

# Power Wirewound Resistors

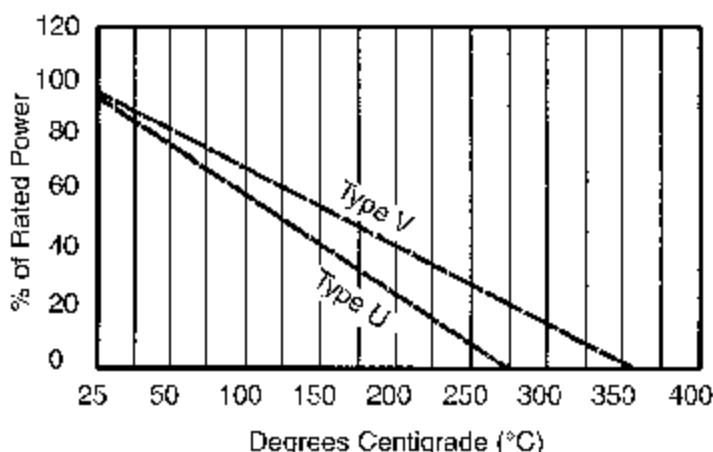
## Power Rating

RCA Power Wirewound Resistors fall into at least one of two power rating specifications, depending on the part size, tolerance, and stability requirements. The resistor will perform to these specifications if operated at or below its rated power (derated for temperature if necessary).

|                                                                  |                                                                                                       |               |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|
| <b>RP, RB Series</b>                                             | Maximum hotspot temperature of 275°C.                                                                 | <b>Type U</b> |
| <b>All Tolerances</b>                                            | .5% maximum change in resistance over 1500 hour load life                                             |               |
| <b>3% and 5% Tolerances For: RP-2 and Larger RP-5 and Larger</b> | Maximum hotspot temperature of 350°C.<br><br>3% maximum change in resistance over 1500 hour load life | <b>Type V</b> |

## Derating

RCA Power Wirewound Resistors have an operating temperature range of -55°C to 275°C (350° in many cases). However, operation at high ambient temperatures requires power derating according to the curves below. Derating is necessary to ensure that the resistor will perform according to specification.



## Please Note:

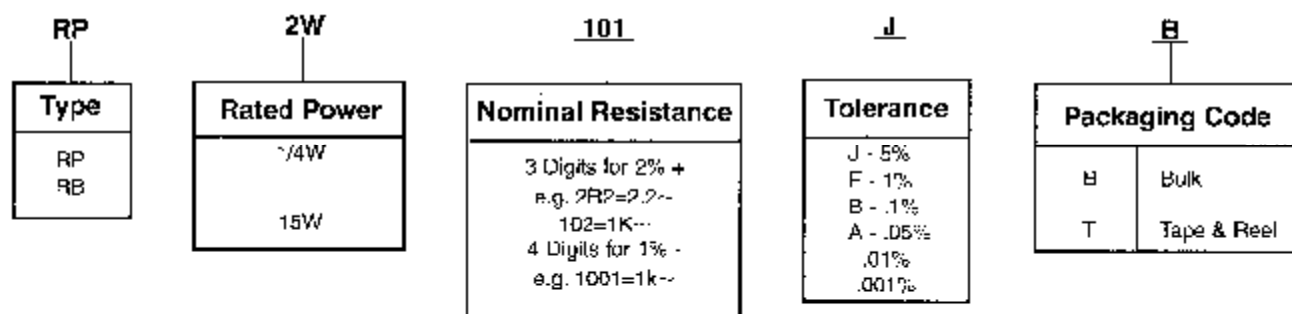
Sizes shown and specified in this catalog are standard. However, many more custom configurations and sizes are available, on short lead time. Call with your requirements.

## Non-Inductive

RCA Power Wirewound Resistors are available with non-inductive (Aryton-Perry) winding. Non-inductive units are identified by the suffix -NI following the part-number (For example RP-2-NI). Some special conditions apply. Non-inductive units are not available with fiberglass core parts.

- For non-inductive units, divide max. resistance by 2
- Body O.D.s may be slightly larger than inductive units
- For non-inductive units, reduce working voltage by a factor of .7

## Part Numbering System



# Power Wirewound Resistors



## RP Series

### Features:

Welded construction throughout.  
 High Temperature silicon coating—solvent resistant.  
 Non-inductive (Aryton-Perry) winding available.  
 Wide selection of standard sizes.  
 Tolerance to  $\pm 0.01\%$  available.  
 Meets applicable requirements of MIL-R-26E.  
 (However, this does not imply qualification)

### Available SPECIAL Features:

Specific matching of parts (by temperature coefficient or tolerance).  
 Special temperature coefficients.  
 Variable lead size (length and diameter).  
 Special marking.  
 Special lead or terminal configurations, materials.  
 Many non-standard sizes.

| RGA Part Number | Military Style | Power Rating |        | Minimum Resistance | Standard Resistance Range     | Maximum Resistance |
|-----------------|----------------|--------------|--------|--------------------|-------------------------------|--------------------|
|                 |                | Type U       | Type V |                    |                               |                    |
| RP-1/2A         |                | .5W          | N/A    | .05 $\Omega$       | .1 $\Omega$ to 4K $\Omega$    | 6.5K $\Omega$      |
| RP-1/2          |                | .75W         | N/A    | .05 $\Omega$       | .1 $\Omega$ to 6K $\Omega$    | 10.5K $\Omega$     |
| RP-1            | RW-70          | 1.0W         | N/A    | .05 $\Omega$       | .1 $\Omega$ to 7.5K $\Omega$  | 13.5K $\Omega$     |
| RP-1A           |                | 1.2W         | N/A    | .05 $\Omega$       | .1 $\Omega$ to 12K $\Omega$   | 20K $\Omega$       |
| RP-2            |                | 2.25W        | 3.0W   | .01 $\Omega$       | .1 $\Omega$ to 15.7K $\Omega$ | 28K $\Omega$       |
| RP-2A           | RW-69          | 2.5W         | 3.25W  | .01 $\Omega$       | .1 $\Omega$ to 23.6K $\Omega$ | 43K $\Omega$       |
| RP-2B           |                | 1.5W         | 2.25W  | .01 $\Omega$       | .1 $\Omega$ to 10.5K $\Omega$ | 19K $\Omega$       |
| RP-2C           |                | 3.5W         | 4.25W  | .01 $\Omega$       | .1 $\Omega$ to 35.4K $\Omega$ | 64K $\Omega$       |
| RP-3            | RW-79          | 3.0W         | 3.75W  | .01 $\Omega$       | .1 $\Omega$ to 18.5K $\Omega$ | 33K $\Omega$       |
| RP-3B           |                | 3.5W         | 4.25W  | .01 $\Omega$       | .1 $\Omega$ to 33K $\Omega$   | 60K $\Omega$       |
| RP-4            |                | 4.0W         | 5.0W   | .02 $\Omega$       | .1 $\Omega$ to 48K $\Omega$   | 89K $\Omega$       |
| RP-4B           | RW-74          | 5.0W         | 6.5W   | .02 $\Omega$       | .1 $\Omega$ to 71K $\Omega$   | 129K $\Omega$      |
| RP-5            | RW-67          | 5.5W         | 7.0W   | .02 $\Omega$       | .1 $\Omega$ to 92K $\Omega$   | 168K $\Omega$      |
| RP-7            |                | 7.0W         | 9.0W   | .02 $\Omega$       | .1 $\Omega$ to 108K $\Omega$  | 197K $\Omega$      |
| RP-10           | RW68, RW78     | 10.0W        | 12.0W  | .04 $\Omega$       | .1 $\Omega$ to 203K $\Omega$  | 370K $\Omega$      |
| RP-10B          |                | 9.0W         | 11.0W  | .04 $\Omega$       | .1 $\Omega$ to 168K $\Omega$  | 308K $\Omega$      |
| RP-15           |                | 15.0W        | 20.0W  | .05 $\Omega$       | .1 $\Omega$ to 285K $\Omega$  | 530K $\Omega$      |

\*Consult factory on resistance values which fall between the minimum/maximum resistance and the standard resistance range.



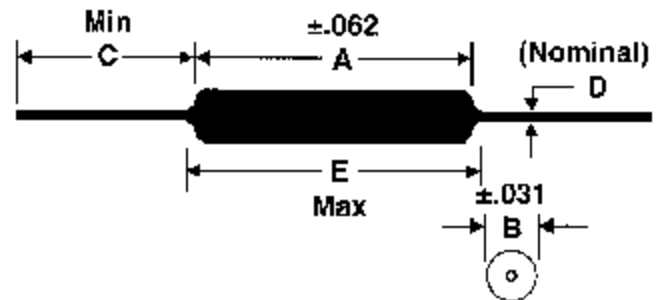
# Power Wirewound Resistors

## RP Series

### General Electrical Specifications:

|                                 |                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Tolerance:</b>               | Standard 5% 3% 1%<br>Available .5% .25% .1%<br>.05%                                                               |
| <b>Dielectric Strength:</b>     | RP-1/2A through<br>RP-1A 500 VAC<br>All others 1000 VAC                                                           |
| <b>Temperature Coefficient:</b> | ±20 PPM 10 ohms and<br>above<br>±50 PPM 1 ohm - 9.9 ohm<br>±90 PPM below 1 ohm                                    |
| <b>Short time overload:</b>     | RP-3B and smaller<br>5 seconds @ 5 times<br>rated power<br>RP-4 and larger<br>5 seconds @ 10 times<br>rated power |

Meets MIL R 26E



### RP Series Resistor Sizes

| RGA<br>Part Number | Dimensions (in inches) |      |       |      |       |
|--------------------|------------------------|------|-------|------|-------|
|                    | A                      | B    | C     | D    | E     |
| RP-1/2A            | .275                   | .094 | 1.500 | .020 | .375  |
| RP-1/2             | .344                   | .094 | 1.500 | .020 | .450  |
| RP-1               | .406                   | .094 | 1.500 | .020 | .500  |
| RP-1A              | .562                   | .094 | 1.500 | .020 | .850  |
| RP-2               | .500                   | .167 | 1.500 | .032 | .300  |
| RP-2A              | .500                   | .219 | 1.500 | .032 | .600  |
| RP-2B              | .375                   | .167 | 1.500 | .032 | .475  |
| RP-2C              | .625                   | .218 | 1.500 | .032 | .725  |
| RP-3               | .562                   | .167 | 1.500 | .032 | .650  |
| RP-3B              | .780                   | .167 | 1.500 | .032 | .875  |
| RP-4               | .812                   | .218 | 1.500 | .032 | .900  |
| RP-4B              | .875                   | .312 | 1.500 | .040 | .975  |
| RP-5               | 1.032                  | .312 | 1.500 | .040 | 1.125 |
| RP-7               | 1.188                  | .312 | 1.500 | .040 | 1.280 |
| RP-10              | 1.760                  | .344 | 1.500 | .040 | 1.844 |
| RP-10B             | 1.720                  | .312 | 1.500 | .040 | 1.800 |
| RP-15              | 1.850                  | .475 | 1.500 | .050 | 1.960 |