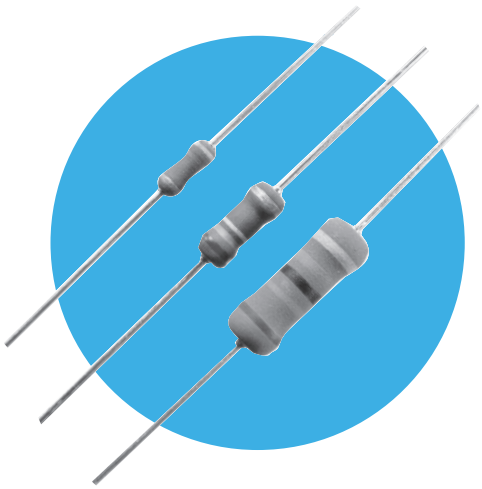
Resistors

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)

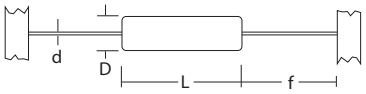
Electrical Data

		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.

OBSOLETE

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.	

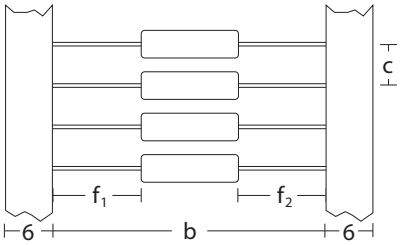
N.B. This product can be custom built to meet specific voltage coefficient or pulse requirements.

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



Body Location $f_1 - f_2 \leq 1.4$ mm

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 -

G C 5 5 – 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	