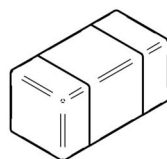


**A Dimensions: [mm]**

Scale - 20:1

**B Recommended land pattern: [mm]**

WIDE BAND / HIGH SPEED:  $W = 1,5$   
HIGH CURRENT:  $W = 2,2$

Scale - 20:1

**C Schematic:****D Electrical Properties:**

| Properties                 | Test conditions  |          | Value     | Unit     | Tol.       |
|----------------------------|------------------|----------|-----------|----------|------------|
| <b>Impedance @ 100 MHz</b> | 100 MHz          | Z        | 600       | $\Omega$ | $\pm 25\%$ |
| <b>Impedance @ 1 GHz</b>   | 1 GHz            | Z        | 1100      | $\Omega$ | min.       |
| <b>Maximum impedance</b>   | 550 MHz          | Z        | 1300      | $\Omega$ | typ.       |
| <b>Rated current</b>       | $\Delta T = 20K$ | $I_R$    | 100       | mA       | max.       |
| <b>DC Resistance</b>       |                  | $R_{DC}$ | 1.60      | $\Omega$ | max.       |
| <b>Type</b>                |                  |          | Wide Band |          |            |

**E General information:**

Do not use this part beyond the Rated Current, as this will create excessive heat and can harm the component

- Storage Temperature (on Tape & Reel):  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$
- Operating Temperature:  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Test conditions of Electrical Properties:  $20^{\circ}\text{C}$ , 33% RH if not specified differently

|     |            |     |         |            |  |  |
|-----|------------|-----|---------|------------|--|--|
|     |            |     |         | Projection |  | DESCRIPTION  |
| 3.5 | 2013-04-17 | SSt | SSt     |            |  | <b>WE-CBF HF SMD EMI Suppression Ferrite Bead (High Frequency)</b> |
| 3.4 | 2012-11-28 | SSt | SSt     |            |  | Order.- No.  |
| 3.3 | 2012-10-23 | SSt | SMu     |            |  | <b>742841160</b>   |
| 3.2 | 2012-09-27 | SSt | SMu     |            |  | Size: 0402   |
| 3.1 | 2012-06-27 | SSt | SSt     |            |  |  |
| 3.0 | 2012-03-29 | SSt | SMu     |            |  |  |
| 2.0 | 2009-08-13 | SMu | -       |            |  |  |
| REV | DATE       | BY  | CHECKED |            |  |  |



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Order.- No.

**742841160**

Size: 0402

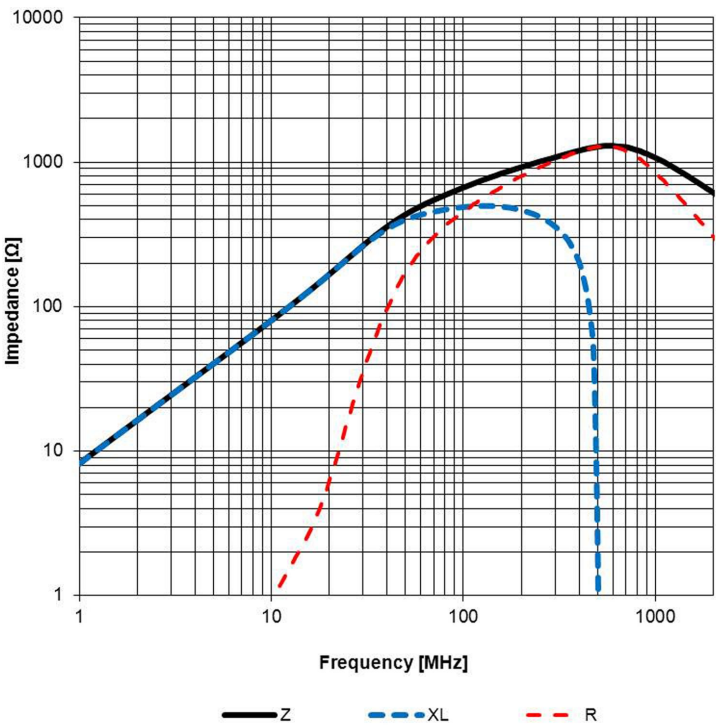


SIZE

A4



F Typical Impedance Characteristics:



Test Equipment: E4991A or equivalent

F Derating Curve:



|     |            |     |         |   |  |  |
|-----|------------|-----|---------|---|--|--|
|     |            |     |         | Projection  |  | DESCRIPTION  |
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G Packaging Specification: [mm]



| size |           | A0   | B0   | W            | P1    | T    | T1   | D0           | E1    | E2   | F      | P0    | P2     | Tape  | Packaging Unit |
|------|-----------|------|------|--------------|-------|------|------|--------------|-------|------|--------|-------|--------|-------|----------------|
|      | tolerance | typ. | typ. | +0,3<br>-0,1 | ± 0,1 | max. | max. | +0,1<br>-0,0 | ± 0,1 | min. | ± 0,05 | ± 0,1 | ± 0,05 |       |                |
|      |           |      |      |              |       |      |      |              |       |      |        |       |        |       |                |
|      | 0402      | 0,69 | 1,19 | 8,00         | 2,00  | 0,66 | 0,10 | 1,50         | 1,75  | 6,25 | 3,50   | 4,00  | 2,00   | Paper | 10000          |
|      | 0603      | 1,10 | 1,88 | 8,00         | 4,00  | 1,10 | 0,10 | 1,50         | 1,75  | 6,25 | 3,50   | 4,00  | 2,00   | Paper | 4000           |
|      | 0805      | 1,42 | 2,24 | 8,00         | 4,00  | 1,04 | 0,10 | 1,50         | 1,75  | 6,25 | 3,50   | 4,00  | 2,00   | Paper | 4000           |



Packaging is referred to the international standard IEC 60286 -3:2007

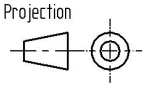


|            |      | A      | B    | C     | D     | N     | W1   | W2    | W3   | W3    |
|------------|------|--------|------|-------|-------|-------|------|-------|------|-------|
| tolerance  |      |        | min. | ± 0,8 | min.  | min.  | +1,5 | max.  | min. | max.  |
| Tape width | 8 mm | 178,00 | 1,50 | 13,00 | 20,20 | 50,00 | 8,40 | 14,40 | 7,90 | 10,90 |



| Pull-of force |               |
|---------------|---------------|
| Tape width    | 8 mm          |
|               | 0,1 N - 1,0 N |

| 3.5 | 2013-04-17 | SSt | SSt     |
|-----|------------|-----|---------|
| 3.4 | 2012-11-28 | SSt | SSt     |
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DESCRIPTION

**WE-CBF HF SMD EMI Suppression Ferrite Bead (High Frequency)**

Order.- No.

**742841160**

Size: 0402



SIZE

A4

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H Soldering Specifications:



H1: Classification Reflow Profile for SMT components:



H2: Classification Reflow Profiles

| Profile Feature   | Pb-Free Assembly                 |
|---|----------------------------------|
| Preheat <ul style="list-style-type: none"><li>- Temperature Min (<math>T_{smin}</math>)</li><li>- Temperature Max (<math>T_{smax}</math>)</li><li>- Time (<math>t_s</math>) from (<math>T_{smin}</math> to <math>T_{smax}</math>)</li></ul> | 150°C<br>200°C<br>60-120 seconds |
| Ramp-up rate ( $T_L$ to $T_P$ )   | 3°C/ second max.                 |
| Liquidous temperature ( $T_L$ )<br>Time ( $t_L$ ) maintained above $T_L$  | 217°C<br>60-150 seconds          |
| Peak package body temperature ( $T_P$ )   | See Table H3                     |
| Time within 5°C of actual peak temperature ( $t_p$ )  | 20-30 seconds                    |
| Ramp-down rate ( $T_P$ to $T_L$ )   | 6°C/ second max.                 |
| Time 25°C to peak temperature   | 8 minutes max.                   |

refer to IPC/JEDEC J-STD-020D

H3: Package Classification Reflow Temperature

|                  | Package Thickness | Volume mm³ <350 | Volume mm³ 350 - 2000 | Volume mm³ >2000 |
|------------------|-------------------|-----------------|-----------------------|------------------|
| PB-Free Assembly | < 1.6 mm          | 260°C           | 260°C                 | 260°C            |
| PB-Free Assembly | 1.6 - 2.5 mm      | 260°C           | 250°C                 | 245°C            |
| PB-Free Assembly | ≥ 2.5 mm          | 250°C           | 245°C                 | 245°C            |

refer to IPC/JEDEC J-STD-020D

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|     |            |     |         | Projection |  | DESCRIPTION  |
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Order.- No.  
**742841160**  
Size: 0402

**COMPLIANT**  
**RoHS&REACH**  
WÜRTH ELEKTRONIK

SIZE  
A4

# I Cautions and Warnings:

The following conditions apply to all goods within the product series of **WE-CBF HF** of Würth Elektronik eiSos GmbH & Co. KG:

## General:

All recommendations according to the general technical specifications of the data-sheet have to be complied with.

The disposal and operation of the product within ambient conditions which probably alloy or harm the component surface has to be avoided.

If the product is potted in customer applications, the potting material might shrink during and after hardening. Accordingly to this the product is exposed to the pressure of the potting material with the effect that the ferrite body and termination is possibly damaged by this pressure and so the electrical as well as the mechanical characteristics are endanger to be affected. After the potting material is cured, the ferrite body and termination of the product have to be checked if any reduced electrical or mechanical functions or destructions have occurred.

The responsibility for the applicability of customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products do also apply for customer specific products.

Cleaning agents that are used to clean the application might damage or change the characteristics of the component, body, pins or termination.

Direct mechanical impact to the product shall be prevented as the ferrite material of the ferrite body could flake or in the worst case it could break.

## Product specific:

Follow all instructions mentioned in the datasheet, especially:

- The solder profile has to be complied with according to the technical reflow soldering specification, otherwise no warranty will be sustained.
- Wave soldering is only allowed after evaluation and approval.
- All products shall be used before the end of the period of 12 months based on the product date-code, if not a 100% solderability can't be warranted.
- Violation of the technical product specifications such as exceeding the nominal rated current will result in the loss of warranty.



|     |            |     |         |  |   |                  |  |      |
|-----|------------|-----|---------|--|---|------------------|--|------|
|     |            |     |         | <div>Projection</div>   |   | DESCRIPTION      |  |      |
| 3.5 | 2013-04-17 | SSt | SSt     |  |   |                  |  |      |
| 3.4 | 2012-11-28 | SSt | SSt     | <div>Würth Elektronik eiSos GmbH &amp; Co. KG</div> <div>EMC &amp; Inductive Solutions</div> <div>Max-Eyth-Str. 1</div> <div>74638 Waldenburg</div> <div>Germany</div> <div>Tel. +49 (0) 79 42 945 - 0</div> <div>www.we-online.com</div> <div>eiSos@we-online.com</div> | <div><b>WE-CBF HF SMD EMI Suppression Ferrite Bead (High Frequency)</b></div> |                  |  |      |
| 3.3 | 2012-10-23 | SSt | SMu     |  |   |                  |  |      |
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| 2.0 | 2009-08-13 | SMu | -       |  |   |                  |  |      |
| REV | DATE       | BY  | CHECKED |  |   |                  |  |      |
|     |            |     |         |  |   |                  |  |      |
|     |            |     |         |  |   | Order.- No.      | <div><div>COMPLIANT</div><div>RoHS&amp;REACH</div><div>WÜRTH ELEKTRONIK</div></div> | SIZE |
|     |            |     |         |  |   | <b>742841160</b> |  | A4   |
|     |            |     |         |  |   | Size: 0402       |  |      |

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