

The information contained in this drawing is the sole property of Coil Winding Specialist Inc (CWS). Any reproduction in part or whole without written permission of CWS is prohibited.

## F-50A-F

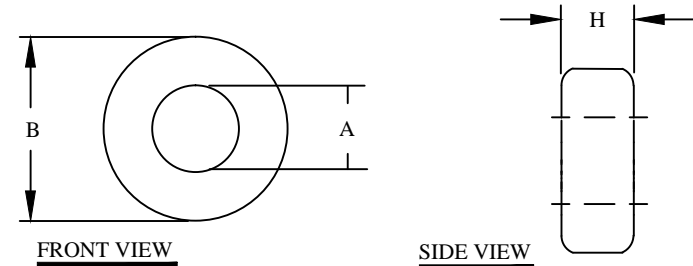
### Features

MnZn ferrite material for common mode chokes, power transformers, power inductors, broadband transformers, noise filter and etc.

| Electrical Specifications |                     |                                 |           |       |
|---------------------------|---------------------|---------------------------------|-----------|-------|
| Item                      | Unit/Symbol         | Condition                       | Value     | Tol.  |
| $A_L$                     | mH/1000             | @ 5 gauss in a de-gaussed state | 1782      | ± 20% |
| $L_e$                     | cm                  | N/A                             | 3.12      | ± 10% |
| $A_e$                     | cm <sup>2</sup>     | N/A                             | 0.146     | ± 10% |
| $V_e$                     | cm <sup>3</sup>     | N/A                             | 0.457     | ± 10% |
| Density                   | g/cm <sup>3</sup>   | N/A                             | 4.8       | Typ.  |
| Permeability              | $\mu_0$             | Typical                         | 3000      | ± 20% |
| Coercivity                | Oe, A/m             | Typical                         | 0.2, 16   | Typ.  |
| Flux Density              | Gauss, B            | Typical                         | 4900      | Typ.  |
|                           | Gauss, H            | @ 1194 A/m, 15 oe mT            | 490       | Typ.  |
| Curie temperature         | °C                  | $T_c$                           | > 250     | Typ.  |
| Resistivity               | $\Omega$ cm, $\rho$ | Typical                         | 2         | Typ.  |
| Relative Loss Factor      | $10^{-6}$           | $\tan\delta / \mu$              | < 8       | Typ.  |
|                           | kHz                 | @ Frequency                     | 100       | Typ.  |
| Max. Usable freq.         | MHz                 | 50% roll-off                    | < 1.3     | Typ.  |
| Remanence                 | G, mT               | Typical                         | 1200, 120 | Typ.  |
| Disaccommodation Factor   | $10^{-6}$           | Typical                         | N/A       | Typ.  |

| Power Loss ( $P_L$ ), Sine Wave, in mW/cm <sup>3</sup> (typical) |         |         |        |         |        |          |          |
|--|---------|---------|--------|---------|--------|----------|----------|
| Condition  |         | @ 25 °C |        | @ 60 °C |        | @ 100 °C | @ 120 °C |
| I  | 25 kHz  | 90      | 200 mT | 160     | 2000 G | 240      | N/A      |
| II   | 100 kHz | 100     | 100 mT | 180     | 1000 G | 225      | N/A      |
| III  | 500 kHz | N/A     | 50 mT  | N/A     | 500 G  | N/A      | N/A      |
| IV   | 700 kHz | N/A     | 50 mT  | N/A     | 500 G  | N/A      | N/A      |

| REVISION HISTORY |     |                    |             |         |            |
|------------------|-----|--------------------|-------------|---------|------------|
| REV              | ECN | DESCRIPTION        | SIGN & DATE |         |            |
|                  |     |                    | BY          | DATE    | AP. DATE   |
| A                |     | Production release | EO          | 2/13/13 | JL 2/13/13 |
|                  |     |                    |             |         |            |



| Case Dimensional Tolerances |       |           |       |           |
|-----------------------------|-------|-----------|-------|-----------|
|                             | in    | tol.      | mm    | tol.      |
| B (Outer Diameter)          | 0.500 | 0.510 Max | 12.70 | 12.96 Max |
| A (Inner Diameter)          | 0.312 | 0.302 Min | 7.92  | 7.67 Min  |
| H (Height)                  | 0.250 | 0.257 Max | 6.35  | 6.53 Max  |
| Weight 2.40 g               |       |           |       |           |

**For additional detail, specifications and charts see:**

<http://www.bytemark.com/>

| CODE IDENT  | MFG. P/N   | DESCRIPTION   | ITEM NO.  |
|---|------------|---|---|
| <b>PARTS LIST</b>   |            |   |   |
| AUTOCAD   | X          | www.coilws.com<br>www.cwsbytemark.com                             | CWSBYTEMARK<br>353 West Grove Ave. Orange, CA.<br>92865 |
| SOLIDWORKS  |            |   |   |
| DRAWN   | EO 2/13/13 | <b>TITLE:</b><br>Ferrite Toroid Core<br>MnZn Material F, uncoated |   |
| CHECKED   | JL 2/13/13 |   |   |
| ENGR.   | JL 2/13/13 |   |   |
| APPR.   | JL 2/13/13 |   |   |
| UNLESS OTHERWISE SPECIFIED  |            | SIZE DWG. NO.   | REV   |
| DIMENSIONING AND TOLERANCE PER ANSI Y14.5M<br>ALL DIMENSIONS ARE IN INCHES AND [MILLIMETERS].<br>TOLERANCE INCHES: .XXX=±.005 .XX=±.015 <math>\angle=±0°30'</math><br>TOLERANCE METRICS: .XXX=±.127 .XX=±.38 <math>\angle=±0°30'</math> |            | B   | F-50A-F   |
| ANGLE PROJECTION  |            | SCALE   | SHEET 1 OF 1  |
| DO NOT SCALE DRAWING  |            | N/A   |   |