








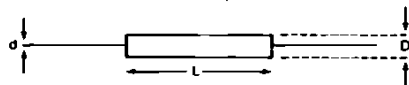


Metal Film Resistors – Precision

(QPL to MIL-R-10509) ±25PPM and 50PPM

	Military Type	Corning Type	WATTAGE RATING				Resistance Range	Standard Tolerance	Temperature Coefficient PPM/°C		
			Military		Commercial						
			70°C	125°C	70°C	125°C					
Characteristic E ±25PPM/°C											
 RN55E	RN55E	NE55	1/10	200	½	1/8	250	49.9Ω-1M	.1, .25, .5, 1	25	
 RN60E	RN60E	NE60	1/8	250	1	1/4	350	49.9Ω-1M	.1, .25, .5, 1	25	
 RN65E	RN65E	ME65	1/4	300	1	1/2	350	49.9Ω-1M	.1, .25, .5, 1	25	
Characteristic C ±50PPM/°C											
 RN50C	RN50C	NC3	1/20	200	1/8			49.9Ω-100K	.5, 1	50	
 RN55C	RN55C	NC55	1/10	200	1/2	1/8	250	49.9Ω-1M	.1, .25, .5, 1	50	
 RN60C	RN60C	NC60	1/8	250	1	1/4	350	49.9Ω-1M	.1, .25, .5, 1	50	
 RN65C	RN65C	MC65	1/4	300	1	1/2	350	49.9Ω-1M	.1, .25	50	
 RN65C	RN65C	NC6	1/4	300	1	1/2	350	49.9Ω-1M	.5, 1	50	
 RN70C	RN70C	NC7	3/4	1/2	350	1		500	51.1Ω-1M	.5, 1	50

Part Number Explanation on Page 23



	DIMENSIONS – INCHES			DIMENSIONS – MM		
	L	Body D	Leads* d	L	Body D	Leads* d
RN55E	.245 ± .030	.088 ± .010	.025	6.22 ± .76	2.24 ± .25	.63
RN60E	.375 ⁺ .025 _– .055	.135 ⁺ .020 _– .000	.025	9.53 ⁺ .63 _– 1.4	3.43 ⁺ .51 _– .00	.63
RN65E	.555 ⁺ .030 _– .020	.178 ± .010	.025	14.10 ⁺ .76 _– .51	4.52 ± .25	.63
RN50C	.145 ± .015	.062 ± .004	.016	3.68 ± .38	1.57 ± .10	.41
RN55C	.245 ± .030	.088 ± .010	.025	6.22 ± .76	2.24 ± .25	.63
RN60C	.375 ⁺ .025 _– .055	.135 ⁺ .020 _– .000	.025	9.53 ⁺ .63 _– 1.4	3.43 ⁺ .51 _– .00	.63
RN65C	.555 ⁺ .030 _– .020	.178 ± .010	.025	14.10 ⁺ .76 _– .51	4.52 ± .25	.63
RN65C	.554 ± .021	.190 ⁺ .010 _– .015	.025	14.07 ± .53	4.83 ⁺ .25 _– .38	.63
RN70C	.719 ± .031	.248 ± .015	.032	18.26 ± .79	6.30 ± .38	.81

*All leads are 1.5" ± .125" long (38.1 ± 3.2 mm.)

Corning Glass Works 1978

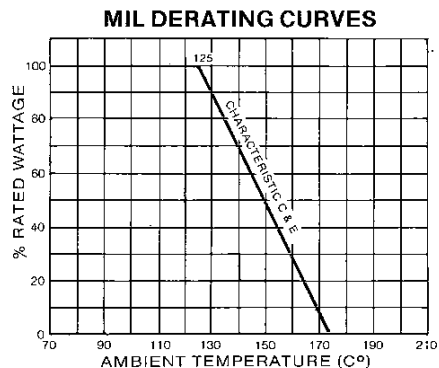
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Corning's ± 25 and ± 50 ppm resistors provide the tight tolerance, tight temperature coefficient and operating stability required in today's precision circuits. These resistors feature the

low noise and low inductance characteristics of metal film technology. Standard resistance tolerances are 0.1, .25, .5, and 1%.

Load Life 1000 Hours MIL Rating ΔR Max. $\pm\%$	Moisture Resistance ΔR Max. $\pm\%$	Thermal Shock ΔR Max. $\pm\%$	Short Time Overload ΔR Max. $\pm\%$	Low Temp. Operation ΔR Max. $\pm\%$	D.W.V. ΔR Max. $\pm\%$	Effect Solder Heat ΔR Max. $\pm\%$	Terminal Strength ΔR Max. $\pm\%$	Shock ΔR Max. $\pm\%$	Vibration ΔR Max. $\pm\%$
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.25	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5	0.5	0.10	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5 ⁽¹⁾	0.5	0.25	0.10	0.10	0.05	0.1	0.05	0.05	0.05
0.5 ⁽¹⁾	0.5	0.25	0.10	0.10	0.05	0.1	0.05	0.05	0.05

⁽¹⁾ 1 Watt Commercial
 $\Delta R \pm 1.0\%$



Part Marking Examples, Insulating Coatings, Color, Lead Materials and Other Information Available on Page 9.

CGW 1978




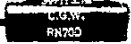
Metal Film Resistors - Precision

RN55D, RN60D, RN65D, RN70D (QPL to MIL-R-10509) ± 100PPM

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Precision metal film resistors for all circuit applications. Specifications meet or exceed those of MIL-R-10509. These resistors feature low noise and low inductance characteristics.

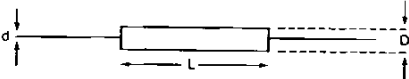
MIL-R-10509 specifies +200, -500-PPM/°C as the temperature coefficient for D characteristic. Corning guarantees ±100PPM/°C temperature coefficient.

	Military Type	Corning Type	WATTAGE RATING				Resistance Range	Standard Tolerance	Temperature Coefficient PPM/°C		
			Military		Commercial						
			70°C	125°C	70°C	125°C					
Characteristic D ±100PPM/°C											
 RN55D	RN55D	NA55	1/8		200	1/4	1/4	250	49.9Ω-150K 10Ω-301K	.5 1	100
 RN60D	RN60D	NA60	1/4		300	1/2	1/4	350	49.9Ω-499K 10Ω-1M	.5 1	100
 RN65D	RN65D	NA65	1/2	1/4	350	1	1/2	350	49.9Ω-1M 10Ω-2M	.5 1	100
 RN70D	RN70D	NA70	3/4		500	1	1/2	500	51.1Ω-1M	.5, 1	100

Part Number Explanation on Page 23

	DIMENSIONS - INCHES			DIMENSIONS - MM		
	L	Body D	Leads* d	L	Body D	Leads* d
RN55D	.225 ± .020	.090 ± .008	.025	5.71 ± .51	2.29 ± .20	.63
RN60D	.355 ± .020	.148 ^{+ .000} _{-.023}	.025	9.00 ± .51	3.76 ^{+ .000} _{-.58}	.63
RN65D	.554 ± .021	.190 ^{+ .010} _{-.015}	.025	14.07 ± .53	4.83 ^{+ .25} _{-.38}	.63
RN70D	.719 ± .031	.248 ± .015	.032	18.26 ± .79	6.30 ± .38	.81

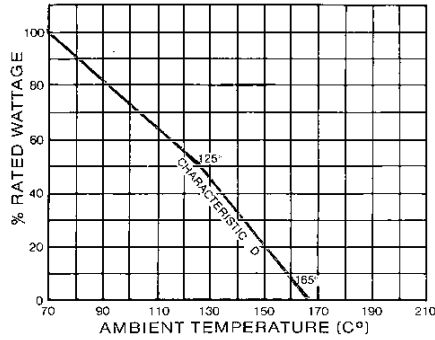
*All leads are 1.5" ± .125" long (38.1 ± 3.2mm).



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MIL DERATING CURVES



Load Life 1000 Hours MIL Rating ΔR Max. ±%	Moisture Resistance ΔR Max. ±%	Thermal Shock ΔR Max. ±%	Short Time Overload ΔR Max. ±%	Low Temp. Operation ΔR Max. ±%	D.W.V. ΔR Max. ±%	Effect Solder Heat ΔR Max. ±%	Terminal Strength ΔR Max. ±%	Shock ΔR Max. ±%	Vibration ΔR Max. ±%
0.5 1.0 ⁽¹⁾	0.5	0.25	0.1	0.1	0.05	0.1	0.05	0.05	0.05
0.5 1.0 ⁽¹⁾	0.5	0.25	0.1	0.1	0.05	0.1	0.05	0.05	0.05
0.5 1.0 ⁽¹⁾	0.5	0.25	0.1	0.1	0.05	0.1	0.05	0.05	0.05
0.5 1.0 ⁽¹⁾	0.5	0.25	0.1	0.1	0.05	0.1	0.05	0.05	0.05

⁽¹⁾Commercial Load Life Rating.

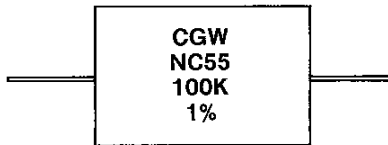
PART MARKING EXAMPLES

**MILITARY
(STANDARD)**



CGW — Corning Glass Works
 NC55 — Style and Case Size
 RN55C — MIL Designation
 1003F — Value & tolerance

**COMMERCIAL
(OPTIONAL)**



CGW — Corning Glass Works
 NC55 — Style and Case Size
 100K — Value in ohms
 1% — Tolerance

OTHER MARKING AVAILABLE — Customer part number; color banding.

INSULATING COATING — ME65 and MC65 are molded silicone. All others are conformally coated with epoxy resin.

COLOR — Dark gray or green.

LEAD MATERIAL — Type C, per MIL-STD-1276 (weldable types available).

OTHER INFORMATION AVAILABLE — Frequency characteristics, inductance, noise.

Metal Film Resistors – Semi-Precision

RLR05C, 07C, 20C, 32C (QPL to MIL-R-39017) Established Reliability

MIL-R-39017 is the established reliability specification for semi-precision metal film resistors. It supersedes MIL-R-22684 which is now inactive for new design.

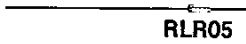
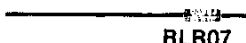
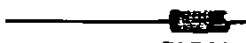

Revision C of MIL-R-39017 changed the temperature coefficient from ± 200 PPM/ $^{\circ}$ C to ± 100 PPM/ $^{\circ}$ C and added $\pm 1\%$ purchase tolerance. Resistance value coding was changed from three digit to four digit for $\pm 1\%$ and $\pm 2\%$ tolerance.

Amendment 2 to MIL-R-39017 makes all $\pm 5\%$ tolerance parts and $\pm 2\%$ parts with 3 digit resistance coding *inactive for new design*. However, usage of these devices is permitted in many existing designs.

New designs should use either $\pm 1\%$ or $\pm 2\%$ tolerance parts with four digit resistance value coding and marking.

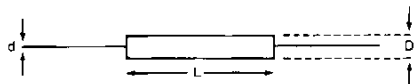
Extended life tests of over one-half billion unit test hours have proven the reliability

inherent in Corning's manufacturing process. This has been confirmed by field performance in high reliability programs such as: Minuteman, Safeguard, Mercury, Gemini, Apollo, Mariner, and Poselidon, as well as our involvement in virtually every other military program requiring resistors.

	Military Type	Corning Type	Wattage 70°C	Voltage Rating	Resistance Range	Standard ⁽¹⁾ Tolerance	Temperature Coefficient PPM/ $^{\circ}$ C	Load Life 2000 Hours MIL Rating ΔR Max. $\pm\%$
 RLR05	RLR05C	HC3	$\frac{1}{4}$	200	10 Ω -150K	1, 2, 5%	100	1.0
 RLR07	RLR07C	HC4	$\frac{1}{4}$	250	10 Ω -300K	1, 2, 5%	100	1.0
 RLR20	RLR20C	HC5	$\frac{1}{2}$	350	10 Ω -1M	1, 2, 5%	100	1.0
 RLR32 ACTUAL SIZE	RLR32C	HC6	1	500	10 Ω -1M	1, 2, 5%	100	2.0

⁽¹⁾5% tolerance is inactive for new design.

Part Number Explanation on Page 23



*All leads are 1.5" \pm .125" long unless otherwise noted. (38.1 \pm 3.2mm).

**Leads are 1.25" \pm .266" long (31.8 \pm 6.8mm).

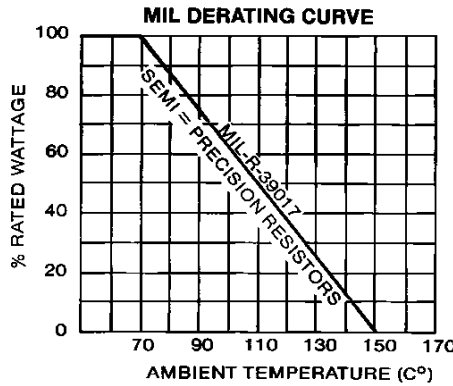
	DIMENSIONS – INCHES			DIMENSIONS – MM		
	L	Body D	Leads* d	L	Body D	Leads* d
RLR05C	.145 \pm .015	.062 \pm .004	.016**	3.68 \pm .38	1.57 \pm .10	.41**
RLR07C	.225 \pm .020	.090 \pm .008	.025	5.71 \pm .51	2.29 \pm .20	.63
RLR20C	.355 \pm .020	1.48 $\begin{smallmatrix} +.000 \\ -.023 \end{smallmatrix}$.032	9.02 \pm .51	3.76 $\begin{smallmatrix} +.000 \\ -.58 \end{smallmatrix}$.81
RLR32C	.554 $\begin{smallmatrix} +.026 \\ -.021 \end{smallmatrix}$.190 $\begin{smallmatrix} +.010 \\ -.015 \end{smallmatrix}$.040	14.07 $\begin{smallmatrix} +.66 \\ -.53 \end{smallmatrix}$	4.83 $\begin{smallmatrix} +.25 \\ -.38 \end{smallmatrix}$	1.02

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Life failure rate level (established at 60-percent confidence)

Failure-rate-level designation	Failure-rate percent/1,000 hours
M	1.0
P	0.1
R	0.01
S	0.001



MIL-R-39017

INSULATING COATING — Epoxy.

COLOR — Dark gray or green.

LEAD MATERIAL — Type C, per MIL-STD-1276 (weldable types available).

OTHER INFORMATION AVAILABLE — Frequency characteristics, noise, inductance and failure rate levels.

Moisture Resistance ΔR Max. ±%	Thermal Shock ΔR Max. ±%	Low Temp. Storage ΔR Max. ±%	Low Temp. Operation ΔR Max. ±%	Short Time Overload ΔR Max. ±%	D.W.V. ΔR Max. ±%	Effect Solder Heat ΔR Max. ±%	Terminal Strength ΔR Max. ±%	Shock & Vibration ΔR Max. ±%	Power Conditioning ΔR Max. ±%
.5	.25	0.1	0.1	.5	0.05	.1	0.05	0.05	.5
.5	.25	0.1	0.1	.5	0.05	.1	0.05	0.05	.5
.5	.25	0.1	0.1	.25	0.05	.1	0.05	0.05	.5
.5	.25	.25	.25	.25	.1	.1	.1	.1	.5

PART MARKING EXAMPLES

RLR05

702A — Year, Week of Year, Lot Code
 1002 — Coded Resistance Value*
 GRJ — Tol., FR, JAN

RLR07

712AJ — Year, Week of Year, Lot Code, JAN
 RLR7C — Style, Lead Material
 1002F — Coded Resistance Value*, Tol.
 RCGW — FR, Corning Glass Works

**RLR20
RLR32**

7711AJ — Year, Week of Year, Lot Code, JAN
 RLR_C — Style, Lead Material
 1002GR — Coded Resistance Value*, Tol., FR
 24546 — Source Code
 CGW — Corning Glass Works

*±5% tolerance parts are marked with 3 digit resistance value code, e.g. 103. ±2% tolerance parts are marked with 4 digit code but may be special ordered with 3 digit code. All ±5% parts and ±2% parts with 3 digit coding are inactive for new design.



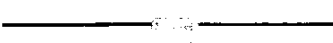



Molded Metal Film Resistors - Precision

(QPL to Established Reliability MIL-R-55182)

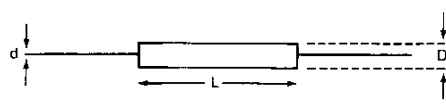
RNC50J/H/K, RNC55J/H/K, RNC60J/H/K, RNC65J/H/K, FR Level S
 RNR50J/H/K, RNR55J/H/K, RNR60J/H/K, RNR65J/H/K, FR Level S

CORNING* RNC resistors are designed for the many military applications where established reliability is a must.

Extended life tests of over one hundred million unit test hours have proven the reliability inherent in Corning's manufacturing process.

		WATTAGE RATING				Resistance Range	Standard Tolerance	Temperature Coefficient PPM/°C	Load Life 2000 Hours MIL Rating ΔR Max. ±%
Military Type	Corning Type	Military		Voltage Rating					
		70°C	125°C						
 RNC50	RNC50J/ RNR50J	MJ50	1/10	1/20	200	49.9Ω-150K	.1, .5, 1%	25	
	RNC50H/ RNR50H	MH50	1/10	1/20	200	10Ω-48.7Ω 49.9Ω-150K	.5, 1% .1, .5, 1%	50	0.5
	RNC50K/ RNR50K	MK50	1/10	1/20	200	10 Ω-150K	.5, 1%	100	
 RNC55	RNC55H/ RNR55H	MH55	¼	1/10	200	10Ω-48.7Ω	.5, 1%	50	
	RNC55K/ RNR55K	MK55	¼	1/10	200	10Ω-48.7Ω	.5, 1%	100	0.5
	RNC55J/ RNR55J	CJ55	¼	1/10	200	49.9Ω-301K	.1, .5, 1%	25	
 RNC55	RNC55H/ RNR55H	CH55	¼	1/10	200	49.9Ω-301K	.1, .5, 1%	50	0.5
	RNC55K/ RNR55K	CK55	¼	1/10	200	49.9Ω-301K	.5, 1%	100	
	RNC60H/ RNR60H	MH60	¼	¼	250	10Ω-48.7Ω	.5, 1%	50	
 RNC60	RNC60K/ RNR60K	MK60	¼	¼	250	10Ω-48.7Ω	.5, 1%	100	0.5
	RNC60J/ RNR60J	CJ60	¼	¼	250	49.9Ω-499K	.1, .5, 1%	25	
	RNC60H/ RNR60H	CH60	¼	¼	250	49.9Ω-499K	.1, .5, 1%	50	0.5
 RNC60	RNC60K/ RNR60K	CK60	¼	¼	250	49.9Ω-499K	.5, 1%	100	
	RNC65J/ RNR65J	MJ65	1/2	¼	300	49.9 Ω-1M	.1, .5, 1%	25	
	RNC65H/ RNR65H	MH65	1/2	¼	300	10Ω-48.7Ω 49.9Ω-1M	.5, 1% .1, .5, 1%	50	0.5
 RNC65 ACTUAL SIZE	RNC65K/ RNR65K	MK65	1/2	¼	300	10Ω-48.7Ω 49.9Ω-1M	.5, 1% .1, .5, 1%	100	

Part Number Explanation on Page 23



*All leads are 1.5" ± .125" long (38.1 ± 3.2 mm)

(1) J, H or K
(2) H or K

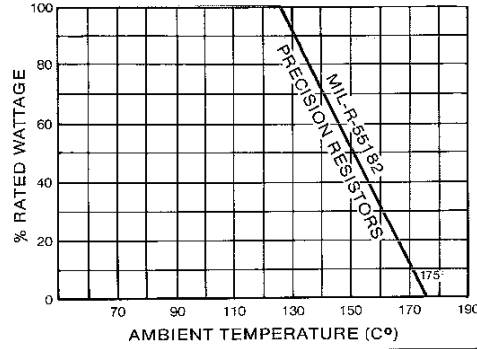
	DIMENSIONS - INCHES				DIMENSIONS - MM			
	L	Body	D	Leads* d	L	Body	D	Leads* d
M ⁽¹⁾ .50	.160 ± .010	.075 ± .005	.016		4.06 ± .25	1.9 ± .13	.41	
M ⁽²⁾ .55	.270 ± .010	.098 + .002 - .003	.025		6.86 ± .25	2.49 + .051 - .076	.63	
C ⁽¹⁾ .55	.245 ± .030	.090 + .008 - .005	.025		6.22 ± .76	2.29 + .20 - .13	.63	
M ⁽²⁾ .60	.410 ± .015	.160 ± .005	.025		10.41 ± .38	4.06 ± .13	.63	
C ⁽¹⁾ .60	.375 + .025 - .055	.135 + .020 - .000	.025		9.53 + .63 - 1.4	3.43 + .51 - .00	.63	
M ⁽¹⁾ .65	.555 + .030 - .020	.178 ± .010	.025		14.1 + .76 - .51	4.5 ± .25	.63	

Corning Glass Works 1978

Life failure rate level (established at 60-percent confidence)

Failure-rate-level designation	Failure-rate percent/1,000 hours
M	1.0
P	0.1
R	0.01
S	0.001

MIL DERATING CURVE



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Moisture Resistance ΔR Max. $\pm\%$	Overload and Thermal Shock ΔR Max. $\pm\%$	Low Temp. Operation ΔR Max. $\pm\%$	D.W.V. ΔR Max. $\pm\%$	Effect Solder Heat ΔR Max. $\pm\%$	Terminal Strength ΔR Max. $\pm\%$	Shock ΔR Max. $\pm\%$	Vibration ΔR Max. $\pm\%$	High Temp. Exposure ΔR Max. $\pm\%$
0.4	0.2	0.15	0.15	0.1	0.2	0.2	0.2	0.5
0.4	0.2	0.1	0.1	0.1	0.05	0.05	0.05	0.5
0.4	0.2	0.1	0.1	0.1	0.05	0.05	0.05	0.5
0.4	0.2	0.1	0.1	0.1	0.05	0.05	0.05	0.5
0.4	0.2	0.1	0.1	0.1	0.05	0.05	0.05	0.5
0.4	0.2	0.1	0.1	0.1	0.05	0.05	0.05	0.5

PART MARKING EXAMPLES

RNC55	RNC60 RNC65	RNC50
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> RNC55 H742A 49R9 FSCJ </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> 24546 7742J RNC__H 49R9FS 7642A </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> 842H 49R9 FSCJ A CG </div>
RNC55 — Style and Terminal H742A — Char., Date Code, Prod. Lot Code 49R9 — Value FSCJ — Tol., FR, Term., and JAN	24546 — Source Code 7742J — Date Code and JAN RNC__H — Style, Term., (60/65), and Char. 49R9FS — Value, Tol., and FR 7642A — Production Lot Code	842H — Date Code, Characteristic 49R9 — Value FSCJ — Tol., FR, Term., and JAN A CG — Lot Code — Manuf. Ident.
MIL-R-55182 INSULATING COATING — Molded Silicone or conformal.		COLOR Dark gray. LEAD MATERIAL — Type C, per MIL-STD-1276 and type R.

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








Metal Film Resistors - Semi-Precision

C3, C4, C5, C6 (Commercial) RL07, 20, 32, (QPL to MIL-R-22684)

C05, C07, CS20, FP32, 42 (Commercial) RL07, 20, 32, 42 (QPL to MIL-R-22684)

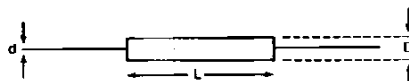
Corning's Semi-Precision Resistors offer • Long Term Stability • Low Inductance • Low Noise • Low Cost • QPL to MIL-R-22684

Ideal for preamplifiers, RF and IF circuits, and other general purpose usage.

	WATTAGE RATING								Resistance Range	Standard Tolerance	Temperature Coefficient PPM/°C
	Military Type	Corning Type	Military		Commercial		Resistance Range	Standard Tolerance			
			70°C	125°C	70°C	125°C					
Temperature Coefficient ±100PPM/°C Standard Tolerance 1, 2, 5%											
	-	C3			¼	½	200	10Ω-150K	1, 2, 5%	100	
	RL07S	C4	¼		250	¼	250	10Ω-301K	1, 2, 5%	100	
	RL20S	C5	½		350	¼	350	10Ω-1M	1, 2, 5%	100	
	RL32S	C6	1		500	½	500	10Ω-2M	1, 2, 5%	100	
Temperature Coefficient ±200PPM/°C Standard Tolerance 2, 5, 10%											
	-	C05			¼		200	10Ω-150K	2, 5, 10%	200	
	RL07S	C07	¼		250			10Ω-301K	2, 5, 10%	200	
	RL20S	CS20	½		350			10Ω-1M	2, 5, 10%	200	
	RL32S	FP32	1		500			10Ω-1M	2, 5, 10%	200	
	RL42S ⁽¹⁾	FP42	2		500			10Ω-1.5M	2, 5, 10%	200	

(1) Available in RL42TX.

Part Number Explanation on Page 23

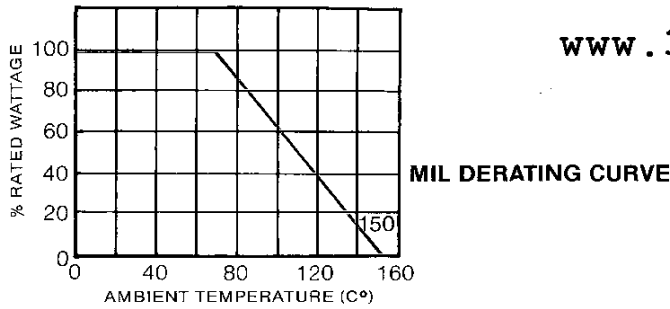


* All leads are 1.5" ± .125" lg. (38.1 ± 3.2mm)
 **.020" also available.

	DIMENSIONS - INCHES				DIMENSIONS - MM			
	L	Body D	Leads* d	L	Body D	Leads* d		
C3	.145 ± .015	.062 ± .004	.016**	3.68 ± .38	1.57 ± .10	.41**		
RL07S	.225 ± .020	.090 ± .008	.025	5.71 ± .51	2.29 ± .20	.63		
RL20S	.355 ± .020	.148 + .000 - .023	.032	9.02 ± .51	3.76 + .00 - .58	.81		
RL32S	.554 ± .021	.190 + .010 - .015	.040	14.07 ± .53	4.83 + .25 - .38	1.02		
C05	.145 ± .015	.062 ± .004	.016	3.68 ± .38	1.57 ± .10	.41		
RL07S	.225 ± .020	.090 ± .008	.025	5.71 ± .51	2.29 ± .20	.63		
RL20S	.355 ± .020	.148 + .000 - .023	.032	9.02 ± .51	3.76 + .00 - .58	.81		
RL32S	.560 ± .030	.190 + .010 - .015	.040	14.27 ± .76	4.83 + .25 - .38	1.02		
RL42S	.687 ± .031	.310 ± .010	.045	17.45 ± .79	8.00 ± .25	1.14		

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Load Life 1000 Hours MIL Rating ΔR Max. ±%	Moisture Resistance ΔR Max. ±%	Thermal Shock ΔR Max. ±%	Short Time Overload ΔR Max. ±%	Low Temp. Operation ΔR Max. ±%	D.W.V. ΔR Max. ±%	Effect Solder Heat ΔR Max. ±%	Terminal Strength ΔR Max. ±%	Shock ΔR Max. ±%	Vibration ΔR Max. ±%
1.0	0.5	0.25	0.5	0.25	0.1	0.1	0.2	0.1	0.1
1.0	0.5	0.25	0.25	0.25	0.1	0.1	0.1	0.1	0.1
1.0	0.5	0.25	0.25	0.5	0.1	0.1	0.1	0.1	0.1
2.0	0.5	0.25	0.25	0.5	0.1	0.1	0.1	0.1	0.1
1.0	0.5	0.25	0.5	0.25	0.1	0.1	0.2	0.1	0.1
2.0	0.5	0.25	0.5	0.25	0.1	0.1	0.1	0.1	0.1
1.5	1.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2.0	1.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
3.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5

PART MARKING EXAMPLES

MILITARY

5 Band, MIL-R-22684

COLOR CODE — For color code explanation see page 22.

COMMERCIAL

1% Tolerance Parts are marked with 5 color bands. 5 band, EIA Standard RS 196*.

2, 5 & 10% Tolerance Parts are marked with 4 color bands. 4 band Commercial, EIA Standard

OTHER MARKING AVAILABLE — Type marking.

INSULATING COATING — Epoxy resin for "C" styles, flameproof ceramic for "FP" styles.

COLOR — Dark gray or green for "C" styles, medium blue for "FP" styles.

LEAD MATERIAL — Type C, per MIL-STD-1276 (weldable types available).

OTHER INFORMATION AVAILABLE — Frequency characteristics, inductance, noise.

*C3, 1% tolerance part is typemarked.

Part Number Explanations

<p>Page 6-8</p> <table border="0"> <tr> <td style="text-align: center;">RN</td> <td style="text-align: center;">55</td> <td style="text-align: center;">MILITARY</td> <td style="text-align: center;">1002</td> <td style="text-align: center;">F</td> </tr> <tr> <td>Fixed film precision resistor. (QPL to MIL-R-10509)</td> <td>Case Size 50, 55, 60, 65, 70</td> <td>Temperature Coefficient E = ±25PPM C = ±50PPM D = +200PPM -500PPM</td> <td>Resistance in ohms. 3 significant figures plus multiplier or number of zeros to follow.</td> <td>Resistance Tolerance *B = ±.1% *C = ±.25% D = ±.5% F = ±1%</td> </tr> </table> <p>*Available only in Characteristic E and C (±25 and ±50PPM/°C)</p> <table border="0"> <tr> <td style="text-align: center;">NE</td> <td style="text-align: center;">55</td> <td style="text-align: center;">CORNING</td> <td style="text-align: center;">49.9R</td> <td style="text-align: center;">1%</td> </tr> <tr> <td>Corning Style NE = ±25PPM ME = ±25PPM NC = ±50PPM MC = ±50PPM NA = ±100PPM</td> <td>Case Size 50, 55, 60, 65, 70</td> <td></td> <td>Value in ohms R = ohms K = thousand ohms M = million ohms</td> <td>Resistance Tolerance ±.1% ±.25% ±.5% ±1%</td> </tr> </table>	RN	55	MILITARY	1002	F	Fixed film precision resistor. (QPL to MIL-R-10509)	Case Size 50, 55, 60, 65, 70	Temperature Coefficient E = ±25PPM C = ±50PPM D = +200PPM -500PPM	Resistance in ohms. 3 significant figures plus multiplier or number of zeros to follow.	Resistance Tolerance *B = ±.1% *C = ±.25% D = ±.5% F = ±1%	NE	55	CORNING	49.9R	1%	Corning Style NE = ±25PPM ME = ±25PPM NC = ±50PPM MC = ±50PPM NA = ±100PPM	Case Size 50, 55, 60, 65, 70		Value in ohms R = ohms K = thousand ohms M = million ohms	Resistance Tolerance ±.1% ±.25% ±.5% ±1%	<p>Page 10</p> <table border="0"> <tr> <td style="text-align: center;">RLR</td> <td style="text-align: center;">20</td> <td style="text-align: center;">C</td> </tr> <tr> <td>Established Reliability Fixed Film Resistor (±100PPM/°C)</td> <td>Size Power rating at 70°C 05 = 1/4 watt 07 = 1/2 watt 20 = 1/2 watt 32 = 1 watt</td> <td>Lead Material Type C solderable/weldable.</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">1003</td> <td style="text-align: center;">G</td> <td style="text-align: center;">R</td> </tr> <tr> <td>Coded Resistance Value ohms. First 3 digits are significant figures, fourth digit is the multiplier. ±5% parts use a three digit code.</td> <td>Tolerance J = ±5% G = ±2% F = ±1%</td> <td>Failure Rate 1000 Hours (60% confidence) M = 1.0% P = 0.1% R = .01%</td> </tr> </table>	RLR	20	C	Established Reliability Fixed Film Resistor (±100PPM/°C)	Size Power rating at 70°C 05 = 1/4 watt 07 = 1/2 watt 20 = 1/2 watt 32 = 1 watt	Lead Material Type C solderable/weldable.	1003	G	R	Coded Resistance Value ohms. First 3 digits are significant figures, fourth digit is the multiplier. ±5% parts use a three digit code.	Tolerance J = ±5% G = ±2% F = ±1%	Failure Rate 1000 Hours (60% confidence) M = 1.0% P = 0.1% R = .01%
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<p>page 12</p> <table border="0"> <tr> <td style="text-align: center;">RNC</td> <td style="text-align: center;">55</td> <td style="text-align: center;">H</td> </tr> <tr> <td>Established Reliability Precision Molded Metal Film Resistor. RNC with solderable/weldable leads. RNR with solderable leads.</td> <td>Case Size 50, 55, 60, 65</td> <td>Characteristic J = non-hermetic ±25PPM/°C H = non-hermetic ±50PPM/°C K = non-hermetic ±100PPM/°C</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">1001</td> <td style="text-align: center;">F</td> <td style="text-align: center;">S</td> </tr> <tr> <td>Coded Resistance Value. First 3 digits are significant figures, fourth digit is the multiplier.</td> <td>Tolerance B = ±0.1% D = ±0.5% F = ±1.0%</td> <td>Failure Rate Level - % per 1000 Hours (60% confidence) M = 1.0% P = 0.1% R = .01% S = .001%</td> </tr> </table>	RNC	55	H	Established Reliability Precision Molded Metal Film Resistor. RNC with solderable/weldable leads. RNR with solderable leads.	Case Size 50, 55, 60, 65	Characteristic J = non-hermetic ±25PPM/°C H = non-hermetic ±50PPM/°C K = non-hermetic ±100PPM/°C	1001	F	S	Coded Resistance Value. First 3 digits are significant figures, fourth digit is the multiplier.	Tolerance B = ±0.1% D = ±0.5% F = ±1.0%	Failure Rate Level - % per 1000 Hours (60% confidence) M = 1.0% P = 0.1% R = .01% S = .001%	<p>Page 14</p> <table border="0"> <tr> <td style="text-align: center;">RL</td> <td style="text-align: center;">20</td> <td style="text-align: center;">MILITARY</td> <td style="text-align: center;">104</td> <td style="text-align: center;">G</td> </tr> <tr> <td>Fixed Film Resistor (QPL to MIL-R-22684)</td> <td>Case Size 07, 20, 32, 42</td> <td>Solderable Lead</td> <td>Resistance value in ohms. First 2 digits are significant figures. 3rd digit is the multiplier.</td> <td>Resistance Tolerance G = ±2% J = ±5%</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">5</td> <td style="text-align: center;">COMMERCIAL</td> <td style="text-align: center;">100K</td> <td style="text-align: center;">2%</td> </tr> <tr> <td>Style C CS FP</td> <td>Case Size 3, 4, 5, 6, 05, 07, 20, 32, 42.</td> <td></td> <td>Value in ohms R = ohms K = thousand ohms M = million ohms</td> <td>Resistance Tolerance ±1% ±2% ±5% ±10%</td> </tr> </table>	RL	20	MILITARY	104	G	Fixed Film Resistor (QPL to MIL-R-22684)	Case Size 07, 20, 32, 42	Solderable Lead	Resistance value in ohms. First 2 digits are significant figures. 3rd digit is the multiplier.	Resistance Tolerance G = ±2% J = ±5%	C	5	COMMERCIAL	100K	2%	Style C CS FP	Case Size 3, 4, 5, 6, 05, 07, 20, 32, 42.		Value in ohms R = ohms K = thousand ohms M = million ohms	Resistance Tolerance ±1% ±2% ±5% ±10%
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<p>Page 16</p> <table border="0"> <tr> <td style="text-align: center;">FP</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Flameproof Resistor</td> <td>Case Size 1/4, 1/2, 1, 2, 3, 4, 5, 7, 10, 67, 69</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">51.1K</td> <td style="text-align: center;">±1%</td> </tr> <tr> <td>Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 51.1K = 51100 Ohms 51.1R = 51.1 Ohms</td> <td>Tolerance ±1% ±2% ±5% ±10%</td> </tr> </table>	FP	2	Flameproof Resistor	Case Size 1/4, 1/2, 1, 2, 3, 4, 5, 7, 10, 67, 69	51.1K	±1%	Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 51.1K = 51100 Ohms 51.1R = 51.1 Ohms	Tolerance ±1% ±2% ±5% ±10%	<p>Page 18</p> <table border="0"> <tr> <td style="text-align: center;">FP</td> <td style="text-align: center;">55</td> <td style="text-align: center;">E</td> </tr> <tr> <td>Flameproof Resistor</td> <td>Case Size 55, 60</td> <td>Temperature Coefficient C = 50PPM/°C E = 25PPM/°C - = 100PPM/°C</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">51.1K</td> <td style="text-align: center;">±1%</td> </tr> <tr> <td>Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 51.1K = 51100 Ohms 51.1R = 51.1 Ohms</td> <td>Tolerance ±1% ±25% ±5% ±1% ±2% ±5% ±10%</td> </tr> </table>	FP	55	E	Flameproof Resistor	Case Size 55, 60	Temperature Coefficient C = 50PPM/°C E = 25PPM/°C - = 100PPM/°C	51.1K	±1%	Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 51.1K = 51100 Ohms 51.1R = 51.1 Ohms	Tolerance ±1% ±25% ±5% ±1% ±2% ±5% ±10%														
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<p>Page 20</p> <table border="0"> <tr> <td style="text-align: center;">FL</td> <td style="text-align: center;">4</td> <td style="text-align: center;">D</td> <td style="text-align: center;">26.4R</td> <td style="text-align: center;">±1%</td> </tr> <tr> <td>Style FL = Flameproof LO = Non-Flameproof</td> <td>Case Size 4, 5</td> <td>Temperature Coefficient D = 100PPM/°C C = 50PPM/°C</td> <td>Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 26.4K = 26400 Ohms 26.6R = 26.6 Ohms</td> <td>Tolerance ±1% ±2% ±5%</td> </tr> </table>	FL	4	D	26.4R	±1%	Style FL = Flameproof LO = Non-Flameproof	Case Size 4, 5	Temperature Coefficient D = 100PPM/°C C = 50PPM/°C	Value in Ohms R = Ohms K = Thousand Ohms M = Million Ohms 26.4K = 26400 Ohms 26.6R = 26.6 Ohms	Tolerance ±1% ±2% ±5%																							
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Metal Film Resistors

Corning/Mil Resistor Summary

Mil Type	Mil Spec (Mil-R-)	Corning Style	Volt Rating	Resistance Range	Standard Tolerance	PPM/°C Temp. Coeff.
	None	C3	200	10Ω-150K	1.2,5%	100PPM
RL07S	22684	C4	250	10Ω-301K	1.2,5%	100PPM
RL20S	22684	C5	350	10Ω-1 Meg	1.2,5%	100PPM
RL32S	22684	C6	500	10Ω-2 Meg	1.2,5%	100PPM
	None	C05	200	10Ω-150K	2.5,10%	200PPM
RL07S	22684	C07	250	10Ω-301K	2.5,10%	200PPM
RL20S	22684	CS20	350	10Ω-1 Meg	2.5,10%	200PPM
RL32S	22684	FP32	500	10Ω-1 Meg	2.5,10%	200PPM
RL42S	22684	FP42	500	10Ω-1.5 Meg	2.5,10%	200PPM
RN55D	10509	NA55	200	49.9Ω-150K 10Ω-301K	.5% 1%	100PPM
RN60D	10509	NA60	300	49.9Ω-499K 10Ω-1M	.5% 1%	100PPM
RN65D	10509	NA65	350	49.9Ω-1M 10Ω-2M	.5% 1%	100PPM
RN70D	10509	NA70	500	51.1Ω-1M	.5,1%	100PPM
RN50C	10509	NC3	200	49.9Ω-100K	.5, 1%	50PPM
RN55C	10509	NC55	200	49.9Ω-1M	.1, .25, .5, 1%	50PPM
RN60C	10509	NC60	250	49.9Ω-1M	.1, .25, .5, 1%	50PPM
RN65C	10509	MC65	300	49.9Ω-1M	.1, .25%	50PPM
RN65C	10509	NC6	300	49.9Ω-1M	.5, 1%	50PPM
RN70C	10509	NC7	350	51.1Ω-1M	.5, 1%	50PPM
RN55E	10509	NE55	200	49.9Ω-1M	.1, .25, .5, 1%	25PPM
RN60E	10509	NE60	250	49.9Ω-1M	.1, .25, .5, 1%	25PPM
RN65E	10509	ME65	300	49.9Ω-1M	.1, .25, .5, 1%	25PPM
RNC50H	55182	MH50	200	49.9Ω-150K	.1, .5, 1%	25PPM
RNC50J	55182	MJ50	200	10Ω-48.7Ω 49.9Ω-150K	.5, 1% .1, .5, 1%	50PPM
RNC50K	55182	MK50	200	10Ω-301K	.5, 1%	100PPM
RNC55K	55182	MK55	200	10Ω-301K	.5, 1%	100PPM
RNC55H	55182	MH55	200	10Ω-48.7Ω 49.9Ω-301K	.5, 1% .1, .5, 1%	50PPM
RNC55J	55182	MJ55	200	49.9Ω-301K	.1, .5, 1%	25PPM
RNC60K	55182	MK60	250	10Ω-499K	.5, 1%	100PPM
RNC60H	55182	MH60	250	10Ω-48.7Ω 49.9Ω-499K	.5, 1% .1, .5, 1%	50PPM
RNC60J	55182	MJ60	250	49.9Ω-499K	.1, .5, 1%	25PPM
RNC65K	55182	MK65	300	10Ω-1M	.5, 1%	100PPM
RNC65H	55182	MH65	300	49.9Ω-1M	.1, .5, 1%	50PPM
RNC65J	55182	MJ65	300	49.9Ω-1M	.1, .5, 1%	25PPM
RLR05C	39017	HC3	200	10Ω-150K	1.2,5%	100PPM
RLR07C	39017	HC4	250	10Ω-300K	1.2,5%	100PPM
RLR20C	39017	HC5	350	10Ω-1M	1.2,5%	100PPM
RLR32C	39017	HC6	500	10Ω-1M	1.2,5%	100PPM