

# 60 Series

## Two Terminal Metal Element Current Sense

These non-inductive, 3-piece welded element resistors offer a reliable low-cost alternative to conventional current sense products. With resistance values as low as 0.005Ω, and wattages from 0.1w to 3w, the 60 Series offers a wide variety of design choices.



### FEATURES

- Low inductance
- Low cost
- Wirewound performance
- Flameproof

### CHARACTERISTICS

|                              |   |
|------------------------------|---|
| <b>Resistor</b>              | Nichrome resistive element  |
| <b>Terminals</b>             | Copper clad steel or copper depending on style. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu |
| <b>Derating</b>              | Linearly from 100% @ +25°C to 0% @ +275°C   |
| <b>Tolerance</b>             | ±3% standard, others available  |
| <b>Power rating</b>          | Based on 25°C ambient   |
| <b>Overload</b>              | 5x rated power for 5 seconds  |
| <b>Inductance</b>            | <10nh   |
| <b>To calculate max amps</b> | use the formula $\sqrt{(P/R)}$  |

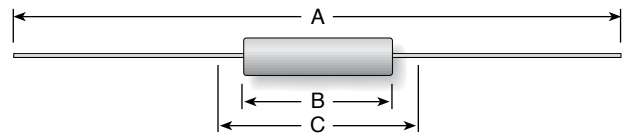
### TCR as a function of resistance



### ORDERING INFORMATION

(Partial listing; contact Ohmite for others)

| Part Number | Watts | Ohms  | Tolerance | Dimensions |          |            | Lead Ga. |
|-------------|-------|-------|-----------|------------|----------|------------|----------|
|             |       |       |           | A (ref.)   | B (max.) | C (±0.010) |          |
| 600HR050E   | 0.1   | 0.05  | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 600HR033E   | 0.1   | 0.033 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 600HR036E   | 0.1   | 0.036 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 601HR027E   | 0.125 | 0.027 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 601HR030E   | 0.125 | 0.03  | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 601HR025E   | 0.125 | 0.025 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 602HR050E   | 0.2   | 0.05  | 3%        | 3.530      | 0.250    | 0.559      | 22       |
| 603HR005E   | 0.25  | 0.005 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 603HR010E   | 0.25  | 0.01  | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 603HR015E   | 0.25  | 0.015 | 3%        | 2.440      | 0.155    | 0.655      | 24       |
| 603HR050E   | 0.25  | 0.05  | 3%        | 3.685      | 0.330    | 1.310      | 20       |
| 604HR010E   | 0.375 | 0.01  | 3%        | 3.530      | 0.250    | 0.559      | 22       |
| 604HR020E   | 0.375 | 0.02  | 3%        | 3.530      | 0.250    | 0.559      | 22       |
| 604HR025E   | 0.375 | 0.025 | 3%        | 3.530      | 0.250    | 0.559      | 22       |
| 604HR100E   | 0.375 | 0.01  | 3%        | 3.587      | 0.65     | 1.125      | 20       |
| 605HR010E   | 0.5   | 0.01  | 3%        | 3.685      | 0.355    | 1.310      | 20       |
| 605HR020E   | 0.5   | 0.02  | 3%        | 3.685      | 0.330    | 1.310      | 20       |
| 605HR030E   | 0.5   | 0.03  | 3%        | 3.685      | 0.330    | 1.310      | 20       |
| 605HR100E   | 0.5   | 0.1   | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 607HR050E   | 0.75  | 0.05  | 3%        | 3.587      | 0.630    | 1.106      | 20       |
| 607HR005E   | 0.75  | 0.005 | 3%        | 3.674      | 0.320    | 1.310      | 20       |
| 610HR005E   | 1     | 0.005 | 3%        | 3.587      | 0.650    | 1.125      | 20       |
| 610HR010E   | 1     | 0.01  | 3%        | 3.587      | 0.630    | 1.106      | 20       |
| 610HR020E   | 1     | 0.02  | 3%        | 3.587      | 0.630    | 1.106      | 20       |
| 610HR030E   | 1     | 0.03  | 3%        | 3.587      | 0.650    | 1.106      | 20       |
| 610HR050E   | 1     | 0.05  | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 615HR010E   | 1.5   | 0.01  | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 615HR020E   | 1.5   | 0.02  | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 615HR030E   | 1.5   | 0.03  | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 620HR005E   | 2     | 0.005 | 3%        | 3.981      | 0.750    | 1.675      | 18       |
| 630HR010E   | 3     | 0.01  | 3%        | 4.125      | 0.781    | 1.68*      | 18       |
| 630HR015E   | 3     | 0.015 | 3%        | 4.125      | 1.11     | 2          | 18       |
| 630HR025E   | 3     | 0.025 | 3%        | 4.125      | 1.279    | 2.125      | 18       |
| 630HR050E   | 3     | 0.05  | 3%        | 4.125      | 1.664    | 2.375      | 18       |



E = RoHS compliant

**605HR020E**

|           |           |             |
|-----------|-----------|-------------|
| Series    | Tolerance | Ohms        |
| 00 = 1/10 | F = 1%    | R005 = .005 |
| 01 = 1/6  | H = 3%    | R010 = .01  |
| 02 = 1/5  | J = 5%    | R020 = .02  |
| 03 = 1/4  |           | R050 = .05  |
| 04 = 3/8  |           | R100 = 0.10 |
| 05 = 1/2  |           |             |

**Wattage**

|          |  |
|----------|--|
| 07 = 3/4 |  |
| 10 = 1.0 |  |
| 15 = 1.5 |  |
| 20 = 2.0 |  |
| 30 = 3.0 |  |

\*Reference dimensions; contact Ohmite for details