# Notice for TAIYO YUDEN Products

[ For General Electronic Equipment (General Environment) ]

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.

  When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.

  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 requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.

- 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.

REFLOW

## ■PARTS NUMBER

(A) Previous Rule (applied products registered on March 31, 2010 or before.)

| F | A | R | – | D | 6 | N | F | – | 1 | G | 9 | 6 | 0 | 0 | – | P | 1 | B | Z | – | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | | | ② | ③ | | ④ | ⑤ | ⑥ | ⑦ | | | | | | ⑧ | ⑨ | | ⑩ | | ⑪ | ⑫ |

①Family

②Common sign

③Series name

| Code | Product | Frequency Range[MHz] |
|---|---|---|
| D5 | Duplexer | 700 – 1000 |
| D6 | Duplexer | 1000 – 5000 |
| J5 | Dual Duplexers | 700 – 1000 |
| F5 | Device | 700 – 1000 |
| F6 | Device | 1000 – 5000 |
| G5 | Dual Devices | 700 – 1000 |
| G6 | Dual Devices | 1000 – 5000 |

④Package code

⑤Product code

⑥Common sign

⑦Frequency

⑧Common sign

⑨Internal code

⑩Internal code

⑪Custom code

⑫Packaging

(B) New Rule (applied to products registered on April 1, 2010 or later.)

| D | 6 | N | F | 1 | G | 9 | 6 | 0 | 0 | P | 1 | B | Z | – | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | | ② | ③ | | | | ④ | | | ⑤ | | ⑥ | | ⑦ | ⑧ |

①Series name

| Code | Product | Frequency Range[MHz] |
|---|---|---|
| D5 | Duplexer | 700 – 1000 |
| D6 | Duplexer | 1000 – 5000 |
| J5 | Dual Duplexers | 700 – 1000 |
| F5 | Device | 700 – 1000 |
| F6 | Device | 1000 – 5000 |
| G5 | Dual Devices | 700 – 1000 |
| G6 | Dual Devices | 1000 – 5000 |

*For further details, please contact to TAIYO YUDEN CO., LTD.

②Package code

③Product code

④Frequency

⑤Internal code

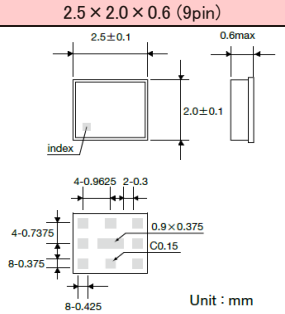
⑥Internal code

⑦Custom code

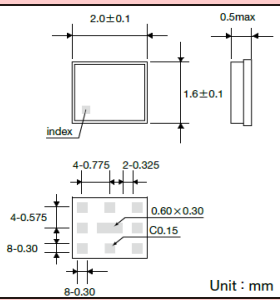
⑧Packaging

## ■EXTERNAL DIMENSIONS

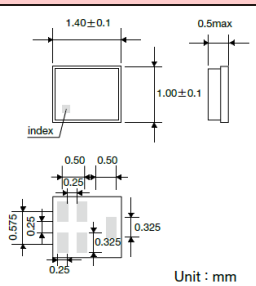
2.5×2.0×0.6 (9pin)



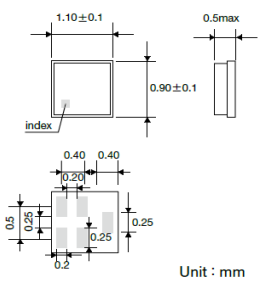

2.0×1.6×0.5



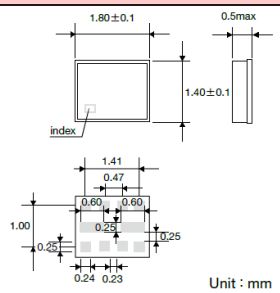

1.4×1.0×0.5




1.1×0.9×0.5




1.8×1.4×0.5




▶ 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/) .

●Duplexers

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| W-CDMA Band 1 | D6PE2G140P3AW | 2.0×1.6×0.5 max. | 1.5/1.6 | 59/47 | 9 Pin, B Type Rx : Bal.100ohm |
| | D6DA2G140K2A4 | 1.8×1.4×0.5 max. | 1.8/1.8 | 56/51 | 8 Pin, B Type |
| | D6DA2G140K2A7 | 1.8×1.4×0.5 max. | 1.6/1.7 | 58/59 | 8 Pin, B Type |
| | D6RB2G140E1AJ | 1.8×1.4×0.5 max. | 1.7/1.8 | 57/48 | 8 Pin, B Type Rx : Bal.100ohm |
| | D6RB2G140E1AL | 1.8×1.4×0.47 max. | 1.7/1.8 | 57/51 | 8 Pin, B Type Rx : Bal.100ohm |
| PCS/W-CDMA Band 2 | D6PF1G960M3B6 | 2.0×1.6×0.57 max. | 2.2/2.7 | 55/52 | 9 Pin, B Type |
| | D6PF1G960M3B9 | 2.0×1.6×0.57 max. | 2.2/2.7 | 57/52 | 9 Pin, B Type |
| | D6DA1G960K2B1 | 1.8×1.4×0.57 max. | 1.9/2.5 | 54/54 | 8 Pin, B Type |
| | D6DA1G960K2B2 | 1.8×1.4×0.57 max. | 1.8/2.3 | 55/55 | 8 Pin, B Type |
| | D6PE1G960P3BY | 2.0×1.6×0.57 max. | 2.0/3.1 | 57/53 | 9 Pin, B Type Rx : Bal.100ohm |
| | D6PE1G960P3BP | 2.0×1.6×0.57 max. | 2.3/3.0 | 56/52 | 9 Pin, B Type Rx : Bal.100ohm |
| | D6RB1G960E1HB | 1.8×1.4×0.6 max. | 2.1/2.9 | 56/55 | 8 Pin, B Type Rx : Bal.100ohm |
| LTE Band 3 | D6DA1G842K2C4 | 1.8×1.4×0.6 max. | 2.3/2.1 | 56/56 | 8 Pin, B Type |
| W-CDMA/LTE Band 4 | D6DA2G132K2D4 | 1.8×1.4×0.5 max. | 1.5/1.7 | 57/55 | 8 Pin, B Type |
| | D6DA2G132K2D9 | 1.8×1.4×0.5 max. | 1.6/1.8 | 60/56 | 8 Pin, B Type |
| | D6PE2G132P3DWB | 2.0×1.6×0.5 max. | 1.8/1.8 | 55/50 | 9 Pin, B Type Rx : Bal.100ohm |
| | D6RB2G132E1DF | 1.8×1.4×0.5 max. | 1.6/1.8 | 62/54 | 8 Pin, B Type Rx : Bal.100ohm |
| CDMA/W-CDMA Band 5 | FAR-D5PF-881M50-M3E7 | 2.0×1.6×0.5 max. | 1.5/1.8 | 58/51 | 9 Pin, A Type |
| | FAR-D5PF-881M50-M3E9 | 2.0×1.6×0.5 max. | 1.5/1.8 | 58/51 | 9 Pin, B Type |
| | FAR-D5PE-881M50-P3EZ | 2.0×1.6×0.5 max. | 1.4/1.7 | 59/52 | 9 Pin, B Type Rx : Bal.100ohm |
| | FAR-D5PE-881M50-P3EY | 2.0×1.6×0.5 max. | 1.4/1.7 | 59/52 | 9 Pin, A Type Rx : Bal.100ohm |
| | D5DA881M5K2E4 | 1.8×1.4×0.5 max. | 1.4/1.7 | 58/59 | 8 Pin, B Type |
| | D5RB881M5E1BH | 1.8×1.4×0.47 max. | 1.4/1.7 | 58/52 | 8 Pin, B Type Rx : Bal.100ohm |
| LTE Band 7 | D6HL2G655DL06 | 2.0×1.6×0.54 max. | 2.1/2.3 | 53/57 | 9 Pin, B Type FBAR |
| | D6HQ2G655DP01 | 1.8×1.4×0.54 max. | 2.3/2.2 | 58/57 | 8 Pin, B Type FBAR |
| | D6HQ2G655DP02 | 1.8×1.4×0.54 max. | 2.0/2.0 | 58/55 | 8 Pin, B Type FBAR 2HD Improved |
| | D6HN2G655BN54 | 2.0×1.6×0.54 max. | 1.8/2.6 | 55/56 | 9 Pin, B Type Bal.100ohm, FBAR WLAN coexistence Ver. |
| | D6HP2G655BP11 | 1.8×1.4×0.54 max. | 1.8/2.4 | 56/56 | 8 Pin, B Type Bal.100ohm, FBAR |
| W-CDMA Band 8 | D5PF942M5M3G6 | 2.0×1.6×0.5 max. | 2.1/2.1 | 57/55 | 9 Pin, B Type for LTE |
| | D5PF942M5M3G9 | 2.0×1.6×0.5 max. | 1.9/2.2 | 60/52 | 9 Pin, B Type |
| | D5DA942M5K2G6 | 1.8×1.4×0.5 max. | 1.7/1.8 | 58/59 | 8 Pin, B Type |
| | D5DA942M5K2S2 | 1.8×1.4×0.6 max. | 1.3/1.5 | 58/56 | for LTE 8 Pin, B Type |
| | D5PE942M5P3GT | 2.0×1.6×0.5 max. | 1.8/2.2 | 60/55 | 9 Pin, B Type Rx : Bal.100ohm |
| | D5RB942M5E1CF | 1.8×1.4×0.5 max. | 1.5/1.9 | 56/51 | 8 Pin, B Type Rx : Bal.100ohm |
| LTE Band 12 | D5DA737M5K2H2 | 1.8×1.4×0.5 max. | 1.65/1.65 | 63/58 | 8 Pin, B Type |
| LTE Band 13 | D5PE782M0M3P9 | 2.0×1.6×0.5 max. | 1.6/2.0 | 64/55 | 9 Pin, B Type |
| | D5DA782M0K2J6 | 1.8×1.4×0.5 max. | 1.9/1.7 | 58/61 | 8 Pin, B Type |
| LTE Band 13+17 Triplexer | J5NA782M0P1H6 | 2.5×2.0×0.6 max. | 1.6/1.9<br>1.9/1.9 | 60/49<br>53/55 | 9 Pin, B Type |
| LTE Band 17 | D5PF740M0M3R9 | 2.0×1.6×0.5 max. | 1.6/1.8 | 61/66 | 9 Pin, B Type |
| | D5DA740M0K2L4 | 1.8×1.4×0.5 max. | 1.25/1.65 | 65/60 | 8 Pin, B Type |
| | D5PE740M0P3NZ | 2.0×1.6×0.5 max. | 1.9/2.0 | 63/60 | 9 Pin, B Type Rx : Bal.100ohm |
| LTE Band 21 | D6PE1G503P3KW | 2.0×1.6×0.5 max. | 1.6/2.0 | 55/56 | 9 Pin, B Type Rx : Bal.100ohm |
| LTE Band 26 | D5PF876M5M3U9 | 2.0×1.6×0.5 max. | 2.0/1.9 | 56/49 | |
| | D5DA876M5K2P6 | 1.8×1.4×0.6 max. | 1.3/2.0 | 60/57 | 8 Pin, B Type |
| | D5PE876M5P3UZ | 2.0×1.6×0.5 max. | 2.2/2.6 | 60/49 | 9 Pin, B Type Rx : Bal.100ohm |
| LTE Band 28 | D5PF773M0M3Y6 | 2.0×1.6×0.5 max. | 1.8/2.3 | 60/53 | Block A 9Pin, B Type |
| | D5PF788M0M3Y9 | 2.0×1.6×0.5 max. | 1.8/2.4 | 60/54 | Block B 9Pin, B Type |

●W-CDMA / LTE / CDMA 2000 Filters

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| Band 1 Tx | F6QA1G950M2AA | 1.1×0.9×0.5 max. | 1.8 | 38 | Unbal. |
| Band 1, Band 4 Rx | F6QA2G140M2AM | 1.1×0.9×0.5 max. | 1.9 | 46 | Unbal. |
| | F6QG2G140P2KA | 1.1×0.9×0.5 max. | 1.7 | 55 | 100ohm output |
| Band 2 Tx BC1(PCS) Tx | F6QA1G880M2AQ | 1.1×0.9×0.5 max. | 1.7 | 20 | |
| Band 2 Rx BC1(PCS) Rx | F6QA1G960M2AP | 1.1×0.9×0.5 max. | 2.8 | 39 | High Att. |
| | F6QG1G960P2KT | 1.1×0.9×0.5 max. | 2.8 | 44 | 100ohm output |
| Band 3 Tx | F6QA1G747M2QS | 1.1×0.9×0.5 max. | 2.1 | 22 | |
| Band 3 Rx | F6QA1G842M2AN | 1.1×0.9×0.5 max. | 2.0 | 38 | Unbal. |
| | F6QG1G842P2KD | 1.1×0.9×0.5 max. | 3.2 | 45 | 100ohm output |
| Band 5 Tx BC0 Tx | F5QA836M5M2AR | 1.1×0.9×0.5 max. | 1.9 | 45 | High Att. |
| Band 5 Rx BC0 Rx | F5QA881M5M2AU | 1.1×0.9×0.5 max. | 1.3 | 51 | Low Loss/high Att. |
| | F5QG881M5P2KG | 1.1×0.9×0.5 max. | 1.5 | 56 | 100ohm output |
| Band 7 Rx | F6QA2G635M2QH | 1.1×0.9×0.5 max. | 2.5 | 38 | Unbal. |
| | F6QG2G655P2KE | 1.1×0.9×0.5 max. | 2.5 | 52 | 100ohm. High Att. |
| Band 8 Tx | F5QA897M5M2AC | 1.1×0.9×0.5 max. | 2.3 | 18 | – |
| Band 8 Rx | F5QA942M5M2AW | 1.1×0.9×0.5 max. | 2.0 | 48 | for LTE |
| | F5QG942M5P2KB | 1.1×0.9×0.5 max. | 2.2 | 56 | 100ohm output |
| | F5QG942M5P2KF | 1.1×0.9×0.5 max. | 2.2 | 60 | 100ohm output for LTE |
| Band 12 Rx | F5QA737M5M2QN | 1.1×0.9×0.5 max. | 1.6 | 53 | Unbal. |
| | F5QG737M5P2KK | 1.1×0.9×0.5 max. | 1.6 | 55 | 100ohm output |
| Band 13 Tx | F5QA782M0M2AZ | 1.1×0.9×0.5 max. | 1.5 | 56 | Unbal. |
| Band 13 Rx | F5QA751M0M2QM | 1.1×0.9×0.5 max. | 1.9 | 50 | Unbal. |
| Band 14 | F5QA763M0M2QL | 1.1×0.9×0.5 max. | 2.2 | 49 | Unbal. |
| Band 17 Tx | F5QA710M0M2AY | 1.1×0.9×0.5 max. | 1.3 | 33 | Unbal. |
| Band 17 Rx | F5QG740M0P2KH | 1.1×0.9×0.5 max. | 1.4 | 65 | 100ohm output |
| Band 20 Rx | F5QA806M0M2QE | 1.1×0.9×0.5 max. | 2.7 | 41 | Unbal. |
| Band 21 Rx | F6QA1G503M2QF | 1.1×0.9×0.5 max. | 2.0 | 52 | Unbal. |
| Band 25 Tx | F6QA1G882M2AS | 1.1×0.9×0.5 max. | 1.8 | 23 | Unbal. |
| Band 26 Rx | F5QA876M5M2QP | 1.1×0.9×0.5 max. | 2.2 | 49 | Unbal. |
| | F5QG876M5P2KQ | 1.1×0.9×0.5 max. | 2.2 | 59 | 100ohm output |
| Band 28 Rx | F5QA773M0M2QC | 1.1×0.9×0.5 max. | 2.1 | 52 | Block A |
| | F5QA788M0M2QB | 1.1×0.9×0.5 max. | 2.0 | 52 | Block B |
| Band 29 Rx | F5BA722M5M6UW | 1.1×0.9×0.44 max. | 1.6 | – | Unbal. |
| Band 30 Rx | F6QP2G355R2SE | 1.1×0.9×0.5 max. | 2.1 | 50 | Unbal. |
| Band 32 Rx | F6QA1G474H2JS | 1.1×0.9×0.5 max. | 1.8 | – | Unbal. |

●TDD Filters(TD-SCDMA / TD-LTE)

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| Bnad 38 Tx | F6KA2G595A4VL | 1.4×1.0×0.5 max. | 1.5 | – | Input Power +29dBm |
| Bnad 38 Rx | F6QA2G595M2QK | 1.1×0.9×0.5 max. | 1.9 | – | |
| | F6QB2G595P2BS | 1.1×0.9×0.5 max. | 2.0 | – | Balanced 100ohm |
| Band 39 TRx | F6FC1G900H4PB | 1.1×0.9×0.44 max. | 1.1 | – | Input power +29dBm (Duty 50%) |
| Band 39 Rx | F6QA1G900M2WD | 1.1×0.9×0.5 max. | 1.5 | – | |
| Band 40 Tx | F6HF2G350AF41 | 1.4×1.0×0.6 max. | 2.3 | – | Input Power +29dBm FBAR |
| | F6HH2G350EH71 | 1.1×0.9×0.44 max. | 1.6 | – | Input Power +29dBm CW FBAR |
| Band 40 Rx | F6QA2G350M2QA | 1.1×0.9×0.5 max. | 2.2 | – | |
| | F6QB2G350P2BH | 1.1×0.9×0.5 max. | 2.8 | – | Balanced 100ohm |
| Band 41 | F6KA2G605A4LA | 1.4×1.0×0.5 max. | 2.4 | – | Unbal High power design 2555-2655MHz BW100MHz |
| | F6FC2G600H4PA | 1.1×0.9×0.44 max. | 2.1 | – | Unbal High power design & HPUE for CMCC 2535-2655MHz BW120MHz |
| | F6HP2G593AP20 | 2.0×1.6×0.6 max. | 2.9 | – | Unbal High power design 2496-2690MHz BW194MHz FBAR |
| | F6HQ2G593AP31 | 1.8×1.4×0.57 max. | 2.7 | – | Unbal High power design & HPUE for Sprint 2496-2690MHz BW194MHz FBAR |

●TDD Dual Filters(TD-SCDMA / TD-LTE)

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| Band 39 Rx + 41(BW100MHz) TRx(Common Input) | G6KJ2G605D4AB | 1.8×1.4×0.5 max. | 2.1/2.6 | – | B41 High power design B41 (2555-2655MHz BW100MHz) for CMCC CA |
| | G6QN2G605M2RM | 1.5×1.1×0.5 max. | 2.2/1.3 | – | |

●GPS

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| GPS | F6QA1G575H2JF | 1.1×0.9×0.5 max. | 0.96 | – | Low loss, High Att. |
| GPS (GNSS) | F6QA1G585M2AT | 1.1×0.9×0.5 max. | 1.4 | – | – |
| | F6QB1G585P2BQ | 1.1×0.9×0.5 max. | 1.7 | – | 100ohm output |
| GPS+GLONASS+Galileo+Compass | F6QA1G581M2QZ | 1.1×0.9×0.5 max. | 1.4 | – | |
| | F6QA1G582H2JM | 1.1×0.9×0.5 max. | 1.8 | – | Ladder High Att. |
| | F6BG1G582R6TT | 1.1×0.9×0.44 max. | 1.7 | – | 100ohm output |

●Others

| System | Part number | Package Size[mm] | Insertion Loss[dB] | Attenuation[dB] | Remarks |
|---|---|---|---|---|---|
| ISM900 (B.W.26MHz) | FAR-F5QA-915M00-M2AK | 1.1×0.9×0.5 max. | 1.8 | – | |
| Wireless LAN / *Bluetooth*® | FAR-F6KA-2G4418-A4VA | 1.4×1.0×0.5 max. | 3.0 | – | +23dBm |
| | FAR-F6KA-2G4500-A4VD | 1.4×1.0×0.5 max. | 1.9 | – | 2400-2500MHz,+19dBm |
| | F6KA2G436A4VE | 1.4×1.0×0.5 max. | 2.5 | – | 2400-2472MHz,+24dBm 2.5GHz High Att (for MTK) |
| | F6KA2G466A4VJ | 1.4×1.0×0.5 max. | 2.8 | – | 2432-2500MHz,+24dBm 2.3GHz High Att (for MTK) |
| | F6HF2G441AF46 | 1.4×1.0×0.6 max. | 1.6 | – | 2402.5-2481.5MHz Input Power +28dBm FBAR |
| | F6HG2G441EG65 | 1.1×0.9×0.5 max. | 1.3 | – | FBAR |

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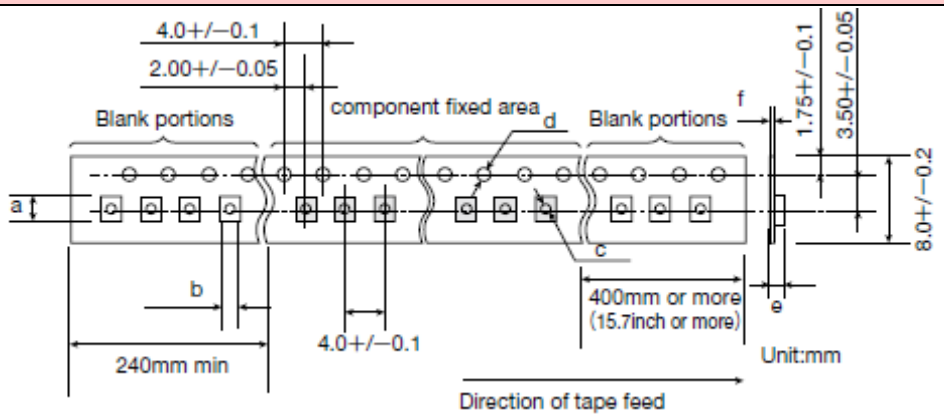
## ■PACKAGING

### ①Minimum Quantity

| Type | Size [mm] | Code & Quantity [pcs] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Duplexer | 2.5×2.0 | Z | 3000 | | | U | 10000 | | |
| | 2.0×1.6 | Z | 3000 | | | | | Y | 15000 |
| | 1.8×1.4 | Z | 3000 | | | | | Y | 15000 |
| Single Filter | 2.0×1.6 | Z | 3000 | | | | | Y | 15000 |
| | 1.8×1.4 | Z | 3000 | | | | | Y | 15000 |
| | 1.4×1.0 | Z | 3000 | | | | | Y | 15000 |
| | 1.1×0.9 | | | J | 5000 | | | Y | 15000 |
| Dual Filter | 1.8×1.4 | Z | 3000 | | | | | Y | 15000 |
| | 1.5×1.1 | | | J | 5000 | | | Y | 15000 |

### ②Tape material




●Taping dimensions

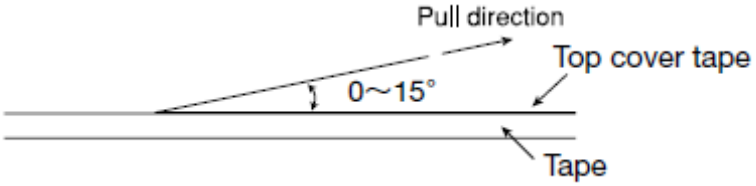
| Type | Size [mm] | a | b | c | d | e | f |
|---|---|---|---|---|---|---|---|
| Duplexer | 2.5×2.0 | 2.8±0.1 | 2.3±0.1 | 1.5+0.1/−0 | 1.5+0.1/−0 | 1.0+0.1/−0.0 | 0.25±0.05 |
| | 2.0×1.6 | 2.4±0.1 | 2.0±0.1 | 1.05±0.05 | 1.5+0.1/−0 | 0.90−0.05 | 0.25±0.05 |
| | 1.8×1.4 | 2.2±0.1 | 1.8±0.1 | 0.5±0.05 | 1.55±0.05 | 0.8±0.1 | 0.30±0.05 |
| Single Filter | 2.0×1.6 | 2.4±0.1 | 2.0±0.1 | 1.05±0.05 | 1.5+0.1/−0 | 0.90−0.05 | 0.25±0.05 |
| | 1.8×1.4 | 2.2±0.1 | 1.8±0.1 | 0.5±0.05 | 1.55±0.05 | 0.8±0.1 | 0.30±0.05 |
| | 1.4×1.0 | 1.7±0.1 | 1.3±0.1 | 0.5±0.05 | 1.5+0.1/−0 | 0.63±0.05 | 0.20±0.05 |
| | 1.1×0.9 | 1.3±0.1 | 1.1±0.1 | 0.5±0.05 | 1.55±0.05 | 0.63±0.05 | 0.20±0.05 |
| Dual Filter | 1.8×1.4 | 2.2±0.1 | 1.8±0.1 | 0.5±0.05 | 1.55±0.05 | 0.8±0.1 | 0.30±0.05 |
| | 1.5×1.1 | 1.8±0.1 | 1.4±0.1 | 0.5±0.05 | 1.5+0.1/−0 | 0.7±0.1 | 0.25±0.05 |

Unit : mm

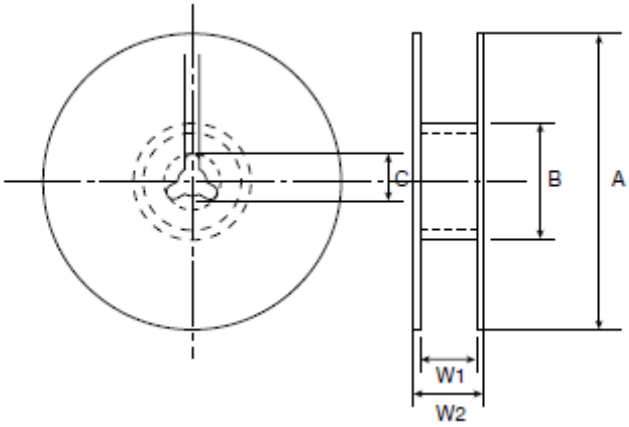
●Material of Tape (Conductive)
Tape : Polystyrene
Top cover tape : Polyethylene terephthalate (PET) and Polyethylene

### ③Top Tape Strength

The top tape requires a peel-off force of 0.1 to 1.0N in the direction of the arrow as illustrated below.



## ④Reel size



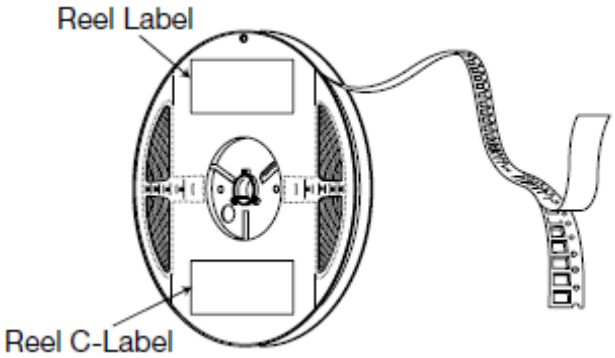

● Material of Reel
Material : Polystyrene＋Carbon
Characteristics : Conform to EIAJ-ET-7200A
Color : Black
Surface resistance (reference value) :109Ω/sq Max.

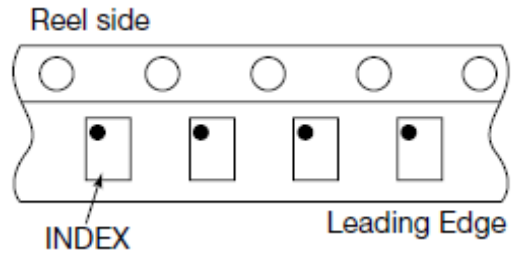
| Code | Quantity | A | B | C | W1 | W2 |
|---|---|---|---|---|---|---|
| Z | 3,000 pcs | φ180.0 +0.0/－1.5 | φ66.0 ±0.5 | φ13.0 ±0.2 | 9.0 +1.0/－0.0 | 11.4 ±1.0 |
| J | 5,000 pcs | φ180.0 +0.0/－1.5 | φ66.0 ±0.5 | φ13.0 ±0.2 | 9.0 +1.0/－0.0 | 11.4 ±1.0 |
| U | 10,000 pcs | φ330.0 ±2.0 | φ100.0 ±1.0 | φ13.0 ±0.2 | 9.4 ±1.0 | 13.4 ±1.0 |
| Y | 15,000 pcs | φ330.0 ±2.0 | φ100.0 ±1.0 | φ13.0 ±0.2 | 9.4 ±1.0 | 13.4 ±1.0 |

Unit : mm

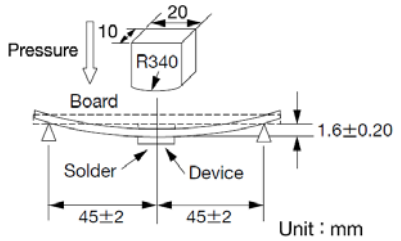
## ⑤Reel label and Reel C-Label sticking and Winding method

● Surface



■RELIABILITY DATA

| 1. Terminal stregth | |
|---|---|
| Specified Value | No damage to be found. |
| Test Methods and Remarks | Bend width 4mm, hold for 5±1 sec.<br>according to IEC60068-2-21(JISC60068-2-21)<br>  |

| 2. Mechanical shock | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | Apply 14700m/s$^2$ for 0.5ms 5 times for each of 6 directions.<br>according to IEC68-2-27(JISC60068-2-27). |

| 3. Vibration | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | With 1.5 mm of whole amplitude at 10 to 55 Hz of frequency, and 98m/s$^2$ of acceleration at 55 to 500Hz, apply a vibration for 2 hours for each of 3 directions, period is 15 minutes(10 to 500 to 10Hz) |

| 4. Drop 1 | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | Drop 3 times onto concrete floor from the height of 1.0m. |

| 5. Drop 2 | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | Drop with 150g weight 3 times in each 6 direction onto concrete floor from the height of 1.8m. |

| 6. Temperature cycling | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | Temp. range －40 to ＋100℃. 500cycle. |

| 7. Static humidity | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | ＋85℃, 90% to 95%RH, apply DC5V, 1000hours. |

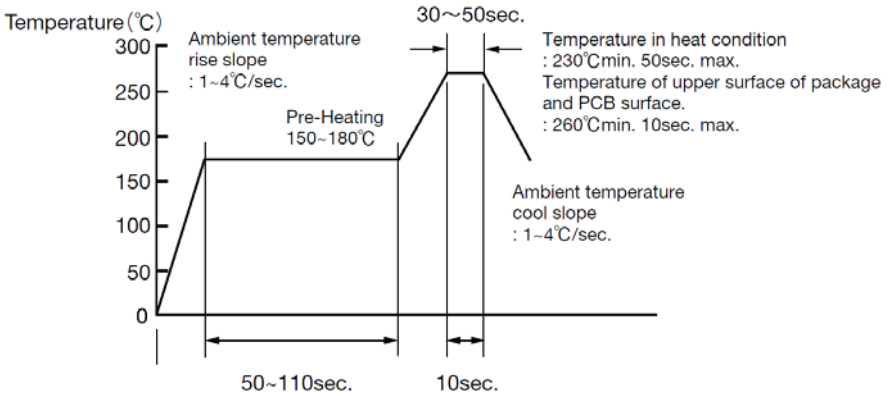
| 8. High temperature storage life | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | ＋100℃, 1000hours. |

| 9. Low temperature storage life | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | －40℃, 1000hours. |

| 10. High Temperature Bias (Duplexer only) | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature. |
| Test Methods and Remarks | ＋50℃, ＋29dBm, 50000hours. |

| 11. Solderbility 1 | |
|---|---|
| Specified Value | More than 90% of area of terminals to be covered with the solder.<br>A change of the remarkable appearance do not have it. |
| Test Methods and Remarks | Lead-free Solder paste, Reflow；Peak temperature 245℃ |

| 12. Solderbility 2 | |
|---|---|
| Specified Value | More than 90% of area of terminals to be covered with the solder.<br>A change of the remarkable appearance do not have it. |
| Test Methods and Remarks | Sn-Pb Solder paste, Reflow；Peak temperature 235℃ |

| 13. Solder heat resistance | |
|---|---|
| Specified Value | After testing, meet the specified characteristics at a room temperature.<br>A change of the remarkable appearance do not have it. |
| Test Methods and Remarks | ◆Recommended temperature profile of reflow soldering<br>Figure shows recommended temperature profile of reflow soldering in the case of lead-free solder alloy Sn3.0Ag0.5Cu.<br>Suitable condition for solder heating is differed depending on composition and manufacturing method.<br>Please contact to solder manufacturer for the details.<br>  <br> |