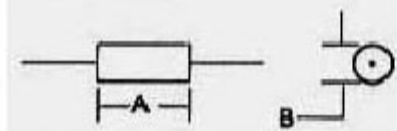


## HR5016N 1.5W Wire Wound Axial Lead Ultra Precision Resistor

### TYPE HR



### Electrical & Physical Specifications:

|                              |                    |
|------------------------------|--------------------|
| <b>A-Length:</b>             | 25.40 mm (1.000")  |
| <b>B-Diameter:</b>           | 12.7 mm (.500")    |
| <b>Lead Dimensions:</b>      | .032" D X 1.500" L |
| <b>Max Watts @ 1% Tol:</b>   | 1.5                |
| <b>Max Volts @ 1% Tol:</b>   | 600                |
| <b>Temperature Range:</b>    | -65°C. to +125°C.  |
| <b>Resistance Range (Ω):</b> | .1 to 5MΩ (MEG)    |

### HR Series Engineering Attributes:

#### RESISTANCE & TOLERANCES

You can select any Ohmic value or decimal part of an Ohm with tolerances to  $\pm 0.005\%$ . 10Ω minimum resistance for  $\pm 0.01\%$  tolerance. See figure #2 shown below.

#### TCR CHARACTERISTIC

##### Standard:

100Ω & higher values:  $0 \pm 5$  ppm/°C.

For values below 100Ω:  $0 \pm 15$  ppm/°C.

##### Special:

100Ω & higher:  $0 \pm 1$  ppm/°C. matching to  $0 \pm 5$  ppm/°C.

Please specify temperature span of operation. The TCR is calculated between +25°C. & +100°C.

#### POWER VS. AMBIENT TEMPERATURE

All Ultra Precision Resistors are designed for full load based upon  $\pm 1\%$  resistance tolerance providing the ambient temperature (+) plus the rise in temperature due to self-heating, does not exceed +125°C. Derated to zero power @ +145°C., See figure #1 shown below.

#### STABILITY

To  $\pm 0.001\%/yr.$  @ +25°C. with no Load.

#### REDUCTION OF THERMAL EMF USING COPPER TERMINALS:

Less than  $\pm 3$  microvolts/°C. emitted.

#### INDUCTANCE

Non-inductive balanced reverse pi windings are standard for the HR series with the exception of the HR103.

#### PROTECTIVE SEAL

Features a stress free base coat as well as an epoxy casing that is resistant to solder heat & solvents.

#### MARKING

PRC stamp, part type & name, Ω value & tolerance, physical size permitting.

### Type HR Derating Table\*

For  $\pm 1\%$  resistance tolerance apply up to 100% of rated power to +125 Degrees Celsius. derated to zero @ +145 Degrees Celsius.

For  $\pm 1/2\%$  resistance tolerance apply up to 75% of rated power to +125 Degrees Celsius. derated to zero @ +140 Degrees Celsius.

For  $\pm 1/4\%$  resistance tolerance apply up to 50% of rated power to +125 Degrees Celsius. derated to zero @ +135 Degrees Celsius.

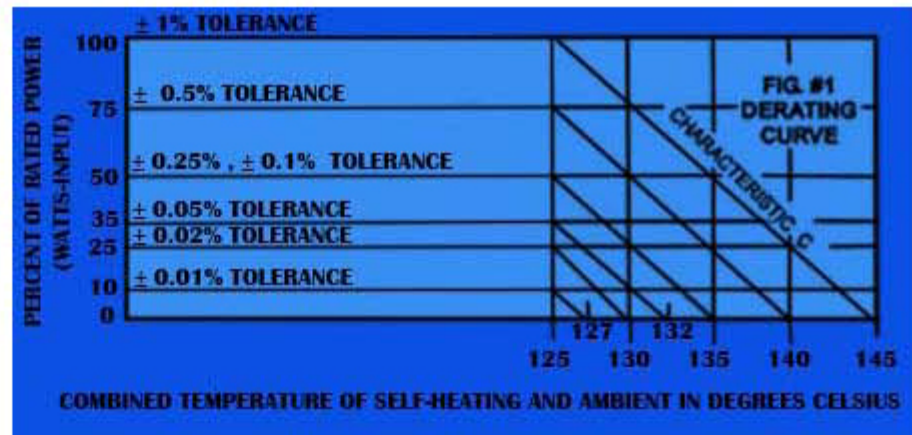
For  $\pm 0.1\%$  resistance tolerance apply up to 50% of rated power to +125 Degrees Celsius. derated

to zero @ +135 Degrees Celsius.

For  $\pm 0.05\%$  resistance tolerance apply up to 35% of rated power to +125 Degrees Celsius. derated to zero @ +132 Degrees Celsius.

\* Percent of Rated Power vs. Combined Temp. of Self-Heating and Ambient (in °C.).

## Detailed Images



## Derating Information



## Minimum Resistance vs. Tolerance

### Details

|                 |   |
|-----------------|---|
| SKU             | HR5016N                                 |
| Type            | Axial                                   |
| Length          | 25.40mm (1.000")                        |
| Lead Dimensions | .032" dia. X 1.500" long                |
| Diameter        | 12.7mm (.500")                          |
| TCR Char.       | 0±5ppm (Std.) to 0±1ppm /°C.            |
| Temperature     | -65°C. to +125°C.                       |
| Resistance      | .1Ω to 5MΩ                              |
| Tolerance       | ±.01% (std.) Ranging from ±1% to ±.005% |
| Stability       | to ±.001% per year                      |
| Max Watts       | 1.5                                     |
| Max Volts       | 600                                     |
| Lead Free       | Yes                                     |