

Notice for TAIYO YUDEN products

Please read this notice before using the TAIYO YUDEN products.

/!\ REMINDERS

Product Information in this Catalog

Product information in this catalog is as of October 2019. All of the contents specified herein and production status of the products listed in this catalog are subject to change without notice due to technical improvement of our products, etc. Therefore, please check for the latest information carefully before practical application or use of our products.

Please note that TAIYO YUDEN shall not be in any way responsible for any damages and defects in products or equipment incorporating our products, which are caused under the conditions other than those specified in this catalog or individual product specification sheets.

Approval of Product Specifications

Please contact TAIYO YUDEN for further details of product specifications as the individual product specification sheets are available. When using our products, please be sure to approve our product specifications or make a written agreement on the product specification with TAIYO YUDEN in advance.

Pre-Evaluation in the Actual Equipment and Conditions

Please conduct validation and verification of our products in actual conditions of mounting and operating environment before using our products.

Limited Application

1. Equipment Intended for Use

The products listed in this catalog are intended for generalpurpose and standard use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC) and other equipment specified in this catalog or the individual product specification sheets.

TAIYO YUDEN has the line-up of the products intended for use in automotive electronic equipment, telecommunications infrastructure and industrial equipment, or medical devices classified as GHTF Classes A to C (Japan Classes I to III). Therefore, when using our products for these equipment, please check available applications specified in this catalog or the individual product specification sheets and use the corresponding products.

2. Equipment Requiring Inquiry

Please be sure to contact TAIYO YUDEN for further information before using the products listed in this catalog for the following equipment (excluding intended equipment as specified in this catalog or the individual product specification sheets) which may cause loss of human life, bodily injury, serious property damage and/or serious public impact due to a failure or defect of the products and/or malfunction attributed thereto.

- (1) Transportation equipment (automotive powertrain control system, train control system, and ship control system, etc.)
- (2) Traffic signal equipment
- (3) Disaster prevention equipment, crime prevention equipment
- (4) Medical devices classified as GHTF Class C (Japan Class III)
- (5) Highly public information network equipment, dataprocessing equipment (telephone exchange, and base station, etc.)
- (6) Any other equipment requiring high levels of quality and/or reliability equal to the equipment listed above

3. Equipment Prohibited for Use

Please do not incorporate our products into the following equipment requiring extremely high levels of safety and/or reliability.

- (1) Aerospace equipment (artificial satellite, rocket, etc.)
- (2) Aviation equipment *1
- (3) Medical devices classified as GHTF Class D (Japan Class IV), implantable medical devices *2

- (4) Power generation control equipment (nuclear power, hydroelectric power, thermal power plant control system, etc.)
- (5) Undersea equipment (submarine repeating equipment, underwater work equipment, etc.)
- (6) Military equipment
- (7) Any other equipment requiring extremely high levels of safety and/or reliability equal to the equipment listed above

*Notes:

- 1. There is a possibility that our products can be used only for aviation equipment that does not directly affect the safe operation of aircraft (e.g., in-flight entertainment, cabin light, electric seat, cooking equipment) if such use meets requirements specified separately by TAIYO YUDEN. Please be sure to contact TAIYO YUDEN for further information before using our products for such aviation equipment.
- Implantable medical devices contain not only internal unit which is implanted in a body, but also external unit which is connected to the internal unit.

4. Limitation of Liability

Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the products listed in this catalog for any equipment that is not intended for use by TAIYO YUDEN, or any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.

Safety Design

When using our products for high safety and/or reliability-required equipment or circuits, please fully perform safety and/or reliability evaluation. In addition, please install (i) systems equipped with a protection circuit and a protection device and/or (ii) systems equipped with a redundant circuit or other system to prevent an unsafe status in the event of a single fault for a failsafe design to ensure safety.

Intellectual Property Rights

Information contained in this catalog is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.

Limited Warranty

Please note that the scope of warranty for our products is limited to the delivered our products themselves and TAIYO YUDEN shall not be in any way responsible for any damages resulting from a failure or defect in our products. Notwithstanding the foregoing, if there is a written agreement (e.g., supply and purchase agreement, quality assurance agreement) signed by TAIYO YUDEN and your company, TAIYO YUDEN will warrant our products in accordance with such agreement

■ TAIYO YUDEN's Official Sales Channel

The contents of this catalog are applicable to our products which are purchased from our sales offices or authorized distributors (hereinafter "TAIYO YUDEN's official sales channel"). Please note that the contents of this catalog are not applicable to our products purchased from any seller other than TAIYO YUDEN's official sales channel.

Caution for Export

Some of our products listed in this catalog may require specific procedures for export according to "U.S. Export Administration Regulations", "Foreign Exchange and Foreign Trade Control Law" of Japan, and other applicable regulations. Should you have any questions on this matter, please contact our sales staff.

WIRE-WOUND CHIP INDUCTORS (LB SERIES)





REFLOW

■PARTS NUMBER

* Operating Temp.:-40~+105°C (Including self-generated heat)

| L B | ΔΔ | 2 | 0 | 1 | 2 | Т | 1 | 0 | 0 | М | Δ | Δ | Δ | Δ | Δ | =Blan | k |
|-----|----|---|----|----|---|---|---|-----|---|---|---|---|---|---|---|-------|---|
| 1 | 2 | | (3 | 3) | | 4 | - | (5) | | 6 | 7 | | 8 | | | | |

| ①Series name | |
|--------------|--|
| Code | |

| Code | Series name |
|------|---------------------|
| LB | Wound chip inductor |

2Characteristics

| Code | Characteristics |
|------|-----------------|
| ΔΔ | Standard |
| ΔC | High current |
| ΔR | Low Rdc |
| MF | Low loss |

③Dimensions (L × W)

| @ Dimonoron (L. | . 117 | |
|-----------------|-------------|--------------------------|
| Code | Type (inch) | Dimensions (L×W) [mm] |
| 1608 | 1608 (0603) | 1.6 × 0.8 |
| 2012 | 2012 (0805) | 2.0 × 1.25 |
| 2016 | 2016 (0806) | 2.0 × 1.6 |
| 2518 | 2518(1007) | 2.5 × 1.8 |
| 3218 | 3218(1207) | 3.2 × 1.8 |
| 3225 | 3225(1210) | 3.2 × 2.5 |
| | | |

4 Packaging

| Code | Packaging |
|------|-----------|
| Т | Taping |

space

⑤Nominal inductance

| Code (example) | Nominal inductance[μH] |
|-------------------|------------------------|
| 1R0 | 1.0 |
| 100 | 10 |
| 101 | 100 |

※R=Decimal point

6 Inductance tolerance

| Code | Inductance tolerance |
|------|----------------------|
| K | ±10% |
| М | ±20% |

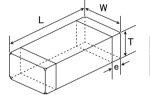
7 Special code

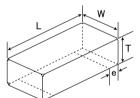
| Code | Special code |
|------|--------------|
| Δ | Standard |
| R | Low Rdc type |

8 Internal code

■ STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY

LB/LB C/LB R LBMF

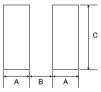




Recommended Land Patterns

Surface Mountin

- •Mounting and soldering conditions should be checked beforehand.
- •Applicable soldering process to these products is reflow soldering only.



| Туре | Α | В | С |
|--------|------|-----|------|
| 1608 | 0.55 | 0.7 | 0.9 |
| MF1608 | 0.55 | 0.7 | 1.0 |
| 2012 | 0.60 | 1.0 | 1.45 |
| 2016 | 0.60 | 1.0 | 1.8 |
| 2518 | 0.60 | 1.5 | 2.0 |
| 3218 | 0.85 | 1.7 | 2.0 |
| 3225 | 0.85 | 1.7 | 2.7 |

Unit:mm

| Туре | L | W | т | | Standard quantity[pcs] | | | |
|---------------------------------|--|------------------------------------|---------------------------|----------------------------|------------------------|---------------|--|--|
| Туре | L | VV | | е | Paper tape | Embossed tape | | |
| LB 1608 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 4000 | - | | | | |
| LBMF1608 | 1.6±0.2 (0.063±0.008) | 0.8 ± 0.2 (0.031 ± 0.008) | 0.8±0.2 (0.031±0.008) | 0.45±0.15 (0.016±0.006) | _ | 3000 | | |
| LB 2012 LB C2012 LB R2012 | 2.0±0.2 (0.079±0.008) | 1.25±0.2 (0.049±0.008) | 1.25±0.2 (0.049±0.008) | 0.5±0.2 (0.020±0.008) | _ | 3000 | | |
| LB 2016 LB C2016 | 2.0±0.2 (0.079±0.008) | 1.6±0.2 (0.063±0.008) | 1.6±0.2 (0.063±0.008) | 0.5±0.2 (0.020±0.008) | _ | 2000 | | |
| LB 2518 LB C2518 LB R2518 | 2.5±0.2 (0.098±0.008) | 1.8±0.2 (0.071±0.008) | 1.8±0.2 (0.071±0.008) | 0.5±0.2 (0.020±0.008) | - | 2000 | | |
| LB 3218 | 3.2±0.2 (0.126±0.008) | 1.8±0.2 (0.071±0.008) | 1.8±0.2 (0.071±0.008) | 0.6±0.2 (0.024±0.008) | _ | 2000 | | |
| LB C3225 | 3.2±0.2 (0.126±0.008) | 2.5±0.2 (0.098±0.008) | 2.5±0.2 (0.098±0.008) | 0.6±0.3 (0.024±0.012) | _ | 1000 | | |

Unit:mm(inch)

[▶] This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (http://www.ty-top.com/).

●1608(06<u>03)</u>type Nominal inductance [μ H] Self-resonant frequency [MHz] (min.) DC Resistance [Ω](±30%) Rated current [mA] (max.) Measuring frequency [MHz] Parts number EHS Inductance tolerance LB 1608T1R0M ±20% 0.17 7.96 RoHS 1.0 100 160 LB 1608T2R2M RoHS 7.96 2.2 ±20% 80 0.33 115 LB 1608T4R7M RoHS 4.7 ±20% 45 0.55 70 7.96 LB 1608T8R2M RoHS ±20% 32 0.70 60 LB 1608T100M RoHS 10 ±20% 32 0.70 60 2.52

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|------------------------------|
| LBMF1608T1R0M | RoHS | 1.0 | ±20% | 100 | 0.09 | 230 | 7.96 |
| LBMF1608T2R2M | RoHS | 2.2 | ±20% | 80 | 0.17 | 160 | 7.96 |
| LBMF1608T3R3M | RoHS | 3.3 | ±20% | 60 | 0.22 | 130 | 7.96 |
| LBMF1608T4R7M | RoHS | 4.7 | ±20% | 45 | 0.24 | 110 | 7.96 |
| LBMF1608T100[] | RoHS | 10 | ±10%, ±20% | 32 | 0.36 | 80 | 2.52 |
| LBMF1608T220[] | RoHS | 22 | ±10%, ±20% | 16 | 1.0 | 50 | 2.52 |
| LBMF1608T470[] | RoHS | 47 | ±10%, ±20% | 11 | 2.5 | 35 | 2.52 |

_2012(0805)type

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|---------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|------------------------------|
| LB 2012T1R0M | RoHS | 1.0 | ±20% | 100 | 0.15 | 405 | 7.96 |
| LB 2012T2R2M | RoHS | 2.2 | ±20% | 80 | 0.23 | 260 | 7.96 |
| LB 2012T3R3M | RoHS | 3.3 | ±20% | 55 | 0.30 | 235 | 7.96 |
| LB 2012T4R7M | RoHS | 4.7 | ±20% | 45 | 0.40 | 190 | 7.96 |
| LB 2012T6R8M | RoHS | 6.8 | ±20% | 38 | 0.47 | 135 | 7.96 |
| LB 2012T100[] | RoHS | 10 | ±10%, ±20% | 32 | 0.70 | 120 | 2.52 |
| LB 2012T100[R | RoHS | 10 | ±10%, ±20% | 32 | 0.50 | 120 | 2.52 |
| LB 2012T150[] | RoHS | 15 | ±10%, ±20% | 28 | 1.3 | 100 | 2.52 |
| LB 2012T220[] | RoHS | 22 | ±10%, ±20% | 16 | 1.7 | 80 | 2.52 |
| LB 2012T470[] | RoHS | 47 | ±10%, ±20% | 11 | 3.7 | 60 | 2.52 |
| LB 2012T680[] | RoHS | 68 | ±10%, ±20% | 10 | 6.0 | 50 | 2.52 |
| LB 2012T101[] | RoHS | 100 | ±10%, ±20% | 8 | 7.0 | 45 | 0.796 |

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|-------------------------|---------------------------|---------------------------|
| LB C2012T1R0M | RoHS | 1.0 | ±20% | 100 | 0.19 | 620 | 7.96 |
| LB C2012T2R2M | RoHS | 2.2 | ±20% | 70 | 0.33 | 430 | 7.96 |
| LB C2012T4R7M | RoHS | 4.7 | ±20% | 45 | 0.50 | 295 | 7.96 |
| LB C2012T100[] | RoHS | 10 | ±10%, ±20% | 40 | 1.2 | 200 | 2.52 |
| LB C2012T220[] | RoHS | 22 | ±10%, ±20% | 16 | 3.7 | 130 | 2.52 |
| LB C2012T470[] | RoHS | 47 | ±10%, ±20% | 11 | 5.8 | 90 | 2.52 |

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|------------------------------|
| LB R2012T1R0M | RoHS | 1.0 | ±20% | 100 | 0.07 | 400 | 7.96 |
| LB R2012T2R2M | RoHS | 2.2 | ±20% | 80 | 0.13 | 260 | 7.96 |
| LB R2012T4R7M | RoHS | 4.7 | ±20% | 45 | 0.24 | 200 | 7.96 |
| LB R2012T100[] | R₀HS | 10 | ±10%, ±20% | 32 | 0.36 | 150 | 2.52 |
| LB R2012T220[] | R₀HS | 22 | ±10%, ±20% | 16 | 1.0 | 100 | 2.52 |
| LB R2012T470[] | RoHS | 47 | ±10%, ±20% | 11 | 1.7 | 75 | 2.52 |
| LB R2012T101[] | RoHS | 100 | ±10%, ±20% | 8 | 4.0 | 50 | 0.796 |

2016 (0806) type

| Parts number | EHS | Nominal inductance $[\mu H]$ | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance $[\Omega](\pm 30\%)$ | Rated current [mA] (max.) | Measuring frequency [MHz] |
|---------------|------|------------------------------|----------------------|---|------------------------------------|---------------------------|------------------------------|
| LB 2016T1R0M | RoHS | 1.0 | ±20% | 100 | 0.09 | 490 | 7.96 |
| LB 2016T1R5M | RoHS | 1.5 | ±20% | 80 | 0.11 | 380 | 7.96 |
| LB 2016T2R2M | RoHS | 2.2 | ±20% | 70 | 0.13 | 375 | 7.96 |
| LB 2016T3R3M | RoHS | 3.3 | ±20% | 55 | 0.20 | 285 | 7.96 |
| LB 2016T4R7M | RoHS | 4.7 | ±20% | 45 | 0.25 | 225 | 7.96 |
| LB 2016T6R8M | RoHS | 6.8 | ±20% | 38 | 0.35 | 200 | 7.96 |
| LB 2016T100[] | RoHS | 10 | ±10%, ±20% | 32 | 0.50 | 155 | 2.52 |
| LB 2016T150[] | RoHS | 15 | ±10%, ±20% | 28 | 0.70 | 130 | 2.52 |
| LB 2016T220[] | RoHS | 22 | ±10%, ±20% | 16 | 1.0 | 105 | 2.52 |
| LB 2016T330□ | RoHS | 33 | ±10%, ±20% | 14 | 1.7 | 85 | 2.52 |
| LB 2016T470□ | RoHS | 47 | ±10%, ±20% | 11 | 2.4 | 70 | 2.52 |
| _B 2016T680[] | RoHS | 68 | ±10%, ±20% | 10 | 3.0 | 55 | 2.52 |
| LB 2016T101[] | RoHS | 100 | ±10%, ±20% | 8 | 4.5 | 40 | 0.796 |

^{• ☐} Please specify the Inductance tolerance code (K or M)

LB/LBC series

Rated Current : The maximum DC value having inductance decrease within 10 % and temperature increase within 20 degC by the application of DC bias.

LBR series

Rated Current : The maximum DC value having inductance decrease within 20 % and temperature increase within 20 degC by the application of DC bias.

[▶] This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our product specification sheets. For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our website (http://www.ty-top.com/).

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|---------------------------|
| LB C2016T1R0M | RoHS | 1.0 | ±20% | 100 | 0.10 | 690 | 7.96 |
| LB C2016T1R5M | RoHS | 1.5 | ±20% | 80 | 0.15 | 600 | 7.96 |
| LB C2016T2R2M | RoHS | 2.2 | ±20% | 70 | 0.20 | 520 | 7.96 |
| LB C2016T3R3M | RoHS | 3.3 | ±20% | 55 | 0.27 | 410 | 7.96 |
| LB C2016T4R7M | RoHS | 4.7 | ±20% | 45 | 0.37 | 355 | 7.96 |
| LB C2016T6R8M | RoHS | 6.8 | ±20% | 38 | 0.59 | 290 | 7.96 |
| LB C2016T100[] | RoHS | 10 | ±10%, ±20% | 32 | 0.82 | 245 | 2.52 |
| LB C2016T150[] | RoHS | 15 | ±10%, ±20% | 28 | 1.2 | 200 | 2.52 |
| LB C2016T220[] | RoHS | 22 | ±10%, ±20% | 16 | 1.8 | 165 | 2.52 |
| LB C2016T330[] | RoHS | 33 | ±10%, ±20% | 14 | 2.8 | 135 | 2.52 |
| LB C2016T470[] | RoHS | 47 | ±10%, ±20% | 11 | 4.3 | 110 | 2.52 |
| LB C2016T680[] | RoHS | 68 | ±10%, ±20% | 10 | 7.0 | 95 | 2.52 |
| LB C2016T101[] | RoHS | 100 | ±10%, ±20% | 8 | 8.0 | 75 | 0.796 |

2518(1007)type

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|---------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|---------------------------|
| LB 2518T1R0M | RoHS | 1.0 | ±20% | 100 | 0.06 | 665 | 7.96 |
| LB 2518T1R5M | RoHS | 1.5 | ±20% | 80 | 0.07 | 405 | 7.96 |
| LB 2518T2R2M | RoHS | 2.2 | ±20% | 68 | 0.09 | 340 | 7.96 |
| LB 2518T3R3M | RoHS | 3.3 | ±20% | 54 | 0.11 | 280 | 7.96 |
| LB 2518T4R7M | RoHS | 4.7 | ±20% | 46 | 0.13 | 240 | 7.96 |
| LB 2518T4R7MR | RoHS | 4.7 | ±20% | 46 | 0.10 | 235 | 7.96 |
| LB 2518T6R8M | RoHS | 6.8 | ±20% | 38 | 0.15 | 195 | 7.96 |
| LB 2518T100[] | RoHS | 10 | ±10%, ±20% | 30 | 0.25 | 165 | 2.52 |
| LB 2518T150[] | RoHS | 15 | ±10%, ±20% | 23 | 0.32 | 145 | 2.52 |
| LB 2518T220[] | RoHS | 22 | ±10%, ±20% | 19 | 0.50 | 115 | 2.52 |
| LB 2518T330[] | RoHS | 33 | ±10%, ±20% | 15 | 0.70 | 95 | 2.52 |
| LB 2518T470[] | RoHS | 47 | ±10%, ±20% | 12 | 0.95 | 85 | 2.52 |
| LB 2518T680[] | RoHS | 68 | ±10%, ±20% | 9.5 | 1.5 | 70 | 2.52 |
| LB 2518T101[] | RoHS | 100 | ±10%, ±20% | 9.0 | 2.1 | 60 | 0.796 |
| LB 2518T151[] | RoHS | 150 | ±10%, ±20% | 7.0 | 3.2 | 45 | 0.796 |
| LB 2518T221[] | RoHS | 220 | ±10%, ±20% | 5.5 | 4.5 | 40 | 0.796 |
| LB 2518T331[] | RoHS | 330 | ±10%, ±20% | 4.5 | 7.0 | 30 | 0.796 |
| LB 2518T471[] | RoHS | 470 | ±10%, ±20% | 3.5 | 10 | 25 | 0.796 |
| LB 2518T681[] | RoHS | 680 | ±10%, ±20% | 3.0 | 17 | 20 | 0.796 |
| LB 2518T102[] | RoHS | 1000 | ±10%, ±20% | 2.4 | 24 | 15 | 0.252 |

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|------------------------------|
| LB C2518T1R0M | RoHS | 1.0 | ±20% | 100 | 0.08 | 775 | 7.96 |
| LB C2518T1R0MR | RoHS | 1.0 | ±20% | 100 | 0.07 | 890 | 7.96 |
| LB C2518T1R5M | RoHS | 1.5 | ±20% | 80 | 0.11 | 730 | 7.96 |
| LB C2518T2R2M | RoHS | 2.2 | ±20% | 68 | 0.13 | 630 | 7.96 |
| LB C2518T3R3M | RoHS | 3.3 | ±20% | 54 | 0.16 | 560 | 7.96 |
| LB C2518T4R7M | RoHS | 4.7 | ±20% | 41 | 0.20 | 510 | 7.96 |
| LB C2518T6R8M | RoHS | 6.8 | ±20% | 38 | 0.30 | 420 | 7.96 |
| LB C2518T100□ | RoHS | 10 | ±10%, ±20% | 30 | 0.36 | 375 | 2.52 |
| LB C2518T150[] | RoHS | 15 | ±10%, ±20% | 23 | 0.65 | 285 | 2.52 |
| LB C2518T220[] | RoHS | 22 | ±10%, ±20% | 19 | 0.77 | 250 | 2.52 |
| LB C2518T330[] | R₀HS | 33 | ±10%, ±20% | 15 | 1.5 | 185 | 2.52 |
| LB C2518T470□ | RoHS | 47 | ±10%, ±20% | 12 | 1.9 | 165 | 2.52 |
| LB C2518T680□ | RoHS | 68 | ±10%, ±20% | 9.5 | 2.8 | 140 | 2.52 |
| LB C2518T101[] | RoHS | 100 | ±10%, ±20% | 9.0 | 3.7 | 125 | 0.796 |
| LB C2518T151[] | RoHS | 150 | ±10%, ±20% | 7.0 | 6.1 | 95 | 0.796 |
| LB C2518T221[] | RoHS | 220 | ±10%, ±20% | 5.5 | 8.4 | 80 | 0.796 |
| LB C2518T331[] | R₀HS | 330 | ±10%, ±20% | 4.5 | 12.3 | 65 | 0.796 |
| LB C2518T471[] | RoHS | 470 | ±10%, ±20% | 3.5 | 22 | 50 | 0.796 |
| LB C2518T681[] | RoHS | 680 | ±10%, ±20% | 3.0 | 28 | 45 | 0.796 |

| Parts number | EHS | Nominal inductance $[\mu H]$ | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance [Ω](±30%) | Rated current [mA] (max.) | Measuring frequency [MHz] |
|----------------|------|------------------------------|----------------------|---|----------------------------|---------------------------|---------------------------|
| LB R2518T1R0M | RoHS | 1.0 | ±20% | 100 | 0.045 | 960 | 7.96 |
| LB R2518T2R2M | RoHS | 2.2 | ±20% | 68 | 0.07 | 480 | 7.96 |
| LB R2518T4R7M | RoHS | 4.7 | ±20% | 45 | 0.10 | 345 | 7.96 |
| LB R2518T100[] | RoHS | 10 | ±10%, ±20% | 30 | 0.19 | 235 | 2.52 |
| LB R2518T220[] | RoHS | 22 | ±10%, ±20% | 19 | 0.44 | 175 | 2.52 |
| LB R2518T470[] | RoHS | 47 | ±10%, ±20% | 11 | 0.84 | 120 | 2.52 |
| LB R2518T101[] | RoHS | 100 | ±10%, ±20% | 9 | 1.89 | 80 | 0.796 |

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INDUCTORS

Nominal inductance [μ H] Self-resonant frequency [MHz] (min.) DC Resistance [Ω](±30%) Rated current [mA] (max.) Measuring frequency [MHz] Parts number EHS Inductance tolerance LB 3218T1R0M 0.06 1,075 7.96 RoHS ±20% 100 1.0 LB 3218T1R5M RoHS 1.5 ±20% 80 0.07 860 7.96 LB 3218T2R2M RoHS 2.2 ±20% 68 0.09 775 7.96 RoHS 3.3 0.11 560 7.96 ±20% LB 3218T4R7M RoHS 4.7 ±20% 41 0.13 550 7.96 LB 3218T6R8M RoHS 6.8 ±20% 40 0.17 380 7.96 LB 3218T100[] RoHS 10 ±10%, ±20% 30 0.25 340 2 52 LB 3218T150[] RoHS 15 ±10%, ±20% 25 0.32 300 2.52 LB 3218T220∏ RoHS 22 ±10%, ±20% 19 0.49 255 2.52 LB 3218T330 RoHS 33 ±10%, ±20% 15 0.75 215 2 52 47 LB 3218T470 ±10%, ±20% 12 RoHS 0.92 205 2.52 ±10%, ±20% LB 3218T680 RoHS 145 68 11 1.49 2.52 RoHS 100 8.0 140 0.796 LB 3218T101[±10%, ±20% 2.4 LB 3218T151 RoHS 150 ±10%, ±20% 7.0 3.2 105 0.796 RoHS ±10%, ±20% 5.4 LB 3218T221[] 220 5.0 80 0.796 LB 3218T331[RoHS 330 ±10%, ±20% 4.0 7.0 65 0.796 LB 3218T471[] RoHS 470 ±10%, ±20% 3.5 14 54 0.796 LB 3218T681 RoHS 680 ±10%, ±20% 3.0 17 45 0.796 LB 3218T102[] RoHS 1000 ±10%, ±20% 2.4 27 39 0.252

3225 (1210) type

| Parts number | EHS | Nominal inductance [μ H] | Inductance tolerance | Self-resonant frequency [MHz] (min.) | DC Resistance $[\Omega](\pm 30\%)$ | Rated current [mA] (max.) | Measuring frequency [MHz] |
|-----------------|------|------------------------------|----------------------|---|------------------------------------|---------------------------|------------------------------|
| LB C3225T1R0MR | RoHS | 1.0 | ±20% | 250 | 0.055 | 1,100 | 0.1 |
| LB C3225T1R5MR | RoHS | 1.5 | ±20% | 220 | 0.060 | 1,000 | 0.1 |
| LB C3225T2R2MR | RoHS | 2.2 | ±20% | 190 | 0.080 | 930 | 0.1 |
| LB C3225T3R3MR | RoHS | 3.3 | ±20% | 160 | 0.095 | 820 | 0.1 |
| LB C3225T4R7MR | RoHS | 4.7 | ±20% | 70 | 0.100 | 680 | 0.1 |
| LB C3225T6R8MR | RoHS | 6.8 | ±20% | 50 | 0.120 | 620 | 0.1 |
| LB C3225T100∏R | RoHS | 10 | ±10%, ±20% | 23 | 0.133 | 540 | 0.1 |
| LB C3225T150∏R | RoHS | 15 | ±10%, ±20% | 20 | 0.195 | 420 | 0.1 |
| LB C3225T220[]R | RoHS | 22 | ±10%, ±20% | 17 | 0.27 | 330 | 0.1 |
| LB C3225T330∏R | RoHS | 33 | ±10%, ±20% | 13 | 0.41 | 300 | 0.1 |
| LB C3225T470∏R | RoHS | 47 | ±10%, ±20% | 10 | 0.67 | 220 | 0.1 |
| LB C3225T680∏R | RoHS | 68 | ±10%, ±20% | 8 | 1.0 | 190 | 0.1 |
| LB C3225T101[]R | RoHS | 100 | ±10%, ±20% | 6 | 1.4 | 150 | 0.1 |

^{• []} Please specify the Inductance tolerance code (K or M)

LB/LBC series

Rated Current: The maximum DC value having inductance decrease within 10 % and temperature increase within 20 degC by the application of DC bias.

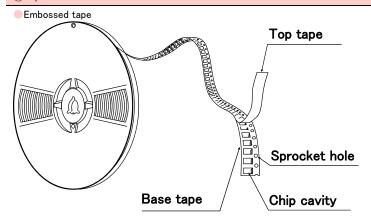
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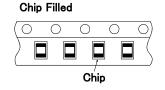
WIRE-WOUND CHIP INDUCTORS (LB SERIES), WIRE-WOUND CHIP POWER INDUCTORS (CB SERIES), WIRE-WOUND CHIP INDUCTORS FOR SIGNAL LINES (LB SERIES M TYPE)

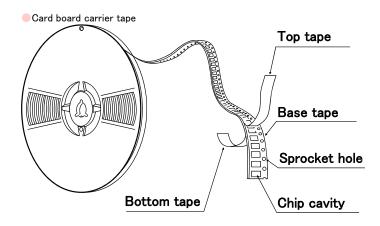
PACKAGING

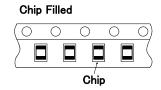
1 Minimum Quantity Standard Quantity [pcs] Туре Paper Tape Embossed Tape LB C3225 1000 CB C3225 LB 3218 2000 LB R2518 LB C2518 2000 LB 2518 CB 2518 CB C2518 LBM2016 LB C2016 LB 2016 2000 CB 2016 CB C2016 LB 2012 LB C2012 LB R2012 3000 CB 2012 CB C2012 CB L2012 4000 LB 1608 4000 LBMF1608 3000 CBMF1608

②Tape material



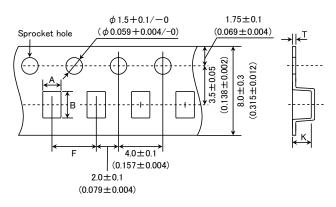






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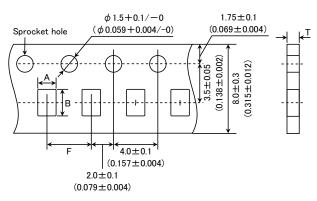
Embossed Tape (0.315 inches wide)



| т. | Chip | cavity | Insertion pitch | Tape th | nickness |
|--|---------------------------|---------------------------|--------------------------|----------------------------|-------------------------|
| Type | Α | В | F | Т | K |
| LBM2016 | 1.75±0.1 | 2.1±0.1 | 4.0±0.1 | 0.3±0.05 | 1.9max. |
| | (0.069±0.004) | (0.083±0.004) | (0.157±0.004) | (0.012±0.002) | (0.075max.) |
| LB C3225 | 2.8±0.1 | 3.5±0.1 | 4.0±0.1 | 0.3±0.05 | 4.0max. |
| CB C3225 | (0.110±0.004) | (0.138±0.004) | (0.157±0.004) | (0.012±0.002) | (0.157max.) |
| LB 3218 | 2.1±0.1 | 3.5±0.1 | 4.0±0.1 | 0.3±0.05 | 2.2max. |
| | (0.083±0.004) | (0.138±0.004) | (0.157±0.004) | (0.012±0.002) | (0.087max.) |
| LB 2518 CB 2518 LB C2518 CB C2518 LB R2518 | 2.15±0.1 | 2.7±0.1 | 4.0±0.1 | 0.3±0.05 | 2.2max. |
| | (0.085±0.004) | (0.106±0.004) | (0.157±0.004) | (0.012±0.002) | (0.087max.) |
| LB 2016 CB 2016 LB C2016 CB C2016 | 1.75±0.1 (0.069±0.004) | 2.1±0.1 (0.083±0.004) | 4.0±0.1 (0.157±0.004) | 0.3±0.05 (0.012±0.002) | 1.9max. (0.075max.) |
| LB 2012 CB 2012 LB C2012 CB C2012 LB R2012 | 1.45±0.1 (0.057±0.004) | 2.25±0.1 (0.089±0.004) | 4.0±0.1 (0.157±0.004) | 0.25±0.05 (0.010±0.002) | 1.45max. (0.057max.) |
| LBMF1608 | 1.1±0.1 | 1.9±0.1 | 4.0±0.1 | 0.25±0.05 | 1.2max. |
| CBMF1608 | (0.043±0.004) | (0.075±0.004) | (0.157±0.004) | (0.010±0.002) | (0.047max.) |

Unit:mm(inch)

Card board carrier tape (0.315 inches wide)

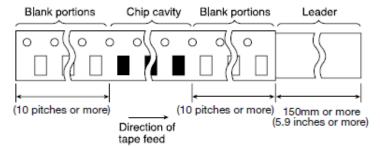


| _ | Chip | cavity | Insertion pitch | Tape thickness |
|-----------|---------------------|---------------------|---------------------|----------------|
| Туре | Α | В | F | Т |
| OD 1 0010 | 1.55±0.1 | 2.3±0.1 | 4.0±0.1 | 1.1max. |
| CB L2012 | (0.061 ± 0.004) | (0.091 ± 0.004) | (0.157 ± 0.004) | (0.043max.) |
| LD 1000 | 1.0±0.1 | 1.8±0.1 | 4.0±0.1 | 1.1max. |
| LB 1608 | (0.039 ± 0.004) | (0.071 ± 0.004) | (0.157 ± 0.004) | (0.043max.) |

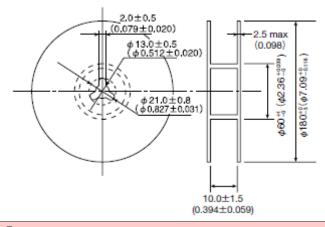
Unit:mm(inch)

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4 Leader and Blank Portion



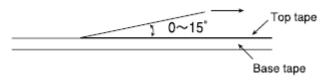
⑤Reel Size



©Top Tape Strength

The top tape requires a peel-off force 0.2 to 0.7N in the direction of the arrow as illustrated below.

Pull direction



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WIRE-WOUND CHIP INDUCTORS (LB SERIES), WIRE-WOUND CHIP POWER INDUCTORS (CB SERIES), WIRE-WOUND CHIP INDUCTORS FOR SIGNAL LINES (LB SERIES M TYPE)

■RELIABILITY DATA

| 1.Operating tempera | ature Range | | | | | | |
|-----------------------------|--|---|--|--|--|--|--|
| 1.Operating tempera | LB, LBC, LBR, LBMF Series | | | | | | |
| 0 :0 17/1 | | - 40 1405°O(1 1 1' 15 15 1 1 1 1) | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | -40 ~ $+105$ °C (Including self-generated heat) | | | | | |
| | LBM Series | | | | | | |
| 2. Storage Tempera | ture Range (after soldering) | | | | | | |
| 3 1 | LB, LBC, LBR, LBMF Series | | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | - -40∼+85°C | | | | | |
| | LBM Series | 1 | | | | | |
| Test Methods and Remarks | LB, CB Series: Please refer the term of "7. storage conditions" in precautions. | | | | | | |
| 3.Rated Current | | | | | | | |
| | LB, LBC, LBR, LBMF Series | | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | Within the specified tolerance | | | | | |
| | LBM Series | | | | | | |
| | | | | | | | |
| 4.Inductance | | | | | | | |
| | LB, LBC, LBR, LBMF Series | | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | Within the specified tolerance | | | | | |
| | LBM Series | | | | | | |
| Test Methods and Remarks | LB·LBC·LBR·CB·CBC·CBL·LBMF·CBMF·LBM Series Measuring equipment :LCR Mater(HP4285A or its e Measuring frequency : Specified frequency | equivalent) | | | | | |
| | | | | | | | |
| 5.Q | | 1 | | | | | |
| | LB, LBC, LBR, LBMF Series | - | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | | | | | |
| | LBM Series | Within the specified tolerance | | | | | |
| Test Methods and Remarks | LBM Series Measuring equipment : LCR Mater(HP4285A or its ed) Measuring frequency : Specified frequency | quivalent) | | | | | |
| CDO D : :: | | | | | | | |
| 6.DC Resisitance | LD LDG LDB LDME G | I | | | | | |
| 0 :5 1)/1 | LB, LBC, LBR, LBMF Series | | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series LBM Series | Within the specified tolerance | | | | | |
| Test Methods and | LDM Series | | | | | | |
| Remarks | Measuring equipment : DC Ohmmeter (HIOKI 3227 or its equ | uivalent) | | | | | |
| 7.Self-Resonant Fro | equency | | | | | | |
| | LB, LBC, LBR, LBMF Series | | | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | Within the specified tolerance | | | | | |
| | LBM Series | 1 | | | | | |
| Test Methods and Remarks | Measuring equipment : Impedance analyzer (HP4291A or its | equivalent) | | | | | |

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| 8.Temperature Cha | racteristic | | | | |
|-----------------------------|--------------|-----------------|---------------|------------------|----------------------------------|
| | LBM2016 | | | | Inductance change : Within±5% |
| | LB1608 | LB2012 | LBR2012 | CB2012 | |
| | CBL2012 | LB2016 | CB2016 | LB2518 | Inductance change : Within±20% |
| Specified Value | LBR2518 | CB2518 | LBC3225 | CBC3225 | |
| | LBMF1608 | CBMF1608 | LBC2016 | CBC2016 | Mari 1 0507 |
| | LBC2518 | CBC2518 | LB3218 | | Inductance change : Within±25% |
| | LBC2012 | CBC2012 | | | Inductance change : Within ± 35% |
| Test Methods and Remarks | Based on the | inductance at 2 | 0°C and Meası | ured at the ambi | ent of −40°C∼+85°C. |

| 9.Rasistance to Flex | xure of Substrate | | |
|-----------------------------|---|------------|--|
| | LB, LBC, LBR, LBMF Series | No damage. | |
| Specified Value | CB, CBC, CBL, CBMF Series | | |
| | LBM Series | | |
| | Warp : 2mm(LB·LBC·LBR·CB·CBC·CBL·LBM·LBMF·CBMF Series) | | |
| Test Methods and Remarks | Test substrate : Glass epoxy-resin substrate Thickness : 0.8mm(LB1608·LBMF1608·CBMF1608) : 1.0mm(Others) Pressing jig 10 20 R340 Board R5 45±2mm 45±2mm | | |

| 10.Body Strength | | |
|-----------------------------|--|------------|
| | LB, LBC, LBR, LBMF Series | |
| Specified Value | CB, CBC, CBL, CBMF Series | No damage. |
| | LBM Series | |
| Test Methods and Remarks | LB·LBC·LBR·CB·CBC·CBL·LBM Applied force : 10N Duration : 10sec. LB1608·LBMF1608·CBMF1608 Applied force : 5N Duration : 10sec. | |

| 11.Adhesion of term | ninal electrode | |
|-----------------------------|---|-----------------|
| | LB, LBC, LBR, LBMF Series | |
| Specified Value | CB, CBC, CBL, CBMF Series | No abnormality. |
| | LBM Series | |
| Test Methods and Remarks | LB·LBC·LBR·CB·CBC·CBL·LBM·LBMF·CBMF Applied force : 10N to X and Y directions Duration : 5 sec. Test substrate : Printed board LB1608·CBMF1608·LBMF1608 Applied force : 5N to X and Y directions Duration : 5 sec. Test substrate : Printed board | |

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| 12.Resistance to vil | pration | | | | |
|-----------------------------|---|--|---|--|--|
| | LB, LBC, LBR, LBMF Series | | Inductance change : Within±10% | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | No significant abnormality in appearance. | | |
| | LBM Series | | Inductance change : Within±5% No significant abnormality in appearance. | | |
| | LB·LBR·LBC·CB·CBC·CBL·LBM·LBMF·CBMF: | | | | |
| | The given sample is soldered to the board and then it is tested depending on the conditions of the following table. | | | | |
| | Vibration Frequency | 10~55Hz | | | |
| Test Methods and Remarks | Total Amplitude | 1.5mm (May not exceed accellable 10Hz to 55Hz to 10Hz for 1m | <u> </u> | | |
| Remarks | Sweeping Method 10Hz to 55Hz to 10Hz for 1min. | | | | |
| | Time Y For 2 hours on each X, Y, and Z axis. | | | | |
| | Recovery : At least 2 hrs of | frecovery under the standard of | ondition after the test, followed by the measurement within 48 hrs. | | |
| | | | | | |
| 13.Drop test | | | | | |
| <u>'</u> | LB, LBC, LBR, LBMF Series | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | _ | | |
| opcomou value | LBM Series | | † | | |
| | EDIM OCHOS | | | | |
| 14.0-1.1 1.77 | | | | | |
| 14.Solderability | ID IDO IDD ID: | | | | |
| | LB, LBC, LBR, LBMF Series | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | At least 90% of surface of terminal electrode is covered by new | | |
| | LBM Series | | | | |
| | LB.LBC.LBR.CB.CBC.CBL | | | | |
| Test Methods and | | 5±5℃ | | | |
| Remarks | | :0.5sec | lankan. | | |
| | Flux : Me | thanol solution with 25% of co | юрпопу | | |
| 455 1 | | | | | |
| 15.Resistance to so | - | | | | |
| | LB, LBC, LBR, LBMF Series | | Inductance change : Within±10% | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | | | |
| | LBM Series | | Inductance change : Within±5% | | |
| Test Methods and | LB.LBC.LBR.CB.CBC.CBL | | | | |
| Remarks | 3 times of reflow oven at 230°C MIN for 40sec. with peak temperature at 260 °C for 5sec. | | | | |
| | Recovery : At least 2 hrs of | recovery under the standard o | condition after the test, followed by the measurement within 48 hrs. | | |
| | | | | | |
| 16.Resisitance to so | plvent | | | | |
| | LB, LBC, LBR, LBMF Series | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | _ | | |
| | LBM Series | |] | | |
| | Solvent temperature : Roo | om temperature | | | |
| Test Methods and Remarks | Type of solvent : Isopropyl alcohol | | | | |
| Remarks | Cleaning conditions : 90s | s. Immersion and cleaning. | | | |
| | | | | | |
| 17.Thermal shock | | | | | |
| | LB, LBC, LBR, LBMF Series | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | Inductance change: Within±10% | | |
| • | LBM Series | | No significant abnormality in appearance. | | |
| Test Methods and | LB·LBC·LBR·CB·CBC·CBL | 1 | | | |
| Remarks | The given sample is soldered to the board and then its Inductance is measured after 100cycles of the following conditions. Conditions of 1 cycle | | | | |
| | Step Temperature (° | | | | |
| | 1 —40±3 | 30±3 | | | |
| | 2 Room temperati | | | | |
| | 3 +85±2 | 30±3 | | | |
| | 4 Room temperate | | | | |
| | Recovery : At least | 2 hrs of recovery under the st | andard condition after the test, followed by the measurement within 48 hrs. | | |

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| 18.Damp heat life to | | | | | |
|-----------------------------|--|--|--|--|--|
| | LB, LBC, LBR, LBMF Series | Inductance change : Within±10% No significant abnormality in appearance. | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | | | | |
| | LBM Series | | | | |
| | Temperature : 60±2°C | | | | |
| Test Methods and Remarks | Humidity : 90~95%RH Duration : 1000 hrs | | | | |
| | Recovery : At least 2 hrs of recovery under the standard condition after the test, followed by the measurement within 48 hrs | | | | |
| | | | | | |
| 19.Loading under da | amp heat life test | | | | |
| | LB, LBC, LBR, LBMF Series | | | | |
| | CB, CBC, CBL, CBMF Series | Inductance change : Within±10% No significant abnormality in appearance. | | | |
| Specified Value | LBM Series | The digital action land, in appear and the | | | |
| Test Methods and | Temperature : 60±2°C | | | | |
| Remarks | Humidity : 90~95%RH Duration : 1000 hrs | | | | |
| | Duration : 1000 hrs Applied current : Rated current | | | | |
| | | standard condition after the test, followed by the measurement within 48 hrs. | | | |
| | | | | | |
| 20.High temperature | e life test | | | | |
| | LB, LBC, LBR, LBMF Series | _ | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | Inductance change : Within±10% | | | |
| | LBM Series | No significant abnormality in appearance. | | | |
| Test Methods and | Temperature : 85±2°C | | | | |
| Remarks | Duration : 1000 hrs Recovery : At least 2 hrs of recovery under the | standard condition after the test, followed by the measurement within 48 hrs. | | | |
| | The covery . At least 2 lifs of recovery under the | Standard Condition after the test, followed by the measurement within 40 ms. | | | |
| 21.Loading at high t | temperature life test | | | | |
| | 1 | Inductance change : Within±10% | | | |
| | LB, LBC, LBR, LBMF Series | (LBC3225 Series : Within±20%) | | | |
| Specified Value | | No significant abnormality in appearance. | | | |
| | CB, CBC, CBL, CBMF Series | | | | |
| - | LBM Series | | | | |
| Test Methods and | Temperature : 85±2°C Duration : 1000 hrs | | | | |
| Remarks | Applied current : Rated current | | | | |
| | Recovery : At least 2 hrs of recovery under the standard condition after the test, followed by the measurement within 48 hrs. | | | | |
| | | | | | |
| 22.Low temperature | e life test | | | | |
| | LB, LBC, LBR, LBMF Series | Industrace change: Within ± 1004 | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | Inductance change : Within±10% No significant abnormality in appearance. | | | |
| | LBM Series | | | | |
| Test Methods and | Temperature : -40±2°C | | | | |
| Remarks | Duration : 1000 hrs Recovery : At least 2 hrs of recovery under the standard condition after the test, followed by the measurement within 48 hr | | | | |
| | . At loast 2 his of recovery and of the | Standard Condition area and east, followed by the measurement within 40 ms. | | | |
| 23.Standard conditi | ion | | | | |
| 20.0tandard conditi | | Standard test conditions | | | |
| | LB, LBC, LBR, LBMF Series | Unless specified, Ambient temperature is $20\pm15^{\circ}\text{C}$ and the Relative humidity is 65 $\pm20\%$. If there is any doubt about the test results, further | | | |
| | | | | | |
| | on one one one : | | | | |
| Specified Value | CB, CBC, CBL, CBMF Series | measurement shall be had within the following limits: | | | |
| Specified Value | | measurement shall be had within the following limits: Ambient Temperature: 20±2°C | | | |
| Specified Value | CB, CBC, CBL, CBMF Series LBM Series | measurement shall be had within the following limits: | | | |

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WIRE-WOUND CHIP INDUCTORS (LB SERIES), WIRE-WOUND CHIP POWER INDUCTORS (CB SERIES), WIRE-WOUND CHIP INDUCTORS FOR SIGNAL LINES (LB SERIES M TYPE)

PRECAUTIONS

1. Circuit Design

Precautions

♦Operating environment

1. The products described in this specification are intended for use in general electronic equipment, (office supply equipment, telecommunications systems, measuring equipment, and household equipment). They are not intended for use in mission-critical equipment or systems requiring special quality and high reliability (traffic systems, safety equipment, aerospace systems, nuclear control systems and medical equipment including life-support systems,) where product failure might result in loss of life, injury or damage. For such uses, contact TAIYO YUDEN Sales Department in advance.

2. PCB Design Precautions

◆Land pattern design

1. Please contact any of our offices for a land pattern, and refer to a recommended land pattern of a right figure or specifications.

PRECAUTIONS

Technical considerations

[Recommended Land Patterns]

Surface Mounting

- Mounting and soldering conditions should be checked beforehand.
- · Applicable soldering process to those products is reflow soldering only.

3. Considerations for automatic placement

Precautions

- ◆Adjustment of mounting machine
- 1. Excessive impact load should not be imposed on the products when mounting onto the PC boards.
- 2. Mounting and soldering conditions should be checked beforehand.

Technical considerations

1. When installing products, care should be taken not to apply distortion stress as it may deform the products.

4. Soldering

◆Reflow soldering(LB and CB Types)

Precautions

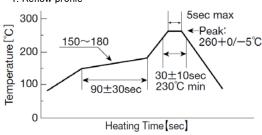
1. For reflow soldering with either leaded or lead-free solder, the profile specified in "point for controlling" is recommended.

◆Recommended conditions for using a soldering iron

1. Put the soldering iron on the land-pattern. Soldering iron's temperature - Below 350°C Duration-3 seconds or less. The soldering iron should not come in contact with inductor directly.

◆Reflow soldering(LB and CB Types) 1. Reflow profile

Technical considerations



- ◆Recommended conditions for using a soldering iron
 - 1. Components can be damaged by excessive heat where soldering conditions exceed the specified range

5. Cleaning

Precautions

◆Cleaning conditions

Washing by supersonic waves shall be avoided.

Technical considerations

♦Cleaning conditions

If washed by supersonic waves, the products might be broken.

This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (http://www.ty-top.com/).

| 6. Handling | |
|-----------------------------|---|
| Precautions | ◆Handling 1. Keep the inductors away from all magnets and magnetic objects. ◆Breakaway PC boards(splitting along perforations) 1. When splitting the PC board after mounting inductors, care should be taken not to give any stresses of deflection or twisting to the board. 2. Board separation should not be done manually, but by using the appropriate devices. ◆Mechanical considerations 1. Please do not give the inductors any excessive mechanical shocks. |
| Technical considerations | ◆Handling 1. There is a case that a characteristic varies with magnetic influence. ◆Breakaway PC boards(splitting along perforations) 1. Planning pattern configurations and the position of products should be carefully performed to minimize stress. ◆Mechanical considerations 1. There is a case to be damaged by a mechanical shock. |

| Precautions | ◆Storage 1. To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled. • Recommended conditions Ambient temperature: 0~40°C Humidity: Below 70% RH • The ambient temperature must be kept below 30°C. Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, product should be used within 6 months from the time of delivery. In case of storage over 6 months, solderability shall be checked before actual usage. |
|--------------------------|--|
| Technical considerations | ◆Storage 1. Under a high temperature and humidity environment, problems such as reduced solderability caused by oxidation of terminal electrodes and deterioration of taping/packaging materials may take place. |

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LB1608T1R0M LB1608T2R2M LB1608T4R7M LB1608T8R2M LB2012T100K LB2012T100KR LB2012T100MR LB2012T100MR LB2012T101M LB2012T150K LB2012T1R0M LB2012T20K LB2012T20M LB2012T2R2M LB2012T3R3M LB2012T470K LB2012T470M LB2012T4R7M LB2012T680K LB2012T6R8M LB2016T100K LB2016T100M LB2016T10M LB2016T10M LB2016T150K LB2016T150M LB2016T1R0M LB2016T1R5M LB2016T20K LB2016T20M LB2016T20M LB2016T20M LB2016T330K LB2016T330M LB2016T3R3M LB2016T470K LB2016T470M LB2016T4R7M LB2016T2R2M LB2016T330K LB2016T3R3M LB2016T470K LB2016T470M LB2016T4R7M LB2016T680K LB2016T680M LB2016T6R8M LB2518T100K LB2518T100M LB2518T101M LB2518T101M LB2518T102M LB2518T150K LB2518T150M LB2518T151K LB2518T151M LB2518T180M LB2518T185M LB2518T220K LB2518T220M LB2518T221K LB2518T221M LB2518T2R2M LB2518T330K LB2518T331M LB2518T331M LB2518T331M LB2518T331M LB2518T680M LB2518T681K LB2518T681M LB2518T68M LB2518T150M LB2518T151M LB2518T680M LB2518T100M LB3218T100M LB3218T101M LB3218T101M LB3218T102M LB3218T101M LB3218T101M LB3218T102M LB3218T331K LB3218T330M LB3218T30M LB3218T30
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