

# Spezifikation für Freigabe / specification for release

Kunde / customer :

Artikelnummer / part number : **748421245**

LF

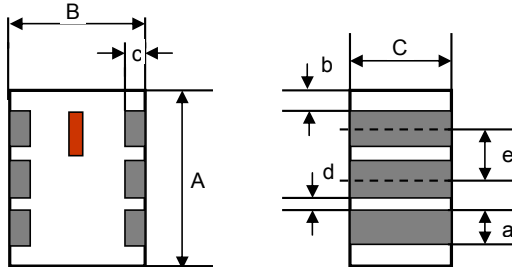


Bezeichnung : **SMD-Balun WE-BAL**

description : **Chip-Balun WE-BAL**

DATUM / DATE : 2004-10-11

## A Mechanische Abmessungen / dimensions:



| size | 0805            |    |
|------|-----------------|----|
| A    | $2,0 \pm 0,1$   | mm |
| B    | $1,25 \pm 0,1$  | mm |
| C    | $0,85 \pm 0,1$  | mm |
| a    | $0,3 \pm 0,1$   | mm |
| b    | $0,2 \pm 0,1$   | mm |
| c    | $0,3 +0,1/-0,2$ | mm |
| d    | $0,35 \pm 0,1$  | mm |
| e    | $0,65 \pm 0,05$ | mm |

## B Elektrische Eigenschaften / electrical properties:

| Eigenschaften / properties               | Testbedingungen / test conditions |   | Wert / value         | Einheit / unit | tol.           |
|------------------------------------------|-----------------------------------|---|----------------------|----------------|----------------|
| Frequenzbereich/ frequency range         |                                   | f | <b>2400 ... 2500</b> | MHz            |                |
| Einfügedämpfung/ insertion loss          | 2400 ... 2500 MHz                 |   | <b>1,0</b>           | dB             | max.           |
| Einfügedämpfung/ insertion loss          | 2400 ... 2500 MHz                 |   | <b>0,54</b>          | dB             | typ.           |
| VSWR/ VSWR                               | 2400 ... 2500 MHz                 |   | <b>2,0</b>           |                | max.           |
| VSWR/ VSWR                               | 2400 ... 2500 MHz                 |   | <b>1,32</b>          |                | typ.           |
| Phasendifferenz/ phase imbalance         |                                   |   | <b>180</b>           | °              | $\pm 10^\circ$ |
| Amplitudendifferenz/ amplitude imbalance |                                   |   | <b>2,0</b>           | dB             | max.           |
| Eingangsimpedanz/ unbalanced impedance   |                                   | Z | <b>50</b>            | $\Omega$       | typ.           |
| Ausgangsimpedanz/ balanced impedance     |                                   | Z | <b>100</b>           | $\Omega$       | typ.           |

## C Abbildung/ apperance:



## D Prüfgeräte / test equipment:

Network Analyzer Agilent E5071B

## E Testbedingungen / test conditions:

Luftfeuchtigkeit / humidity: 50 ~ 70%  
Umgebungstemperatur / temperature: 20°C ~ 25°C

## F Werkstoffe & Zulassungen / material & approvals

Basismaterial / base material: Keramik / ceramic  
Kontaktmaterial / contact plating: AG + Ni + Sn

## G Eigenschaften / general specifications:

Betriebstemp. / operating temperature: -40°C - +85°C  
Lagerbedingungen / storage conditions: 15°C ~ 35°C  
45 ~ 75% RH  
Leistung/ power capacity : 3 W max.

|                                     |                          |      |                         |            |
|-------------------------------------|--------------------------|------|-------------------------|------------|
| Freigabe erteilt / general release: | Kunde / customer         |      |                         |            |
|                                     |                          |      |                         |            |
|                                     |                          |      |                         |            |
| Datum / date                        | Unterschrift / signature |      |                         |            |
|                                     | Würth Elektronik         |      |                         |            |
|                                     |                          |      |                         |            |
| Geprüft / checked                   | Kontrolliert / approved  | AWe  | Version 1               | 04-10-11   |
|                                     |                          | Name | Änderung / modification | Datum/date |

**Würth Elektronik eiSos GmbH & Co.KG**

D-74638 Waldenburg · Max-Eyth-Str. 1 · Germany · Telefon (+49) (0) 7942 - 945 - 0 · Telefax (+49) (0) 7942 - 945 - 400  
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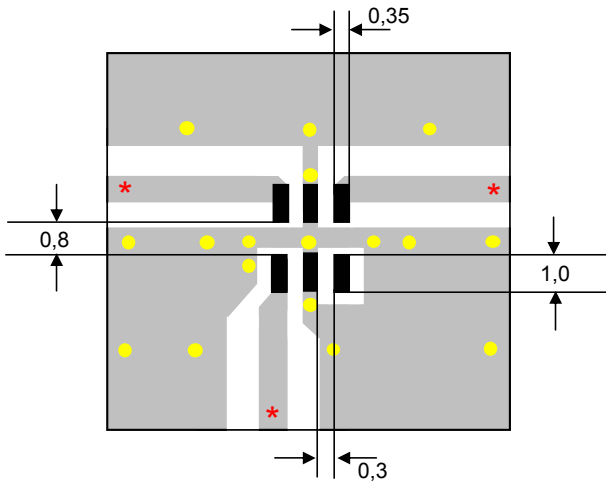
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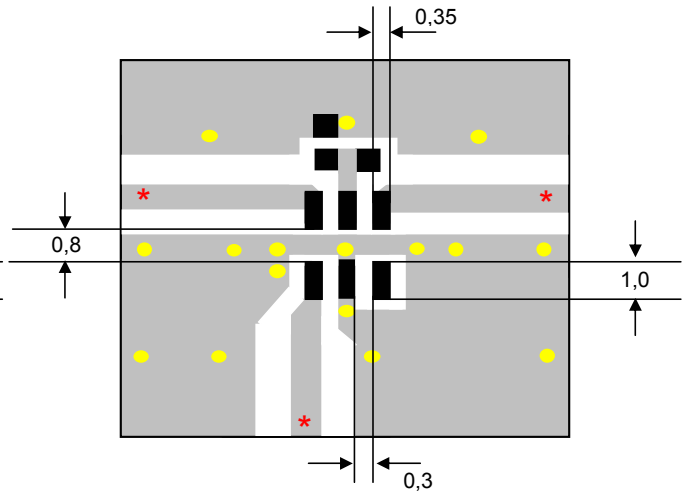
**WÜRTH ELEKTRONIK**  
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## H Lötadempfehlung / solder pads:

ohne/ without DC-feed:



mit/ with DC-feed:



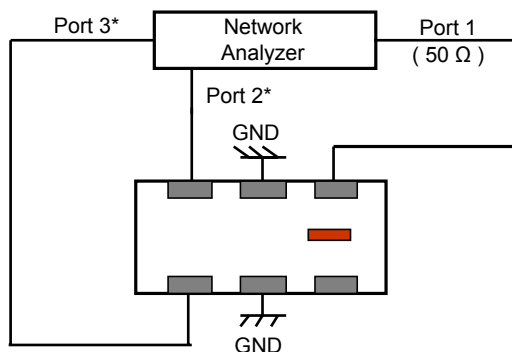
\* Line width should be designed to provide proper impedance matching characteristics, depending on PCB material and thickness.

\*\* Bypass capacitor should be connected when feeding DC power

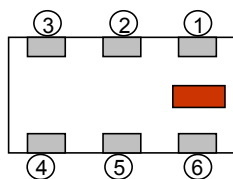
- Solder Resist
- Land
- Through-hole (Ø 0.3)

Units: mm

## K Messdiagramme/ measuring diagrams:



\* Impedance for ports 2 and 3 =  $\frac{1}{2}$  (Balanced Impedance)



| No. | Terminal Name           | No. | Terminal Name         |
|-----|-------------------------|-----|-----------------------|
| ①   | Unbalanced Port (IN)    | ④   | Balanced Port (OUT 2) |
| ②   | GND or DC feed + RF GND | ⑤   | GND                   |
| ③   | Balanced Port (OUT 1)   | ⑥   | NC                    |

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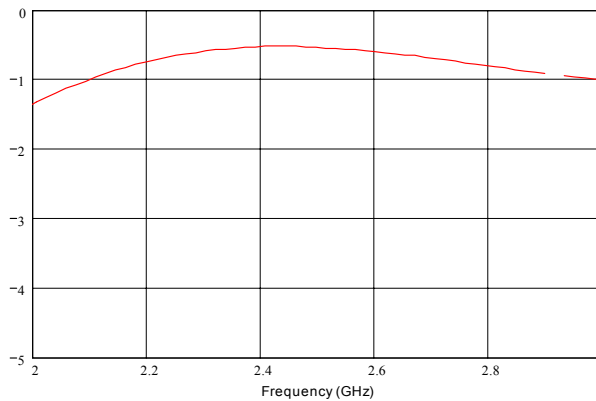
LF



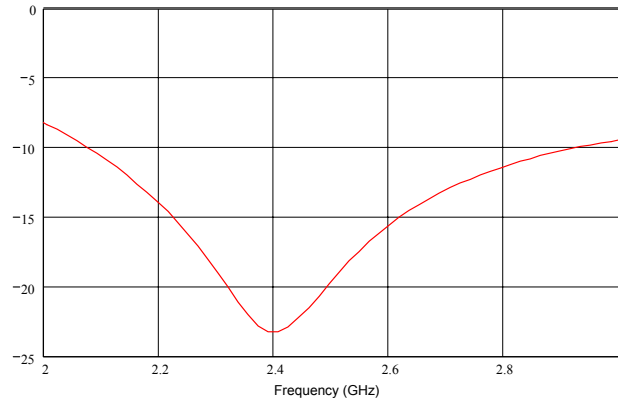
DATUM / DATE : 2004-10-11

## L Messdiagramme / measuring diagrams:

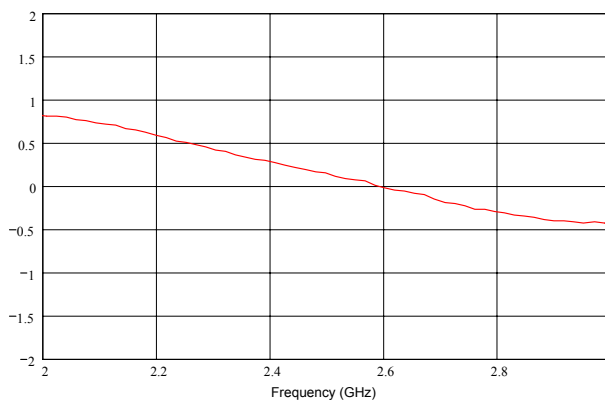
Insertion Loss (dB)



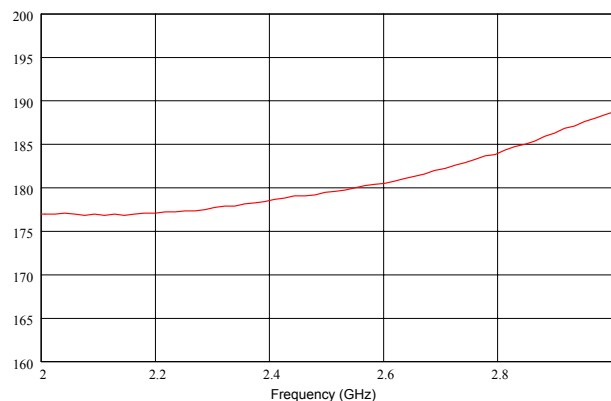
Return Loss (dB)



Amplitude Balance (dB)



Phase Balance (degree)



This electronic component is designed and developed with the intention for use in general electronics equipments. Before incorporating the components into any equipments in the field such as aerospace, aviation, nuclear control, submarine, transportation, (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc. where higher safety and reliability are especially required or if there is possibility of direct damage or injury to human body. In addition, even electronic component in general electronic equipments, when used in electrical circuits that require high safety, reliability functions or performance, the sufficient reliability evaluation-check for the safety must be performed before use. It is essential to give consideration when to install a protective circuit at the design stage.

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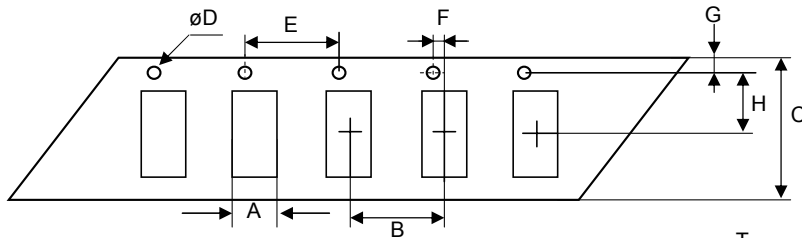


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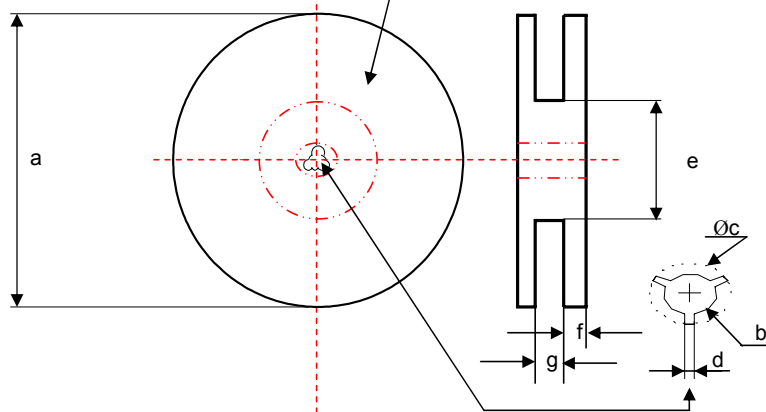
DATUM / DATE : 2004-10-11

## I Rollenspezifikation / tape and reel specification :



### Gurtspezifikation / Tape specification:

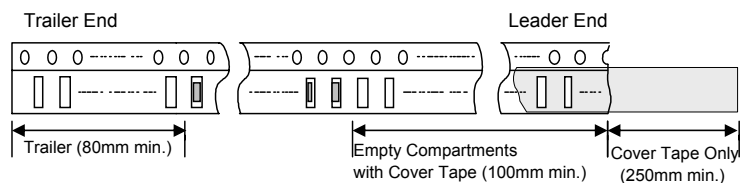
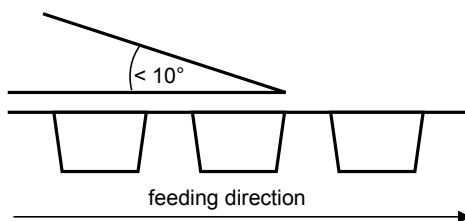
|   |               |    |
|---|---------------|----|
| A | 1,6 ± 0,1     | mm |
| B | 4,0 ± 0,1     | mm |
| C | 8,0 ± 0,2     | mm |
| D | 1,5 +0,1/-0,0 | mm |
| E | 4,0 ± 0,1     | mm |
| F | 2,0 ± 0,1     | mm |
| G | 1,75 ± 0,1    | mm |
| H | 3,5 ± 0,1     | mm |
| I | 2,4 ± 0,1     | mm |
| J | 1,3 max.      | mm |
| T | 0,2 ± 0,05    | mm |



### Rollenspezifikation / Reel specification:

|   |             |    |
|---|-------------|----|
| a | 178,0 ± 2,0 | mm |
| b | 13,0 ± 0,3  | mm |
| c | 21,8 ± 0,8  | mm |
| d | 2,0 ± 0,5   | mm |
| e | 60,0 ± 0,5  | mm |
| f | 1,2 ± 2,0   | mm |
| g | 9,0 ± 0,3   | mm |

The force for tearing off cover tape is  
10 to 130 grams in arrow direction



Freigabe erteilt / general release:

Kunde / customer

Datum / date

Unterschrift / signature

Würth Elektronik

Geprüft / checked

Kontrolliert / approved

AWe Version 1 04-10-11  
Name Änderung / modification Datum/date

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