Jun. 2018 Ver.1.6
TDK Corporation

# Multilayer Band Pass Filter

For 5GHz W-LAN

DEA Series 1.6x0.8mm [EIA 0603] TYPE

P/N: **DEA165538BT-2263A1-H**

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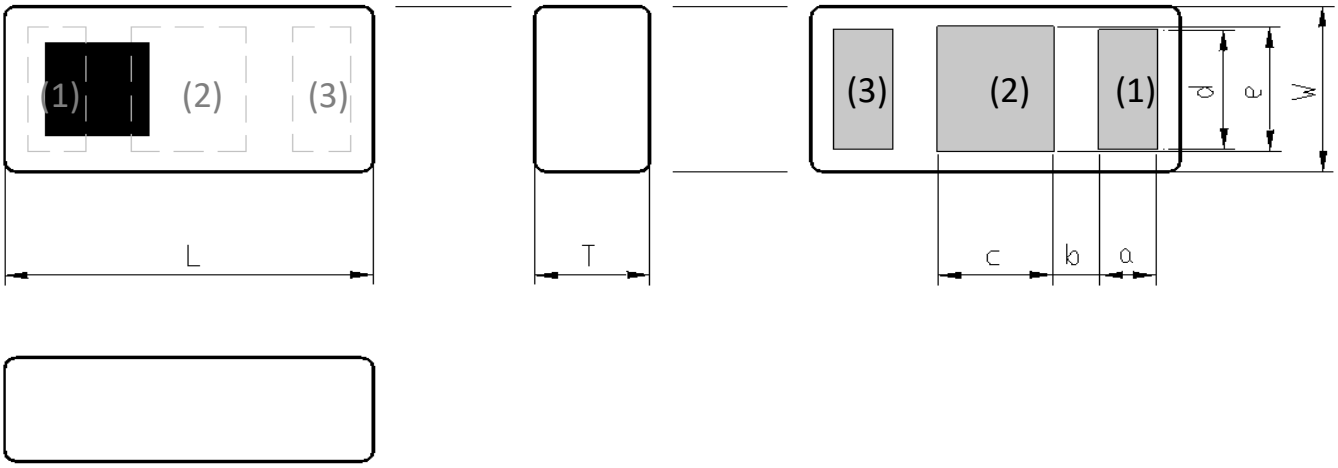
# DEA165538BT-2263A1-H

## ■ SHAPES AND DIMENSIONS




Dimensions (mm)

| L | W | T | a | b | c | d | e |
|---|---|---|---|---|---|---|---|
| 1.60 +/-0.15 | 0.80 +/-0.10 | 0.65 Max | 0.25 +/-0.10 | 0.23 +/-0.10 | 0.40 +/-0.10 | 0.55 +/-0.15 | 0.60 +/-0.15 |

Terminal functions

| | |
|---|---|
| **(1)** | Input Port |
| **(2)** | GND |
| **(3)** | Output Port |

## ■ TERMINATION FINISH

| Material |
|---|
| Ag |

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## ■ ELECTRICAL CHARACTERISTICS

( Measurement )

| Parameter | Frequency (MHz) | Specification | | |
|---|---|---|---|---|
| | | Min. | Typ. | Max. |
| Insertion Loss (dB) | 5150 to 5925 | - | 0.63 | 0.85 |
| Insertion Loss (dB) ( –40 to +90 °C ) | 5150 to 5925 | - | - | 1.00 |
| Return Loss (dB) | 5150 to 5925 | 12 | 17 | - |
| Attenuation (dB) | 100 to 960 | 33 | 38 | - |
| | 1166 to 1249 | 33 | 36 | - |
| | 1427 to 1610 | 33 | 36 | - |
| | 1695 to 2200 | 33 | 37 | - |
| | 2300 to 2370 | 33 | 42 | - |
| | 2400 to 2484 | 33 | 43 | - |
| | 2496 to 2690 | 33 | 46 | - |
| | 3400 to 3800 | 33 | 41 | - |
| | 7250 to 7800 | 30 | 33 | - |
| | 10300 to 11850 | 25 | 28 | - |
| | 15450 to 17775 | 25 | 30 | - |
| Characteristic Impedance (ohm) | | 50 (Nominal) | | |

Ta = +25+/-5°C

## ■ MAXIMUM RATINGS

| Parameter | | TDK Spec | | Conditions |
|---|---|---|---|---|
| | | Min. | Max. | |
| Operating temperature (°C) | | –40 to +90 °C | | |
| Storage temperature (°C) | | –40 to +90 °C | | |
| Power Handling (dBm) | | - | 31 | CW |
| Human Body Model : HBM | @Each Port (V) | -1000 | 1000 | 100pF / 1500ohm |
| Machine Model : MM | @Each Port (V) | -150 | 150 | 200pF / 0ohm |
| Charged Device Model : CDM | @Each Port (V) | -500 | 500 | Relative humidity : 51%RH max |

Ambient temperature : +25+/-5°C

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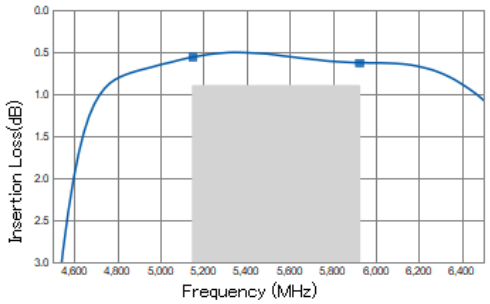
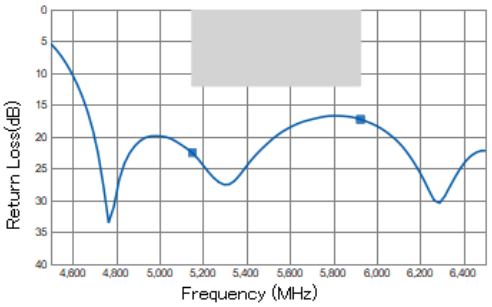
## ■ FREQUENCY CHARACTERISTICS

S21:INSERTION LOSS



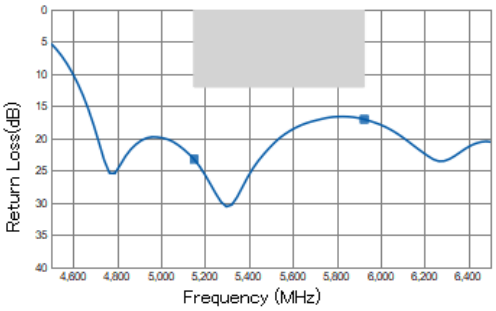

| P/N / Freq | DEA165538BT-2263A1-H |
|---|---|
| 5150 | 0.56 |
| 5925 | 0.63 |

S11:RETURN LOSS



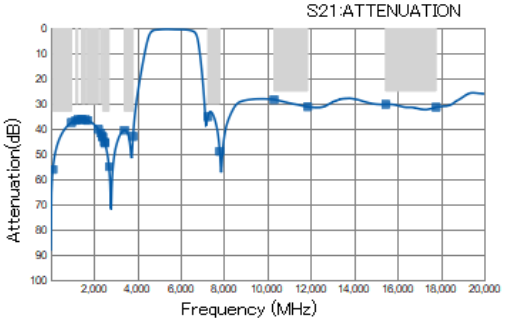

| P/N / Freq | DEA165538BT-2263A1-H |
|---|---|
| 5150 | 22.47 |
| 5925 | 17.25 |

S22:RETURN LOSS




| P/N / Freq | DEA165538BT-2263A1-H |
|---|---|
| 5150 | 23.19 |
| 5925 | 17.01 |

S21:ATTENUATION




| P/N / Freq | DEA165538BT-2263A1-H |
|---|---|
| 100 | 56.11 |
| 960 | 37.50 |
| 1166 | 36.60 |
| 1249 | 36.37 |
| 1427 | 36.20 |
| 1610 | 36.40 |
| 1695 | 36.62 |
| 2200 | 40.19 |
| 2300 | 41.56 |
| 2370 | 42.77 |
| 2400 | 43.33 |
| 2484 | 45.32 |
| 2496 | 45.62 |
| 2690 | 54.97 |
| 3400 | 40.58 |
| 3800 | 42.99 |
| 7250 | 35.19 |
| 7800 | 48.93 |
| 10300 | 28.41 |
| 11850 | 31.24 |
| 15450 | 30.27 |
| 17775 | 31.42 |

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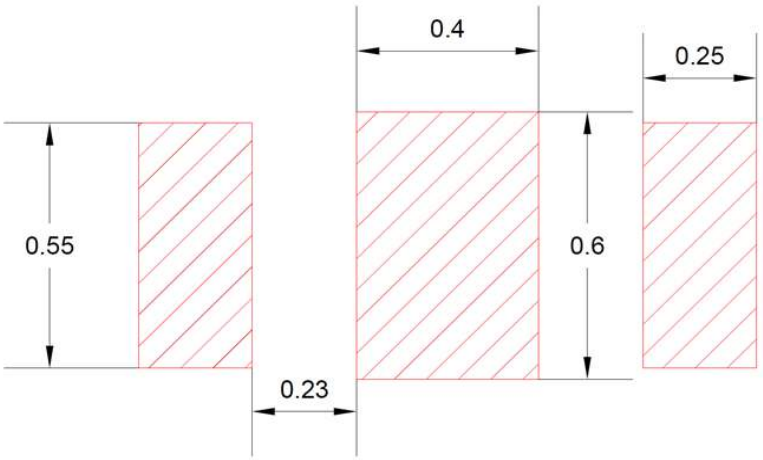
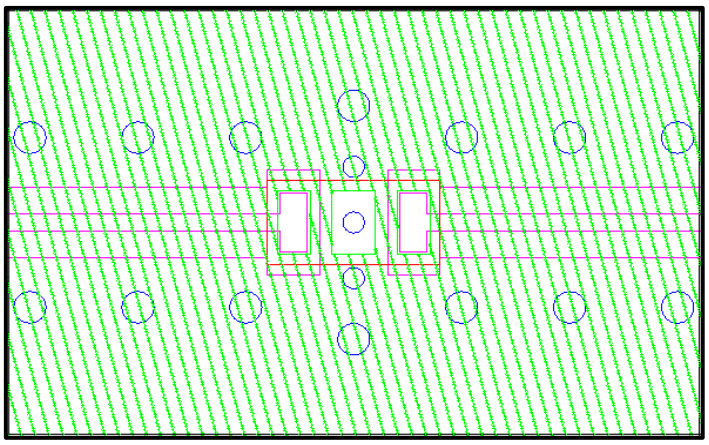
## ■ RECOMMENDED LAND PATTERN




Unit : mm

## ■ EVALUATION BOARD



○ Thru hole
□ Resist
□ Surface Pattern
□ DUT (BPF)

| Material, Layer | Thickness |
|---|---|
| Top Resist | Resist |
| Copper Surface Pattern | 0.035mm |
| FR-4 | 0.10mm |
| Copper Inner GND | 0.018mm |
| FR-4 | 0.30mm |
| Copper Bottom GND | 0.035mm |

* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

## ■ ENVIROMENT INFORMATION

RoHS Statement
RoHS Compliance

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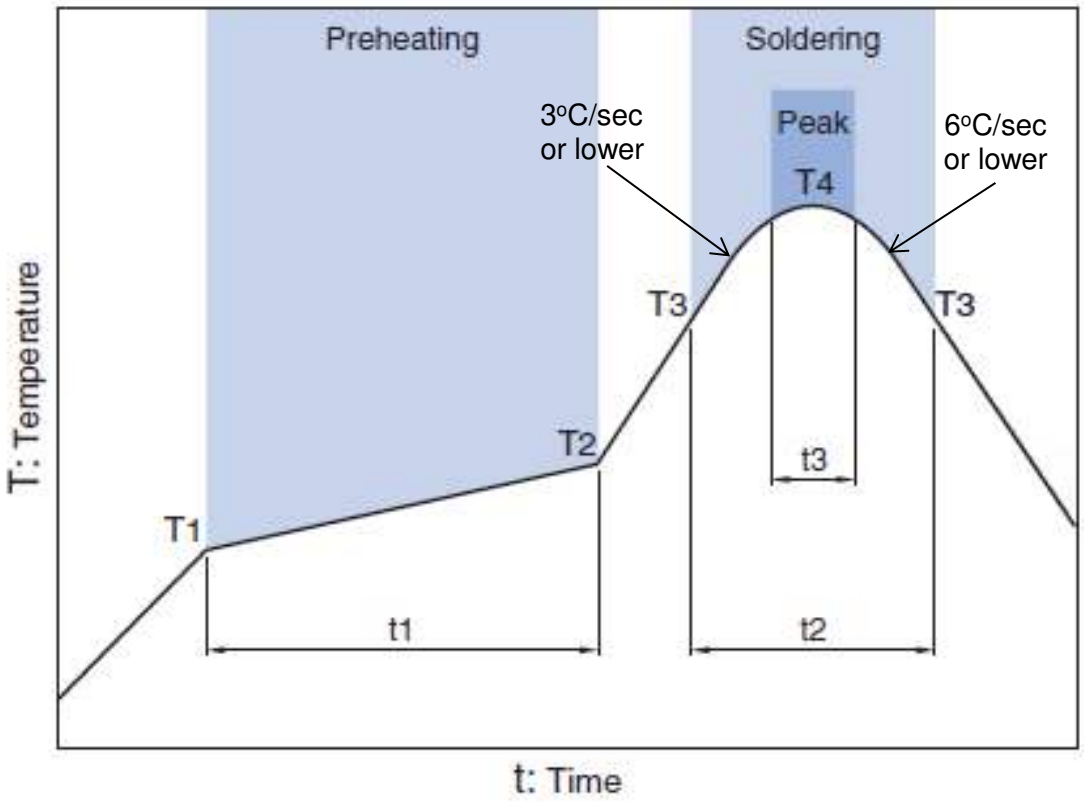
## ■ RECOMMENDED REFLOW PROFILE




| Preheating | | | Soldering | | | |
|---|---|---|---|---|---|---|
| | | | Critical zone (T3 to T4) | | Peak | |
| Temp. | | Time | Temp. | Time | Temp. | Time |
| T1 | T2 | t1 | T3 | t2 | T4 | t3 * |
| 150°C | 200°C | 60 to 120sec | 217°C | 60 to 120sec | 240 to 260°C | 30 sec Max |

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

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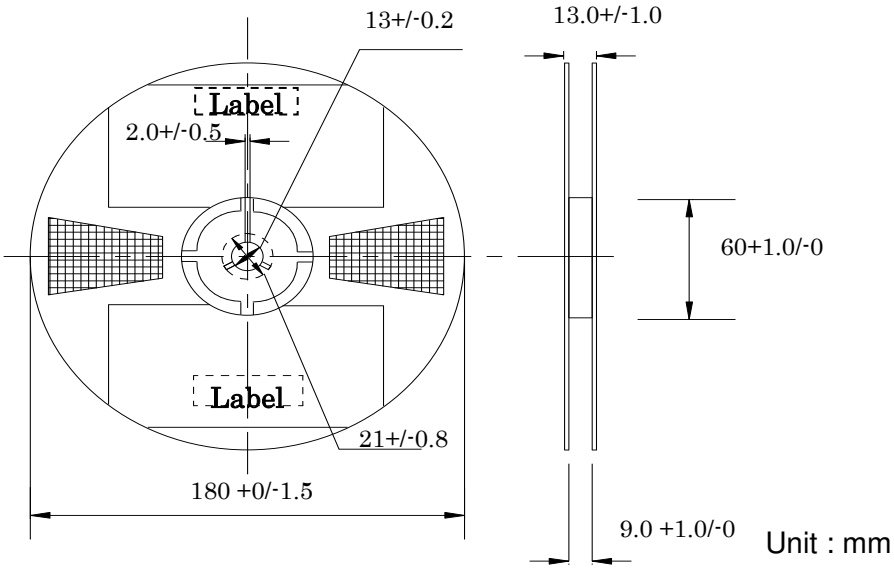
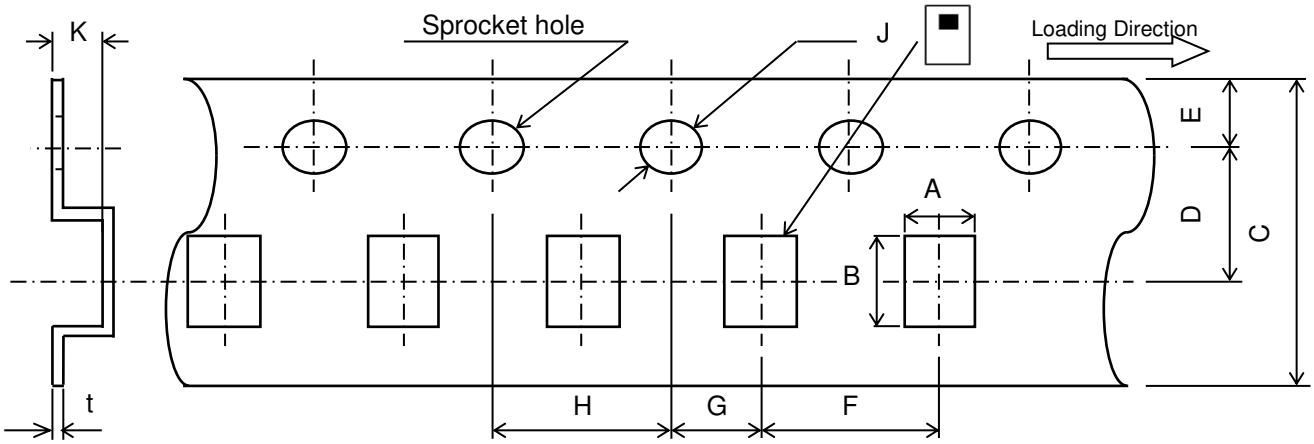
## ■ PACKAGING STYLE

Reel Dimensions




Unit : mm

Carrier Tape




Dimensions (mm)

| A | B | C | D | E | F | G | H | J | K | t |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.97 +/-0.05 | 1.8 +/-0.05 | 8.0 +/-0.2 | 3.5 +/-0.05 | 1.75 +/-0.1 | 4.0 +/-0.1 | 2.0 +/-0.05 | 4.0 +/-0.1 | 1.5 +0.1/-0 | 0.8 MAX | 0.25 +/-0.05 |

| STANDARD PACKAGE QUANTITY ( pieces/reel ) |
|---|
| 4,000 |

# REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

# SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

## ⚠ REMINDERS

The products listed on this specification sheet are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

1. Aerospace/Aviation equipment
2. Transportation equipment (cars, electric trains, ships, etc.)
3. Medical equipment
4. Power-generation control equipment
5. Atomic energy-related equipment
6. Seabed equipment
7. Transportation control equipment
8. Public information-processing equipment
9. Military equipment
10. Electric heating apparatus, burning equipment
11. Disaster prevention/crime prevention equipment
12. Safety equipment
13. Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.