21.

Solderability The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2.

Marking

1% tolerance resistors are colour coded with 5 bands, 2% and 5% tolerance have 4, IEC 62 colours are used.

Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning fluids suitable for printed circuit boards.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Performance Data

| | | Maximum | Typical |
|---------------------------------------|-------|---------------|---------|
| Load at rated power: 1000 hrs at 70°C | ΔR% | 1 | 0.5 |
| Derating | | Zero at 155°C | |
| Overload | ΔR% | 1 | 0.2 |
| Climatic | ΔR% | 1 | 0.25 |
| Climatic category | ΔR% | 55/155/56 | |
| Temperature rapid change | ΔR% | 1 | 0.15 |
| Resistance to Solder Heat | ΔR% | 0.2 | 0.03 |
| Vibration and bump | ΔR% | 0.1 | 0.02 |
| Voltage proof | volts | 1000 min. | |

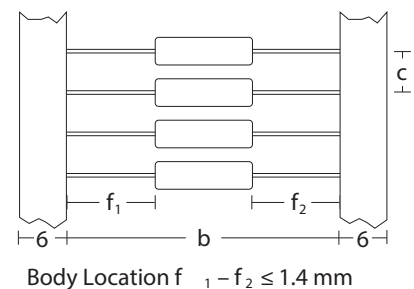
N.B. This product can be custom built to meet specific voltage coefficient or pulse requirements.

Packaging

The standard method of packaging GC resistors is taped in ammo packs. Taped resistors on reel or loose packed components can also be supplied by special request. In the case of tape packed components the usable lead length is reduced by the width of the tape. A detailed taping specification is available on request.

These products are also available in a range of lead forming options. In particular, GC65 & GC70 are available in ZI-form SMD format packed in blister tape - see: <http://www.ttelectronics.com/themes/ttelectronics/datasheets/resistors/ZI-form.pdf>

Figure 2



| Type | b | c |
|-----------|----|----|
| GC55/GC65 | 52 | 5 |
| GC70 | 67 | 10 |

Ordering Procedure

Example: GC55 at 4.7 megohms and 1% tolerance in ammo pack box of up to 5000 pieces -

GC55 - 4 M 7 F I

Type _____

Value (use IEC62 code) _____

Tolerance (use IEC62 code) _____

| | |
|---|----|
| F | 1% |
| J | 5% |

Packing _____

| | | | | |
|---|------|------|----------------|----------|
| I | Ammo | GC55 | Up to 5000/box | Standard |
| | | GC65 | Up to 2500/box | |
| | | GC70 | Up to 1000/box | |

General Note

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