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Please read this notice before using the TAIYO YUDEN products.

REMINDERS

- Product information in this catalog is as of October 2017. All of the contents specified herein are subject to change without notice due to technical improvements, 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.

- Please contact TAIYO YUDEN for further details of product specifications as the individual product specification sheets are available.
- Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.
- The products listed in this catalog are intended for 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 medical equipment classified as Class I or II by IMDRF. Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).

Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment*, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).

*Note: 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.

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- 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.
- 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 fault 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.
- 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.

LEADED COMMON MODE CHOKE COILS FOR AC LINES



WAVE

PARTS NUMBER

*Operating Temp. : -25~+105°C (Including self-generated heat)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | L | F | △ | 9 | U | A | △ | 1 | 0 | 2 | △ | 0 | R | 8 | K | 1 |
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | | | | | | | | | | |

△=Blank space

① Series name

| Code | Series name |
|------|-------------------|
| TLF | Common mode choke |
| TLH | Hybrid choke |

② Dimensions of core

| Code | Dimensions of core [mm] |
|------|-------------------------|
| △9 | 9 |
| 10 | 10 |

③ Shape

| Code | Shape |
|------|--|
| UA△ | U core, vertical type |
| UAH | U core, horizontal type |
| UB△ | U core, vertically split wound |
| CB△ | Square type core vertically split wound |
| CBH | Square type core horizontally split wound |
| HB△ | Double-square type core vertically split wound |
| HBH | Double-square type core horizontally split wound |

④ Nominal Inductance

| Code (example) | Nominal Inductance [μH] |
|----------------|-------------------------|
| 102 | 1000 |
| 103 | 10000 |

⑤ Inductance tolerance

| Code | Inductance tolerance |
|------|--------------------------|
| △ | Nominal Values or higher |
| W | +100/-10% |

⑥ Rated current

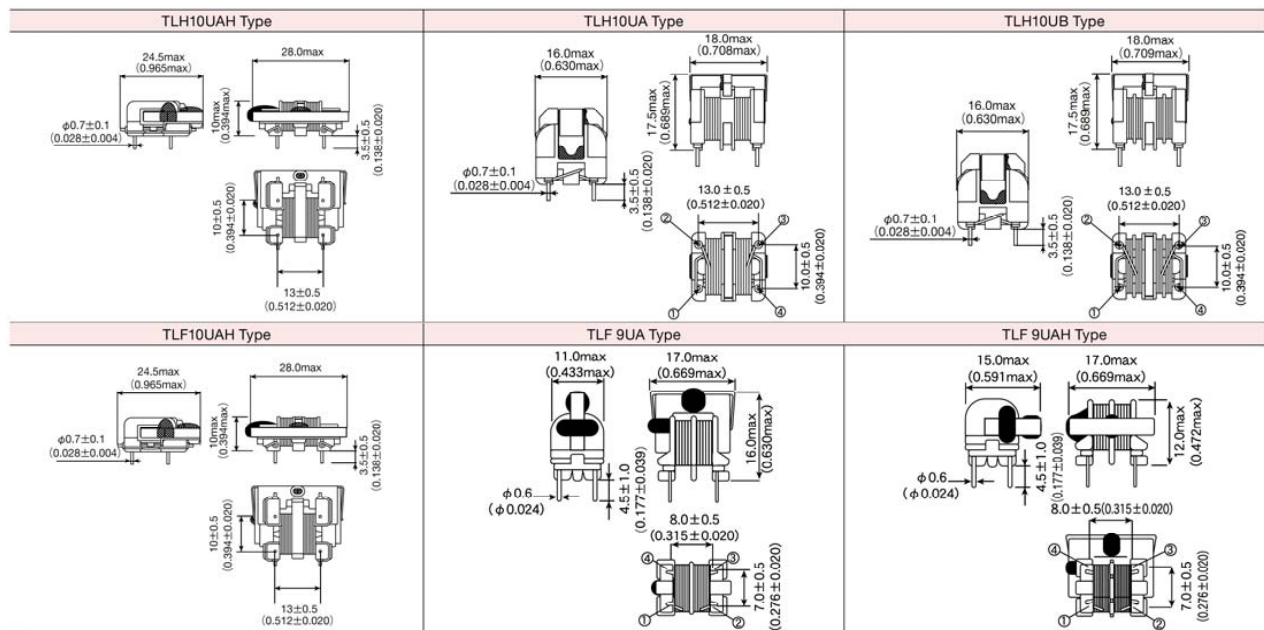
| Code | Rated current [A] |
|------|-------------------|
| R54 | 0.54 |
| 0R8 | 0.8 |

※R=Decimal point

⑦ Internal code

| Code | Internal code |
|------|-------------------|
| K1 | Adhesive fixation |

STANDARD EXTERNAL DIMENSIONS / MINIMUM QUANTITY



| Type | Minimum quantity (pcs.) Box |
|----------|--------------------------------|
| TLH type | 500 |
| TLF type | |

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PARTS NUMBER

TLH10UAH type (Hybrid choke)

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | Normal mode inductance [mH] (typ.) | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-----------------|------|-----------------------------|----------------------|------------------------------------|-----------------------------------|--------------------------|-----------------------------|
| TLH10UAH872 0R7 | RoHS | 8.7 | min. | 0.70 | 1.00 | 0.7 | 250 |
| TLH10UAH992 0R6 | RoHS | 9.9 | min. | 0.85 | 1.35 | 0.6 | 250 |
| TLH10UAH123 0R5 | RoHS | 12 | min. | 1.06 | 1.60 | 0.5 | 250 |

TLH10UA type (Hybrid choke)

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | Normal mode inductance [mH] (typ.) | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-----------------|------|-----------------------------|----------------------|------------------------------------|-----------------------------------|--------------------------|-----------------------------|
| TLH10UA 901 2R0 | RoHS | 0.9 | min. | 0.067 | 0.089 | 2.0 | 250 |
| TLH10UA 112 1R8 | RoHS | 1.1 | min. | 0.087 | 0.126 | 1.8 | 250 |
| TLH10UA 152 1R6 | RoHS | 1.5 | min. | 0.126 | 0.171 | 1.6 | 250 |
| TLH10UA 212 1R4 | RoHS | 2.1 | min. | 0.160 | 0.222 | 1.4 | 250 |
| TLH10UA 282 1R2 | RoHS | 2.8 | min. | 0.215 | 0.272 | 1.2 | 250 |
| TLH10UA 432 1R0 | RoHS | 4.3 | min. | 0.330 | 0.398 | 1.0 | 250 |
| TLH10UA 622 0R8 | RoHS | 6.2 | min. | 0.430 | 0.578 | 0.8 | 250 |
| TLH10UA 872 0R7 | RoHS | 8.7 | min. | 0.644 | 0.878 | 0.7 | 250 |
| TLH10UA 992 0R6 | RoHS | 9.9 | min. | 0.836 | 1.138 | 0.6 | 250 |
| TLH10UA 143 0R5 | RoHS | 14 | min. | 1.256 | 1.567 | 0.5 | 250 |

TLH10UB type (Hybrid choke)

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | Normal mode inductance [mH] (typ.) | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-----------------|------|-----------------------------|----------------------|------------------------------------|-----------------------------------|--------------------------|-----------------------------|
| TLH10UB 701 2R0 | RoHS | 0.7 | min. | 0.056 | 0.097 | 2.0 | 250 |
| TLH10UB 112 1R7 | RoHS | 1.1 | min. | 0.068 | 0.133 | 1.7 | 250 |
| TLH10UB 142 1R4 | RoHS | 1.4 | min. | 0.113 | 0.214 | 1.4 | 250 |
| TLH10UB 232 1R2 | RoHS | 2.3 | min. | 0.150 | 0.274 | 1.2 | 250 |
| TLH10UB 352 1R0 | RoHS | 3.5 | min. | 0.232 | 0.422 | 1.0 | 250 |
| TLH10UB 442 0R8 | RoHS | 4.4 | min. | 0.328 | 0.624 | 0.8 | 250 |
| TLH10UB 872 0R7 | RoHS | 8.7 | min. | 0.580 | 0.982 | 0.7 | 250 |
| TLH10UB 972 0R6 | RoHS | 9.7 | min. | 0.735 | 1.314 | 0.6 | 250 |
| TLH10UB 113 0R5 | RoHS | 11 | min. | 0.877 | 1.577 | 0.5 | 250 |

TLF10UAH type

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-----------------|------|-----------------------------|----------------------|-----------------------------------|--------------------------|-----------------------------|
| TLF10UAH872 0R7 | RoHS | 8.7 | min. | 1.00 | 0.7 | 250 |
| TLF10UAH992 0R6 | RoHS | 9.9 | min. | 1.35 | 0.6 | 250 |
| TLF10UAH123 0R5 | RoHS | 12 | min. | 1.60 | 0.5 | 250 |

TLF 9UA type

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-------------------|------|-----------------------------|----------------------|-----------------------------------|--------------------------|-----------------------------|
| TLF 9UA 102W0R8K1 | RoHS | 1.0 | +100/-10% | 0.5 | 0.80 | 250 |
| TLF 9UA 202WR54K1 | RoHS | 2.0 | +100/-10% | 1.0 | 0.54 | 250 |
| TLF 9UA 302WR42K1 | RoHS | 3.0 | +100/-10% | 1.5 | 0.42 | 250 |
| TLF 9UA 502WR32K1 | RoHS | 5.0 | +100/-10% | 2.5 | 0.32 | 250 |
| TLF 9UA 802WR25K1 | RoHS | 8.0 | +100/-10% | 4.0 | 0.25 | 250 |
| TLF 9UA 103WR23K1 | RoHS | 10 | +100/-10% | 4.5 | 0.23 | 250 |

TLF 9UAH type

| Parts number | EHS | Common mode inductance [mH] | Inductance tolerance | DC Resistance [Ω] (max.) | Rated current [A] (max.) | Rated voltage AC [V] (max.) |
|-------------------|------|-----------------------------|----------------------|-----------------------------------|--------------------------|-----------------------------|
| TLF 9UAH102W0R8K1 | RoHS | 1.0 | +100/-10% | 0.5 | 0.80 | 250 |
| TLF 9UAH202WR54K1 | RoHS | 2.0 | +100/-10% | 1.0 | 0.54 | 250 |
| TLF 9UAH302WR42K1 | RoHS | 3.0 | +100/-10% | 1.5 | 0.42 | 250 |
| TLF 9UAH502WR32K1 | RoHS | 5.0 | +100/-10% | 2.5 | 0.32 | 250 |
| TLF 9UAH802WR25K1 | RoHS | 8.0 | +100/-10% | 4.0 | 0.25 | 250 |
| TLF 9UAH103WR23K1 | RoHS | 10 | +100/-10% | 4.5 | 0.23 | 250 |

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LEADED COMMON MODE CHOKE COILS FOR DC AND SIGNAL LINES

LEADED COMMON MODE CHOKE COILS FOR AC LINES

■ PACKAGING

① Minimum Quantity

● TLH/TLF Type

| Type | Minimum Quantity [pcs] |
|----------|------------------------|
| | Box |
| TLH10UA□ | 1000 |
| TLH10UB | |
| TLF10UAH | |
| TLF9UA□ | 500 |
| TLF9UB□ | |

LEADED COMMON MODE CHOKE COILS FOR DC AND SIGNAL LINES, LEADED COMMON MODE CHOKE COILS FOR AC LINES

RELIABILITY DATA

| 1. Operating Temperature Range | | | | | | | | | | |
|--|--|--------------------------------|-----------|--------------|---|------|-----------|--------------|----|------|
| Specified Value | TLH, TLF Type | -25 ~ + 105°C | | | | | | | | |
| Test Method and Remarks | Including temperature rise due to self-generated heat. | | | | | | | | | |
| 2. Storage temperature range | | | | | | | | | | |
| Specified Value | TLH, TLF Type | -40 ~ + 85°C | | | | | | | | |
| 3. Rated current | | | | | | | | | | |
| Specified Value | TLH, TLF Type | Within the specified range | | | | | | | | |
| Test Method and Remarks | TLH10U, TLF10UA : The maximum value of AC current within the temperature rise of 60°C TLF9UA, : The maximum value of AC current within the temperature rise of 45°C TLF9UB : The maximum value of DC current within the temperature rise of 45°C | | | | | | | | | |
| 4. Inductance | | | | | | | | | | |
| Specified Value | TLH, TLF Type | Within the specified tolerance | | | | | | | | |
| Test Method and Remarks | TLF9U : Measuring equipment : LCR meter 4284A or its equivalent Measuring frequency : 1kHz Measuring voltage : 1Vrms TLH, TLF (except TLF9U) : Measuring equipment : LCR meter 4284A or its equivalent Measuring frequency : 1kHz Measuring voltage : 0.1Vrms | | | | | | | | | |
| 5. DC resistance | | | | | | | | | | |
| Specified Value | TLH, TLF Type | Within the specified tolerance | | | | | | | | |
| Test Method and Remarks | Measuring equipment : DC ohmmeter | | | | | | | | | |
| 6. Terminal strength tensile force | | | | | | | | | | |
| Specified Value | TLH, TLF Type | No abnormality | | | | | | | | |
| Test Method and Remarks | TLH10UA, TLH10UB, TLF9U : Apply the stated tensile force gradually in the direction to draw terminal. <table border="1"> <thead> <tr> <th>force [N]</th> <th>duration [s]</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>30±5</td> </tr> </tbody> </table> TLH10UAH, TLF (except TLF9U): Apply the stated tensile force gradually in the direction to draw terminal. <table border="1"> <thead> <tr> <th>force [N]</th> <th>duration [s]</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>30±5</td> </tr> </tbody> </table> | | force [N] | duration [s] | 5 | 30±5 | force [N] | duration [s] | 10 | 30±5 |
| force [N] | duration [s] | | | | | | | | | |
| 5 | 30±5 | | | | | | | | | |
| force [N] | duration [s] | | | | | | | | | |
| 10 | 30±5 | | | | | | | | | |
| 7. Insulation resistance between wires | | | | | | | | | | |
| Specified Value | TLH, TLF Type | 100M Ω min. | | | | | | | | |
| Test Method and Remarks | Applied voltage : 500VDC (TLH, TLF (except TLF9UB)) : 250VDC (TLF9UB) Duration : 60sec. | | | | | | | | | |

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| 8. Insulation resistance between wire and core | | |
|--|---|---|
| Specified Value | TLH, TLF Type | 100M Ω min. (except TLH, TLF10UAH Type) |
| Test Method and Remarks | TLF : Applied voltage : 500VDC (TLF (except TLF9UB)) : 250VDC (TLF9UB) Duration : 60 sec. | |
| 9. Withstanding : between wires | | |
| Specified Value | TLH, TLF Type | No abnormality |
| Test Method and Remarks | Applied voltage : 2000VAC (TLH, TLF (except TLF9UB)) : 500VDC (TLF9UB) Duration : 60sec | |
| 10. Withstanding : between wires and core | | |
| Specified Value | TLH, TLF Type | No abnormality (except TLH, TLF10UAH Type) |
| Test Method and Remarks | TLF : Applied voltage : 2000VAC (TLF (except TLF9UB)) : 500VDC (TLF9UB) Duration : 60sec. | |
| 11. Rated voltage | | |
| Specified Value | TLH, TLF Type | Within the specified range |
| Test Method and Remarks | TLH, TLF (except TLF9UB) : 250VAC TLF9UB : 50VDC | |
| 12. Resistance to vibration | | |
| Specified Value | TLH, TLF Type | TLF9U : Inductance change : Within $\pm 5\%$ TLH, TLF (except TLF9U) : Appearance is no abnormality and within the specified range |
| Test Method and Remarks | TLH, TLF : According to JIS C60068-2-6. Direction : 2hrs each in X, Y and Z direction Total : 6hrs Frequency range : 10 to 55 to 10Hz (1 min.) Amplitude : 1.5mm (shall not exceed acceleration 196m/s ²) Mounting method : soldering onto PC board Recovery : At least 1hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2hrs. | |
| 13. Solderability | | |
| Specified Value | TLH, TLF Type | At least 90% of terminal electrode is covered by new solder. |
| Test Method and Remarks | TLH, TLF : Solder temperature : 235 \pm 0.5 $^{\circ}$ C Duration : 2 \pm 0.5sec. Immersion depth : Up to 1.5 to 2.0mm from PBC mounted level. TLH, TLF : Solder temperature : 245 \pm 5 $^{\circ}$ C Duration : 4 \pm 1sec. Immersion depth : Up to 1.0 to 1.5mm from PBC mounted level. | |

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14. Resistance to soldering heat

| | | |
|-------------------------|---|---|
| Specified Value | TLH, TLF Type | TLF9UA : Inductance change : Within $\pm 5\%$ |
| Test Method and Remarks | TLH, TLF : Solder temperature : $260 \pm 5^\circ\text{C}$ Duration : $5 \pm 0.5\text{sec.}$ Immersion depth : Up to 1.5 to 2.0mm from PBC mounted level. Recovery : At least 1hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2hrs. TLH, TLF : Solder temperature : $260 \pm 5^\circ\text{C}$ Duration : $10 \pm 1\text{sec.}$ Immersion depth : Up to 1.0 to 1.5mm from PBC mounted level. Recovery : At least 1hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2hrs. | |

15. Thermal shock

| | | |
|-------------------------|--|--|
| Specified Value | TLH, TLF Type | TLF9UA : Inductance change : Within $\pm 15\%$ TLH, TLF (except TLF9UA) : Withstanding voltage : No abnormality Insulation resistance : No abnormality |
| Test Method and Remarks | TLH, TLF : According to JIS C60068-2-14. Conditions for 1 cycle $-25^\circ\text{C} \sim +85^\circ\text{C}$, keep each 30min Number of cycles : 10 Recovery : At least 1hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs. | |

16. Damp heat

| | | |
|-------------------------|---|--|
| Specified Value | TLH, TLF Type | TLF9UA : Inductance change : Within $\pm 15\%$ TLH, TLF (except TLF9UA) : Withstanding voltage : No abnormality Insulation resistance : No abnormality |
| Test Method and Remarks | TLH, TLF : Temperature : $60 \pm 2^\circ\text{C}$: $40 \pm 2^\circ\text{C}$ (※except TLF9U) Humidity : $90 \sim 95\%RH$ Duration : 500 hrs Recovery : At least 1hr of recovery under the standard removal from test chamber followed by the measurement within 2 hrs. | |

17. Loading under damp heat

| | | | | | | |
|-------------------------|---|---|--------|--------|--------|-------|
| Specified Value | TLH, TLF Type | Withstanding voltage : No abnormality Insulation resistance : No abnormality | | | | |
| Test Method and Remarks | TLH, TLF : Temperature : $60 \pm 2^\circ\text{C}$: $40 \pm 2^\circ\text{C}$ (※except TLF9U) Humidity : $90 \sim 95\%RH$ Duration : 100 hrs : 500 hrs Apply rated current across windings (※except TLF9U) Applied voltage : Apply the following specified voltage between windings. <table border="1" style="margin-left: 40px;"> <tr> <td>TLF9UA</td> <td>250VAC</td> </tr> <tr> <td>TLF9UB</td> <td>50VDC</td> </tr> </table> Recovery : At least 1hr of recovery under the standard removal from test chamber followed by the measurement within 2 hrs. | | TLF9UA | 250VAC | TLF9UB | 50VDC |
| TLF9UA | 250VAC | | | | | |
| TLF9UB | 50VDC | | | | | |

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| 18. Low temperature life test | | |
|-------------------------------|---|--|
| Specified Value | TLH, TLF Type | TLF9U : Inductance change : Within $\pm 15\%$ TLH, TLF (except TLF9U) : Withstanding voltage : No abnormality Insulation resistance : No abnormality |
| Test Method and Remarks | TLH, TLF : Temperature : $-25 \pm 2^\circ\text{C}$: $-40 \pm 2^\circ\text{C}$ (※TLF•TLH) Duration : 500 hrs Recovery : At least 1hr of recovery under the standard removal from test chamber followed by the measurement within 2 hrs. | |

| 19. High Temperature life test | | |
|--------------------------------|---|--|
| Specified Value | TLH, TLF Type | TLF9U : Inductance change : Within $\pm 15\%$ TLH, TLF (except TLF9U) : Withstanding voltage : No abnormality Insulation resistance : No abnormality |
| Test Method and Remarks | TLH, TLF : Temperature : $105 \pm 3^\circ\text{C}$ (※ TLF•TLH) Duration : 500 hrs Recovery : At least 1hr of recovery under the standard removal from test chamber followed by the measurement within 2 hrs. | |

LEADED COMMON MODE CHOKE COILS FOR DC AND SIGNAL LINES, LEADED COMMON MODE CHOKE COILS FOR AC LINES

■ PRECAUTIONS

| 1. Circuit Design | |
|--------------------------|---|
| Precautions | <ul style="list-style-type: none"> ◆Operating environment <ol style="list-style-type: none"> 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 | <ul style="list-style-type: none"> ◆Design <ol style="list-style-type: none"> 1. Please design insertion pitches as matching to that of leads of the component on PCBs. |
| Technical considerations | <ul style="list-style-type: none"> ◆Design <ol style="list-style-type: none"> 1. When Inductors are mounted onto a PC board, hole dimensions on the board should match the lead pitch of the component, if not, it will cause breakage of the terminals or cracking of terminal roots covered with resin as excess stress travels through the terminal legs. |
| 3. Soldering | |
| Precautions | <ul style="list-style-type: none"> ◆Wave soldering <ol style="list-style-type: none"> 1. Please refer to the specifications in the catalog for a wave soldering. 2. Do not immerse the entire inductor in the flux during the soldering operation. ◆Lead free soldering <ol style="list-style-type: none"> 1. When using products with lead free soldering, we request to use them after confirming of adhesion, temperature of resistance to soldering heat, etc. sufficiently. ◆Recommended conditions for using a soldering iron <ul style="list-style-type: none"> • 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 directly touch the product. |
| Technical considerations | <ul style="list-style-type: none"> ◆Lead free soldering <ol style="list-style-type: none"> 1. If products are used beyond the range of the recommended conditions, heat stresses may deform the products, and consequently degrade the reliability of the products. ◆Recommended conditions for using a soldering iron <p>If products are used beyond the range of the recommended conditions, heat stresses may deform the products, and consequently degrade the reliability of the products.</p> |
| 4. Cleaning | |
| Precautions | <ul style="list-style-type: none"> ◆Cleaning conditions <ol style="list-style-type: none"> 1. TLF type <p>Please contact any of our offices for about a cleaning.</p> |
| 5. Handling | |
| Precautions | <ul style="list-style-type: none"> ◆Handling <ol style="list-style-type: none"> 1. Keep the product away from all magnets and magnetic objects. ◆Mechanical considerations <ol style="list-style-type: none"> 1. Please do not give the product any excessive mechanical shocks. 2. TLF type <p>Please do not add any shock or power to a product in transportation.</p> ◆Packing <ol style="list-style-type: none"> 1. Please do not give the product any excessive mechanical shocks. <p>In loading, please pay attention to handling indication mentioned in a packing box (a loading direction / number of maximum loading / fragile item).</p> |
| Technical considerations | <ul style="list-style-type: none"> ◆Handling <ol style="list-style-type: none"> 1. There is a case that a characteristic varies with magnetic influence. ◆Mechanical considerations <ol style="list-style-type: none"> 1. There is a case to be damaged by a mechanical shock. 2. TLF type <p>There is a case to be broken by a fall.</p> ◆Packing <ol style="list-style-type: none"> 1. There is a case that a lead route turns at by a fall or an excessive shock. |

▶ 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. Storage conditions

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|--------------------------|--|
| Precautions | <p>◆Storage</p> <p>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.</p> <ul style="list-style-type: none">• Recommended conditions <p>Ambient temperature : 0~40°C Humidity : Below 70% RH</p> <p>The ambient temperature must be kept below 30°C. Even under ideal storage conditions, the solderability of electrodes decreases gradually, so the products should be mounted within one year from the time of delivery.</p> <p>In case of storage over 6 months, solderability shall be checked before actual usage.</p> |
| Technical considerations | <p>◆Storage</p> <p>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.</p> |