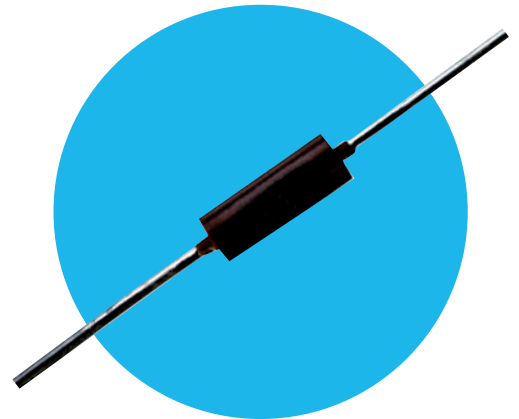


# Precision Mil-Qualified Metal Glaze™ Resistor

## RN Series

- 1/8 watt to 1/2 watt
- 10 ohms to 1M ohms
- 0.5% to 1% tolerance
- MIL-R-10509  $\pm 25$  ppm/°C to  $\pm 100$



## Electrical Data

MIL Type	Marking	Tolerance (±%)	T.C. (ppm/°C)	Power Rating (watts)	Resistance Range (ohms)	Nominal Size	Max Voltage Rating
RN50C*	Stamp	1	50	1/20 @ 125°C	10 to 100K	1/8W	200
RN55D	Stamp	1	100	1/8 @ 70°C	10 to 301K	1/4W	200
RN55C	Stamp	0.5, 1	50	1/10 @ 125°C	49.9 to 100K	1/4W	200
RN55E	Stamp	0.5, 1	25	1/10 @ 125°C	49.9 to 100K	1/4W	200
RN60D	Stamp	1	100	1/4 @ 70°C	10 to 1M	1/2W	300
RN60C	Stamp	0.5, 1	50	1/8 @ 125°C	49.9 to 499K	1/2W	250
RN60E	Stamp	0.5, 1	25	1/8 @ 125°C	49.9 to 499K	1/2W	250

\* Conformally coated construction on all 1/8 nominal sizes.

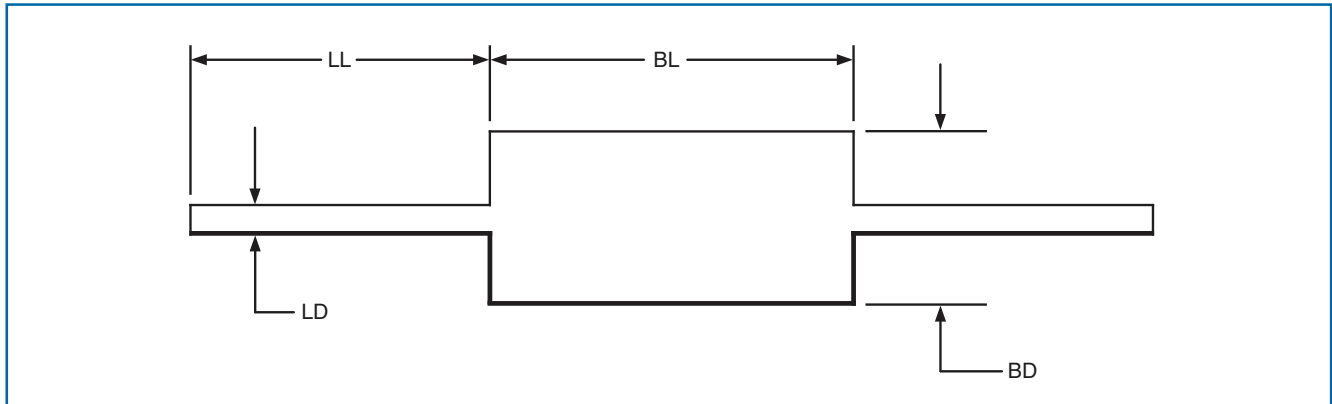
## Environmental Data

Test Conditions	MIL-R-10509 Test Limits Allowed		RN55 Max. % $\Delta$ R ( $\pm 3\sigma$ )	
	RN55 (D)	RN55 (C)	T0-55	T2-55
Temperature Coefficient (ppm/°C)	+200/-500	$\pm 50$	$\pm 100$	$\pm 50$
Low Temperature Operation	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.10\%$	$\pm 0.10\%$
Temperature Cycling	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.10\%$	$\pm 0.10\%$
Moisture Resistance	$\pm 1.50\%$	$\pm 0.50\%$	$\pm 0.50\%$	$\pm 0.50\%$
Short Time Overload	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.10\%$	$\pm 0.10\%$
Load Life (70°C-1/2W, 125°C-1/100W) 1000 hours	$\pm 1.00\%$	$\pm 0.50\%$	$\pm 0.30\%$	$\pm 0.20\%$
Terminal Strength	$\pm 0.20\%$	$\pm 0.20\%$	$\pm 0.05\%$	$\pm 0.05\%$
Effect of Soldering	$\pm 0.50\%$	$\pm 0.10\%$	$\pm 0.10\%$	$\pm 0.10\%$
Shock	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.05\%$	$\pm 0.05\%$
Vibration	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.05\%$	$\pm 0.05\%$
High Temperature Exposure (150°C No Load)	N/A	N/A	$\pm 0.50\%$	$\pm 0.50\%$
2X Rated Power for 10,000 hours @ 70°C	N/A	N/A	$\pm 0.50\%$	$\pm 0.50\%$
Temperature Rise @ 1/4W Power Load	-	-	See Temperature Rise Chart	
Dielectric Strength	$\pm 0.50\%$	$\pm 0.25\%$	$\pm 0.05\%$	$\pm 0.05\%$

### 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.

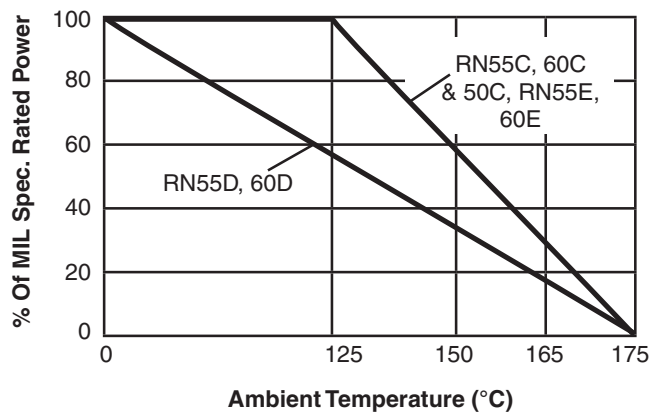
## Physical Data



Dimensions (Inches and (mm))

Nominal Size	Body Length BL	Body Diameter BD	Lead Length LL	Lead Diameter LD	Clean Lead
1/8 watt	0.150 ±0.020 (3.8 ±0.5)	0.066 ±0.008 (1.7 ±0.2)	1.00 ±0.125 (25.4 ±3.2)	0.016 ±0.002 (0.41 ±0.05)	0.225 (5.7)
1/4 watt	0.250 ±0.015 (6.4 ±0.4)	0.090 ±0.008 (2.3 ±0.2)	1.50 ±0.125 (38.1 ±3.2)	0.025 ±0.002 (0.64 ±0.05)	0.310 (7.9)
1/2 watt	0.390 ±0.010 (9.9 ±0.3)	0.140 ±0.008 (3.6 ±0.2)	1.50 ±0.125 (38.1 ±3.2)	0.025 ±0.002 (0.64 ±0.05)	0.450 (11.4)

## MIL Spec. Power Derating Chart



## Ordering Data

**Sample Part No.** ..... **RN** **55** **D** **1002** **F**

**MIL Style** .....  
 RL = Fixed Film Resistor  
 High stability

**Power Rating** .....  
 50 = 1/20 watt  
 55 = 1/10 watt  
 60 = 1/8 watt

**T.C. Characteristics** .....  
 D = ±100ppm/°C  
 C = ±50ppm/°C  
 E = ±25ppm/°C

**Resistance** .....  
 First three digits represent significant figures;  
 fourth digit is number of zeros.

**Tolerance** .....  
 F = ±1%, D = ±0.5%

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