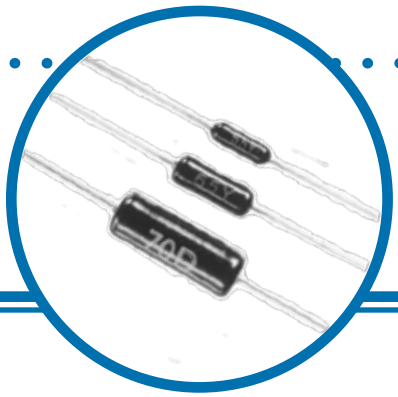
Precision Metal Film Resistor

TT electronics



RC Series

- Resistance tolerance down to ±0.05%
- Low noise and negligible voltage coefficient
- CECC released product with low TCRs over a wide resistance range
- 100% tin plated (Pb-free, RoHS compliant) leads

Electrical Data

		RC55	RC65	RC70	Notes
Commercial					
Power Rating At 70°C	Watts	0.25	0.5	1.0	
Resistance Range	Ohms	1R to 4M	1R to 4M	10R0 to 10M	
Limiting Element Voltage	Volts	350	350	500	
Isolation Voltage	Volts	500	500	700	
TCR (20 to +70°C) & codes	ppm/°C	5(V), 10(T), 15(Y), 25(D), 50(C) & 100(Z)			See resistance restrictions
Resistance Tolerance	%	0.05(W), 0.1(B), 0.25(C), 0.5(D) & 1 (F)			

Approved CECC 40101-004		**H**	**J**	**K**	**K**	**L**	
Power Rating At 70°C	Watts	0.063	0.125	0.25	0.25	0.5	
Resistance Range	Ohms	1R to 1M	1R to 1M	1R to 1M	10R to 1M	10R to 1M	
Limiting Element Voltage	Volts	200	200	250	250	350	
Isolation Voltage	Volts	280	280	350	350	500	
TCR & Codes	ppm/°C	15(Y), 25(D), 50(C) & 100(Z)					See resistance restrictions
Resistance Tolerance (code)	%	0.05(W), 0.1(B), 0.25(C), 0.5(D) & 1(F)					

Approved CECC 40101-804		**A**	**B**	**B**	**C**	
Power Rating At 70°C	Watts	0.125	0.25	0.25	0.5	
Resistance Range	Ohms	1R to 1M	1R to 1M	10R to 1M	10R to 1M	
Limiting Element Voltage	Volts	200	250	250	350	
Isolation Voltage	Volts	280	350	350	500	
TCR & Codes	ppm/°C	15(T), 25(E) & 50(C)				See resistance restrictions
Resistance Tolerance (code)	%	0.05(W), 0.1(B), 0.25(C), 0.5(D) & 1(F)				

Standard Values		E24, E96 Preferred			Any value to order
Thermal Impedance	°C/Watt	110	70	60	
Ambient Temperature Range	°C	-55 to +155			

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

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IRC
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Precision Metal Film Resistor

Physical Data

Dimensions (mm) & Weight (g)							
Type	**L Max**	**D Max**	**F Min**	**D Nom**	**PCB Mounting Centers**	**Min Bend Radius**	**Wt. Nom**
RC55	7.2	2.5	30	0.6	10.2	0.6	0.24
RC65	10.0	3.7	30	0.6	12.7	0.6	0.40
RC70	15.5	5.5	30	0.8	18.4	1.2	1.15



Construction

A metal film is deposited onto a high quality ceramic former. Nickel-plated steel caps are force fitted to the former and termination wires are welded to the caps.

The resistor is adjusted to value by a helical cut in the film and the body is protected with a specially formulated epoxy coating.

Terminations

Material 100% tin plated over copper wire

Strength The teminations meet the requirements of IEC 68.2.21.

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

Marking

Type reference, TCR code, resistance value and tolerance code.

The resistance values conform to IEC 62.

Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

Environmental Data

		CECC 40101-004	CECC 40101-804	*Actual Performance	
		Requirements	**Requirements**	**Maximum**	**Typical**
Load At Commercial Rating: 1000 Hours At 70°C	ΔR%	---	---	0.3	0.1
Load At CECC Rating: 1000 Hours At 70°C	ΔR%	0.5	0.5	0.3	0.05
Dry Heat: 1000 Hours at 155°C	ΔR%	0.5	0.5	**1.0	0.15
Shelf Life: 12 Months at Room Temperature	ΔR%	Not specified	Not specified	0.1	0.03
Derating From Rated Power At 70°C		Zero at 155°C	50% at 125°C	---	---
Short Term Overload	ΔR%	0.1	0.1	0.1	0.02
Climatic	ΔR%	0.5	0.5	0.3	0.1
Climatic Category		55/155/56	55/155/56	55/155/56	---
Long Term Damp Heat	ΔR%	0.5	0.5	0.5	0.1
Temperature Rapid Change	ΔR%	0.1	0.1	**0.2	0.05
Resistance To Solder Heat	ΔR%	0.1	0.1	0.06	0.03
Vibration and Bump	ΔR%	0.1	0.1	0.06	0.02
Noise (in a decade of frequency)	μV/V	Not specified	Not specified	1.0	0.1
Voltage Coefficient Of Resistance	ppm/V	Not specified	Not specified	---	<1

Note: *An 0.01 ohm addition to be added to the performance claims of all resistors <10R.
** All products within the specified approved range meet CECC requirements.

Table of Resistance Restrictions

TCR ppm/°C	Tolerance								
	RC55			RC65			RC70		
	0.05%	0.1 - 0.25%	0.5 - 1%	0.05%	0.1 - 0.25%	0.5 - 1%	0.05%	0.1 - 0.25%	0.5 - 1%
5	10 to 500K	10 to 500K	1 to 500K	10 to 500K	10 to 500K	1 to 500K	10 to 750K	10 to 750K	1 to 750K
10	10 to 1M	10 to 1M	1 to 1M	10 to 1M	10 to 1M	1 to 1M	10 to 1M	10 to 1M	1 to 1M
15	10 to 1M	5 to 1M	1 to 1M	10 to 1M	5 to 1M	1 to 1M	10 to 1M	10 to 2M	1 to 2M
25	10 to 1M	5 to 2M	1 to 2M	10 to 1M	5 to 2M	1 to 2M	10 to 1M	10 to 5M	1 to 5M
50	10 to 1M	5 to 2M	1 to 4M	10 to 1M	5 to 2M	1 to 4M	10 to 1M	5 to 10M	1 to 10M
100	10 to 1M	1 to 2M	1 to 4M	10 to 1M	1 to 2M	1 to 4M	10 to 1M	1 to 10M	1 to 10M

Application Notes

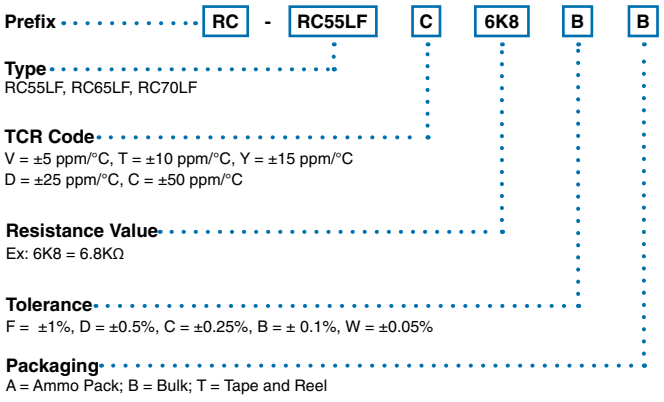
Matched Sets and Networks
Welwyn has many years experience in the supply of matched set of precision resistors

Resistors can be supplied matched for tolerance and TCR down to ±0.02% and ±2 ppm/°C, either as separate resistors or pre-assembled and encapsulated within a plastic box.

The individual resistors within a set or module can be manufactured with a tolerance of ±0.05% and TCR of ±5 ppm/°C.

A low inductance version is available at 1% tolerance. For low inductive version add suffix N.

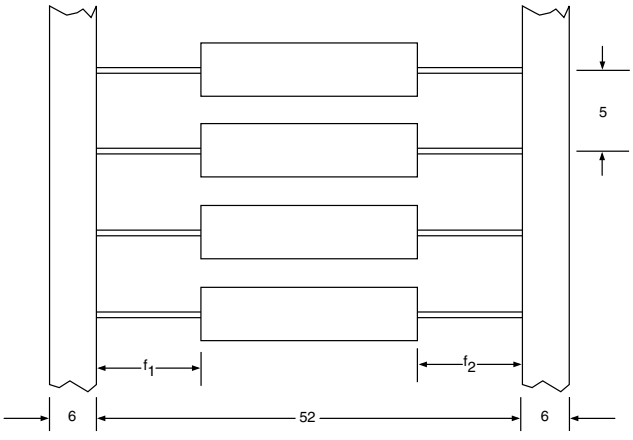
Ordering Data



For additional information or to discuss your specific requirements, please contact our Applications Team using the contact details below.

Packaging

The standard method of packaging RC55 resistors is taped in ammo packs. Taped resistors on reel or loose packed components can also be supplied by special request. The standard packaging for RC65 and RC70 resistors is loose in boxes. By special request the RC65 components can also be supplied taped on reel or in ammo pack. In the case of tape packed components the usable lead length is reduced by the width of the tape.



Body location: $f_1 - f_2 \leq 1.4$mm

Standard Quantities Per Package

Type	RC55	RC65	RC70
Small box	250	125	25
Large box	1000	500	250
Reel	5000	2500	-
Large ammo	1000	1000	-