

## AEM's High Reliability Ferrite Chip Beads

### Benefits

- Sole source and first ever DSCC approved ferrite chip bead (tested to Drawing 03024)
- Made in USA
- Sn/Pb terminations (5%+ Pb, no tin whisker worries)
- Designed and qualified as Hi-Rel
- Complete material and process traceability
- Meets all high reliability demands

### Features

- Operating temperature range of -55°C to +125°C
- Tin whisker free (Sn/Pb or Au termination finish)
- Reliable terminations (Ni barrier)
- Groups A/B data are supplied with each shipment. Group C inspection is optional.
- Monolithic structure for closed magnetic path and high reliability
- Standard EIA/EIAJ chip sizes (0603, 0805, 1206)

### Applications

- Mission critical
- Where replacement is not an option
- Where pure tin terminations are prohibited
- Down-hole and undersea

As the first and only DSCC approved ferrite chip bead designed for high reliability use, the HRB Series ferrite chip beads from AEM, Inc. are manufactured in a AS9100 facility in San Diego, CA, providing complete material and process traceability. All components are manufactured with qualified materials and process systems and tested to DSCC drawing 03024.

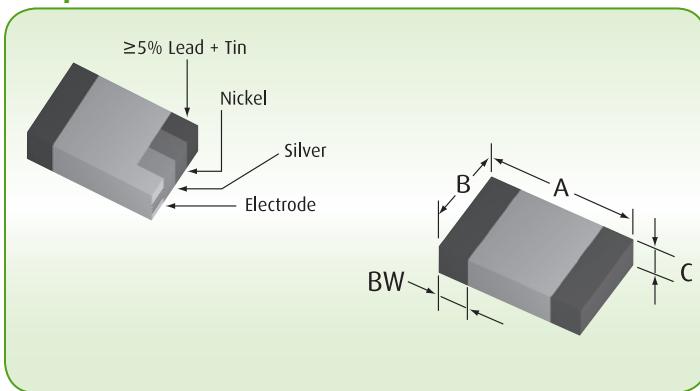
The HRB Series beads are designed with mission critical applications in mind. Capable of operating in harsh environments and extreme temperatures, these Hi-Rel chips are free of tin whiskers with Sn/Pb or Au terminations. A variety of EIA/EIAJ chip sizes are offered and feature nickel barrier terminations with a solder plate finish to help ensure a reliable solder joint.

# AEM's High Reliability Ferrite Chip Beads

| AEM Part No. | DSCC Part No.        | Impedance $\Omega$ | Max. $\Omega$ RDC | Max. Amps |
|--------------|----------------------|--------------------|-------------------|-----------|
| <b>0603</b>  | HRB0603S300P.500 . . | 30                 | 0.15              | 0.50      |
|              | HRB0603S600P.500 . . | 60                 | 0.15              | 0.50      |
|              | HRB0603S101P.400 . . | 100                | 0.20              | 0.40      |
|              | HRB0603S151P.400 . . | 150                | 0.25              | 0.40      |
|              | HRB0603S181P.400 . . | 180                | 0.25              | 0.40      |
|              | HRB0603S301P.200 . . | 300                | 0.30              | 0.20      |
|              | HRB0603S401P.200 . . | 400                | 0.35              | 0.20      |
|              | HRB0603S601P.200 . . | 600                | 0.40              | 0.20      |
|              | HRB0603S102P.200 . . | 1000               | 0.60              | 0.20      |
| <b>0805</b>  | HRB0805S300P4.00 . . | 30                 | 0.02              | 4.00      |
|              | HRB0805S500P2.00 . . | 50                 | 0.08              | 2.00      |
|              | HRB0805S600P1.50 . . | 60                 | 0.15              | 1.50      |
|              | HRB0805S700P1.50 . . | 70                 | 0.15              | 1.50      |
|              | HRB0805S101P1.00 . . | 100                | 0.20              | 1.00      |
|              | HRB0805S121P1.00 . . | 120                | 0.20              | 1.00      |
|              | HRB0805S151P1.00 . . | 150                | 0.20              | 1.00      |
|              | HRB0805S221P1.00 . . | 220                | 0.20              | 1.00      |
|              | HRB0805S331P1.00 . . | 330                | 0.25              | 1.00      |
|              | HRB0805S471P1.00 . . | 470                | 0.25              | 1.00      |
|              | HRB0805S601P1.00 . . | 600                | 0.30              | 1.00      |
|              | HRB0805S102P1.00 . . | 1000               | 0.40              | 1.00      |
|              | HRB1206S300P4.00 . . | 30                 | 0.01              | 4.00      |
| <b>1206</b>  | HRB1206S500P3.00 . . | 50                 | 0.03              | 3.00      |
|              | HRB1206S800P1.50 . . | 80                 | 0.10              | 1.50      |
|              | HRB1206S121P1.50 . . | 120                | 0.10              | 1.50      |
|              | HRB1206S251P1.50 . . | 250                | 0.10              | 1.50      |
|              | HRB1206S501P1.00 . . | 500                | 0.20              | 1.00      |
|              | HRB1206S601P1.00 . . | 600                | 0.30              | 1.00      |

Other Sizes and Values may be added by request

## Shape and Dimensions



## Product Identification

**HRB 0805 S 300 P 4.00 E I**  
 (1) (2) (3) (4) (5) (6) (7) (8)

- (1) Series code: High Reliability Ferrite Chip Bead
- (2) Chip size, EIA/EIAJ dimensions A x B  
First 2 digits: A ("length) Last 2 digits: B ("width)
- (3) Speed code: S = Standard H = High speed
- (4) Value code: Impedance (Ohms at 100 MHz)  
The first two digits are significant. The last digit specifies zeros to follow 300 = 30 Ohms
- (5) Tolerance code: J =  $\pm 5\%$ ; K =  $\pm 10\%$ ; M =  $\pm 20\%$ ; P =  $\pm 25\%$
- (6) Current value in Ampere (4.00 = 4A; .150 = 0.15A)
- (7) Termination code: F = Sn/Pb solder plate; G = Au plate
- (8) Package Code: T = Tape & Reel; B = Bulk

| Chip Size<br>EIA / EIAJ | A<br>Inch (mm)                           | B<br>Inch (mm)                           | C<br>Inch (mm)                           | TERMINATION (BW)<br>Inch (mm)            |
|-------------------------|--|--|--|--|
| <b>0603/1608</b>        | $0.063 \pm 0.006$<br>( $1.60 \pm 0.15$ ) | $0.031 \pm 0.006$<br>( $0.80 \pm 0.15$ ) | $0.031 \pm 0.006$<br>( $0.80 \pm 0.15$ ) | $0.014 \pm 0.006$<br>( $0.36 \pm 0.15$ ) |
| <b>0805/2012</b>        | $0.079 \pm 0.008$<br>( $2.00 \pm 0.20$ ) | $0.049 \pm 0.008$<br>( $1.25 \pm 0.20$ ) | $0.035 \pm 0.008$<br>( $0.90 \pm 0.20$ ) | $0.020 \pm 0.010$<br>( $0.51 \pm 0.25$ ) |
| <b>1206/3216</b>        | $0.126 \pm 0.008$<br>( $3.20 \pm 0.20$ ) | $0.063 \pm 0.008$<br>( $1.60 \pm 0.20$ ) | $0.043 \pm 0.008$<br>( $1.10 \pm 0.20$ ) | $0.020 \pm 0.010$<br>( $0.51 \pm 0.25$ ) |



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