

# Carbon Film Resistors, General Purpose, High Voltage



## FEATURES

- Ratings to 10 W, 40 kV
- Available with either radial lugs or axial leads
- Epoxy/enamel coated, with additional Mylar® heat shrink sleeve 0.002" (0.051 mm) thick
- ± 20 % tolerance standard, tolerances of ± 15 %, ± 10 % and ± 5 % available
- See models D and G for special purpose high voltage carbon film resistors
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS\***  
Available

## Note

\* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | POWER RATING<br>$P_{25^{\circ}\text{C}}$<br>W | MAXIMUM WORKING VOLTAGE <sup>(1)</sup><br>V | RESISTANCE RANGE <sup>(2)</sup><br>Ω | TOLERANCE <sup>(3)</sup><br>± % | STYLE |
|--------------|-----------------------------------------------|---------------------------------------------|--------------------------------------|---------------------------------|-------|
| BAEW         | 0.5                                           | 2.5K                                        | 50K to 500M                          | 5, 10, 15, 20                   | 2     |
| BAKW         | 1                                             | 5K                                          | 100K to 500M                         | 5, 10, 15, 20                   | 2     |
| BBF          | 1                                             | 3.5K                                        | 50K to 500M                          | 5, 10, 15, 20                   | 1     |
| BBFW         | 1                                             | 3.5K                                        | 50K to 500M                          | 5, 10, 15, 20                   | 2     |
| BBM          | 2                                             | 7.5K                                        | 50K to 500M                          | 5, 10, 15, 20                   | 1     |
| BBMW         | 2                                             | 7.5K                                        | 50K to 500M                          | 5, 10, 15, 20                   | 2     |
| BBR          | 3                                             | 15K                                         | 100K to 500M                         | 5, 10, 15, 20                   | 1     |
| BBRW         | 3                                             | 15K                                         | 100K to 500M                         | 5, 10, 15, 20                   | 2     |
| BBV          | 5                                             | 30K                                         | 200K to 500M                         | 5, 10, 15, 20                   | 1     |
| BFQ          | 4                                             | 15K                                         | 100K to 500M                         | 5, 10, 15, 20                   | 1     |
| BFT          | 6                                             | 25K                                         | 200K to 500M                         | 5, 10, 15, 20                   | 1     |
| BFW          | 10                                            | 40K                                         | 400K to 500M                         | 5, 10, 15, 20                   | 1     |
| TAFW         | 1                                             | 5K                                          | 1M to 500M                           | 5, 10, 15, 20                   | 3     |
| TAKW         | 1.5                                           | 7.5K                                        | 1M to 500M                           | 5, 10, 15, 20                   | 3     |

## Notes

- <sup>(1)</sup> Continuous working voltage shall be  $\sqrt{P \times R}$  or maximum working voltage, whichever is less.  
<sup>(2)</sup> All resistance values are calibrated at 100 V<sub>DC</sub>-calibration at other voltages available on request. Contact factory for availability of values outside the listed range.  
<sup>(3)</sup> ± 20 % standard, ± 5 %, ± 10 %, and ± 15 % are available.

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: BAEW2M50LF08 (preferred part numbering format)

**B** **A** **E** **W** **2** **M** **5** **0** **L** **F** **0** **8**

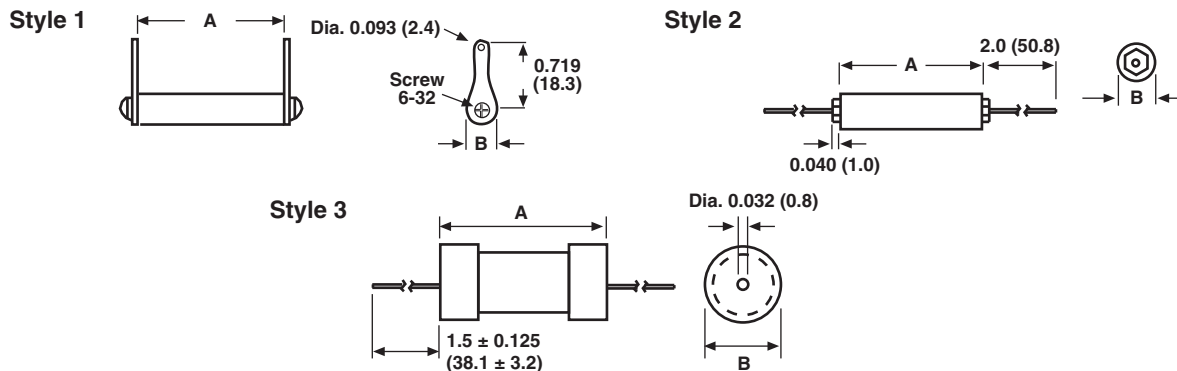
| GLOBAL MODEL                                                      | RESISTANCE VALUE                                                                                    | TOLERANCE CODE                                                                  | PACKAGING                                                                                                                                                                                                | SPECIAL                                                                               |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| (3 or 4 digits)<br>(see Standard Electrical Specifications table) | <b>K</b> = kΩ<br><b>M</b> = MΩ<br><b>50K0</b> = 50 kΩ<br><b>1M00</b> = 1 MΩ<br><b>500M</b> = 500 MΩ | <b>J</b> = ± 5 %<br><b>K</b> = ± 10 %<br><b>L</b> = ± 15 %<br><b>M</b> = ± 20 % | <b>E08</b> = Lead (Pb)-free, foam (B series only)<br><b>E22</b> = Lead (Pb)-free, bulk (TAFW, TAKW only)<br><b>F08</b> = Tin/lead, foam (B series only)<br><b>B22</b> = Tin/lead, bulk (TAFW, TAKW only) | Blank = Standard (Dash Number) (up to 3 digits)<br>From <b>1 to 999</b> as applicable |

Historical Part Number example: BAEW 2M50 15 % (will continue to be accepted)

|                  |                  |                |            |
|------------------|------------------|----------------|------------|
| <b>BAEW</b>      | <b>2M50</b>      | <b>15 %</b>    | <b>F08</b> |
| HISTORICAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING  |

## Note

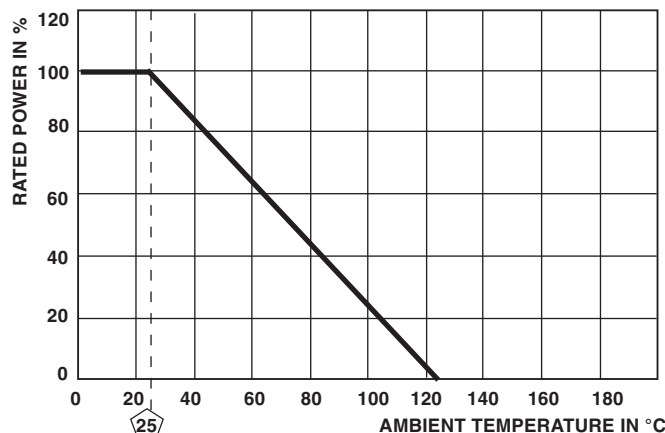
- For additional information on packaging, refer to the Through Hole Resistor Packaging document ([www.vishay.com/doc?31544](http://www.vishay.com/doc?31544)).

**DIMENSIONS** in inches (millimeters)


| GLOBAL MODEL | STYLE | A                          | B                           |
|--------------|-------|----------------------------|-----------------------------|
| BAEW         | 2     | 0.75 (19.05)               | 0.250 (6.35)                |
| BAKW         | 2     | 1.50 (38.10)               | 0.250 (6.35)                |
| BBF          | 1     | 1.00 (25.40)               | 0.313 (7.95)                |
| BBFW         | 2     | 1.00 (25.40)               | 0.313 (7.95)                |
| BBM          | 1     | 1.75 (44.45)               | 0.313 (7.95)                |
| BBMW         | 2     | 1.75 (44.45)               | 0.313 (7.95)                |
| BBR          | 1     | 3.00 (76.20)               | 0.313 (7.95)                |
| BBRW         | 2     | 3.00 (76.20)               | 0.313 (7.95)                |
| BBV          | 1     | 5.50 (139.70)              | 0.313 (7.95)                |
| BFQ          | 1     | 2.50 (63.50)               | 0.563 (14.30)               |
| BFT          | 1     | 4.00 (101.60)              | 0.563 (14.30)               |
| BFW          | 1     | 6.50 (165.10)              | 0.563 (14.30)               |
| TAFW         | 3     | 1.05 ± 0.05 (26.70 ± 1.30) | 0.275 ± 0.020 (7.00 ± 0.50) |
| TAKW         | 3     | 1.55 ± 0.05 (39.40 ± 1.30) | 0.275 ± 0.020 (7.00 ± 0.50) |

**Note**

- Models B axial leads are #20 AWG tinned copper. All other dimensional tolerances for styles 1 and 2, unless otherwise specified are  $\pm 0.016"$  [0.406 mm] or  $\pm 1\%$ , whichever is greater.

**DERATING**

**MARKING**

- DALE
- Model
- Value
- Tolerance
- Date code



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