



May. 2021 Ver.2.0  
TDK Corporation

## Multilayer Band Pass Filter

For 1880-2025MHz

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

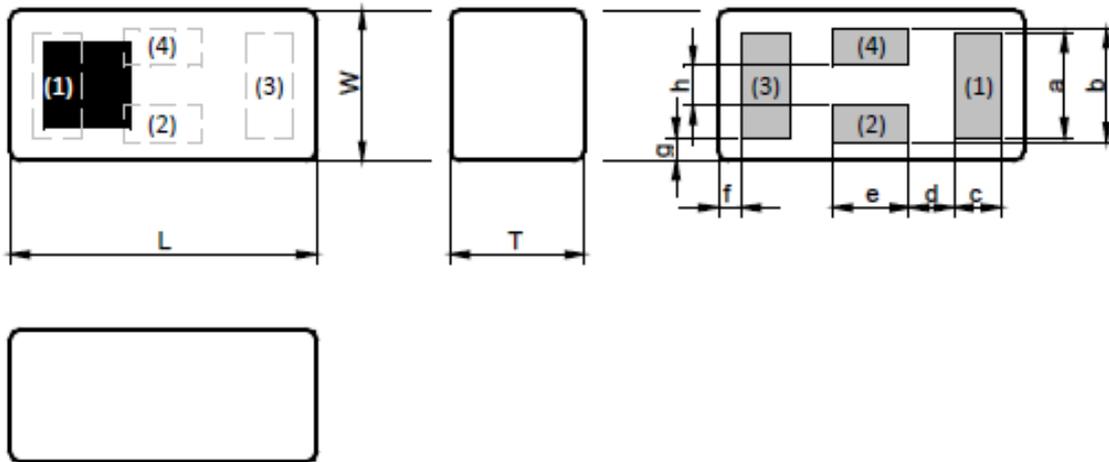
P/N: **DEA161953BT-2303B1-H**

## DEA161953BT-2303B1-H

### ■ SHAPES AND DIMENSIONS

[Top View]

[Bottom View]



Dimensions (mm)

| L       | W       | T    | a       | b       | c       | d       | e       | f       | g       | h       |
|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1.60    | 0.80    | 0.80 | 0.55    | 0.60    | 0.25    | 0.23    | 0.40    | 0.12    | 0.125   | 0.21    |
| +/-0.10 | +/-0.10 | Max  | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 | +/-0.10 |

Terminal functions

|     |             |
|-----|-------------|
| (1) | Input Port  |
| (2) | GND         |
| (3) | Output Port |
| (4) | GND         |

DC Cut

No. There is NOT a DC Cut between the IN &amp; OUT &amp; GND.

### ■ TERMINATION FINISH

| Material |
|----------|
| Ag       |

**DEA161953BT-2303B1-H****ELECTRICAL CHARACTERISTICS**

( Measurement )

| Parameter                                 | Frequency (MHz) | TDK Spec     |      |      |
|---|-----------------|--------------|------|------|
|   |                 | Min.         | Typ. | Max. |
| Insertion Loss (dB)                       | 1805 to 1880    | -            | 2.10 | -    |
|   | 1880 to 2025    | -            | 1.34 | 1.80 |
| Insertion Loss (dB)<br>( -40 to +85 °C )  | 1880 to 2025    | -            | -    | 2.20 |
| VSWR<br>( Input Port )<br>( Output Port ) | 1880 to 2025    | -            | 1.37 | 2.0  |
|   | 1880 to 2025    | -            | 1.36 | 2.0  |
| Attenuation (dB)                          | 1545 to 1610    | 20           | 25.4 | -    |
|   | 2400 to 2500    | 18           | 31.5 | -    |
|   | 5150 to 5850    | 25           | 40.4 | -    |
| Characteristic Impedance (ohm)            |                 | 50 (Nominal) |      |      |

Ta = +25+/-5°C

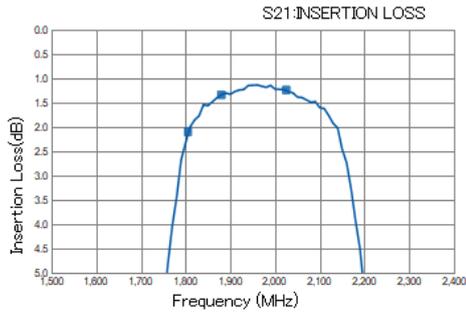
**MAXIMUM RATINGS**

| Parameter                  |                 | TDK Spec      | Conditions           |
|----------------------------|-----------------|---------------|----------------------|
| Operating temperature (°C) |                 | -40 to +85 °C |                      |
| Storage temperature (°C)   |                 | -40 to +85 °C |                      |
| Power Handling (W) *1      | Frequency (MHz) |               |                      |
|                            | 1805 to 2025    | 1             | CW                   |
| Human Body Model : HBM     | @Each Port (V)  | +/-1000       | 100pF / 1500ohm      |
| Machine Model : MM         | @Each Port (V)  | +/-150        | 200pF / 0ohm         |
| Charged Device Model : CDM | @Each Port (V)  | +/-500        | Humidity : 60%RH max |

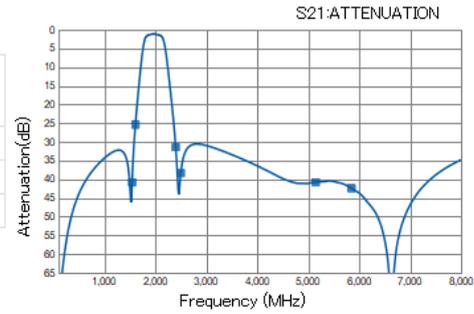
\*1 : Refer to 3GPP TS 38.101-1 V15.2.0

# DEA161953BT-2303B1-H

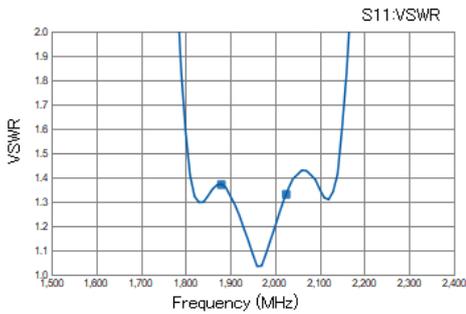
## FREQUENCY CHARACTERISTICS



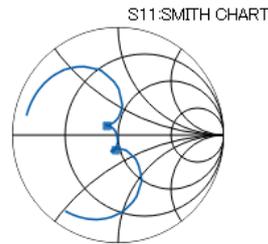
|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1805 | 2.10                                   |
| 1880 | 1.34                                   |
| 2025 | 1.24                                   |



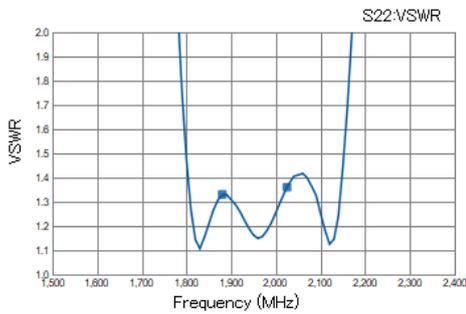
|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1545 | 40.79                                  |
| 1610 | 25.38                                  |
| 2400 | 31.46                                  |
| 2500 | 38.33                                  |
| 5150 | 40.75                                  |
| 5850 | 42.39                                  |



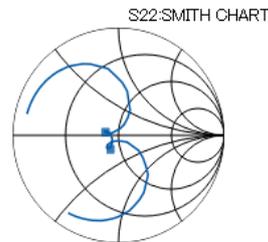
|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1880 | 1.37                                   |
| 2025 | 1.33                                   |



|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1880 | -0.12 / 0.01                           |
| 2025 | -0.03 / -0.14                          |



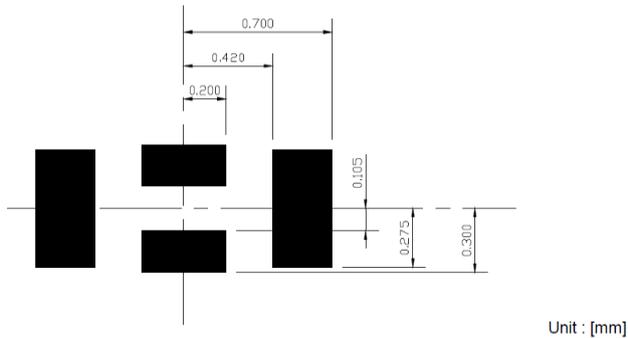
|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1880 | 1.33                                   |
| 2025 | 1.36                                   |



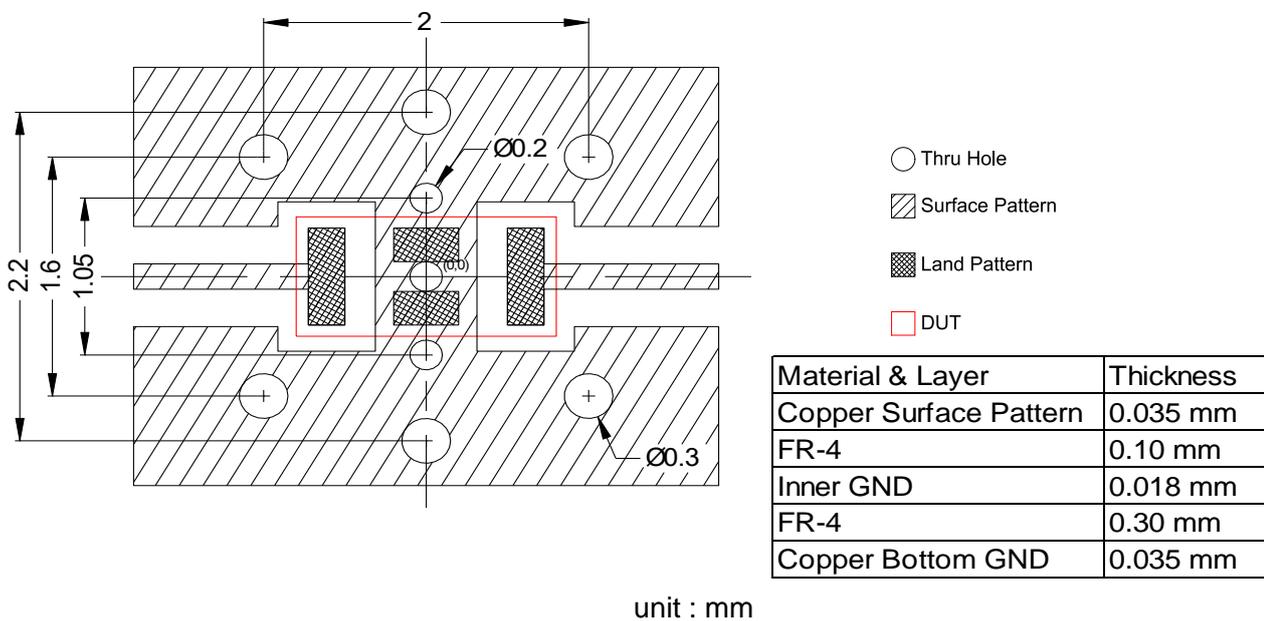
|      |  |
|------|--|
| P/N  | DEA161953BT-2303B1-H_Ver.1_ON_20180926 |
| 1880 | -0.14 / 0.04                           |
| 2025 | -0.09 / -0.13                          |

## DEA161953BT-2303B1-H

### RECOMMENDED LAND PATTERN



### EVALUATION BOARD

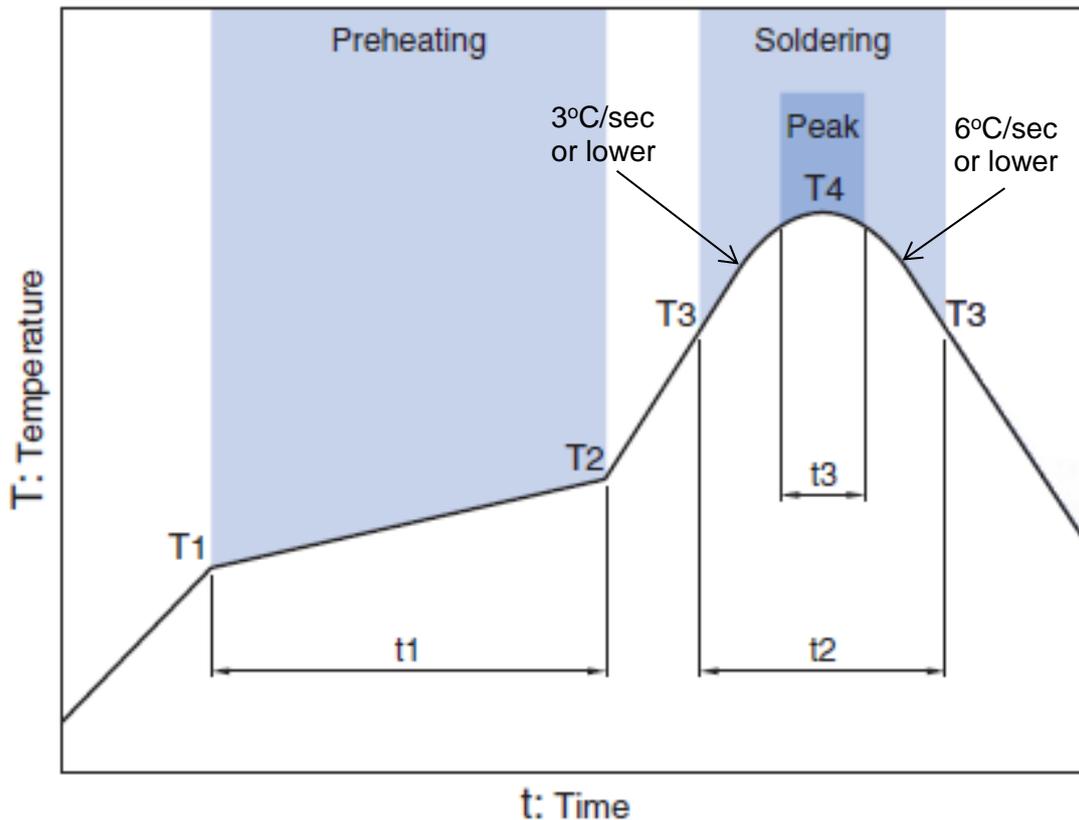


\* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

\*\* The position of the thru hole which have possibility of influence to the performance are indicated by dimension line.

### ENVIRONMENT INFORMATION

RoHS Statement  
 RoHS Compliance

**DEA161953BT-2303B1-H****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 |

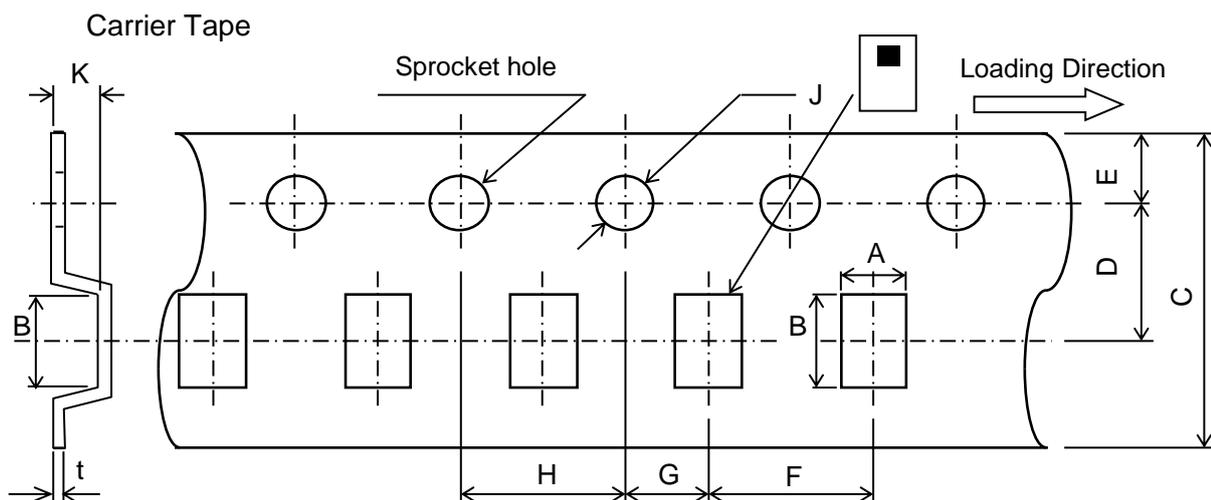
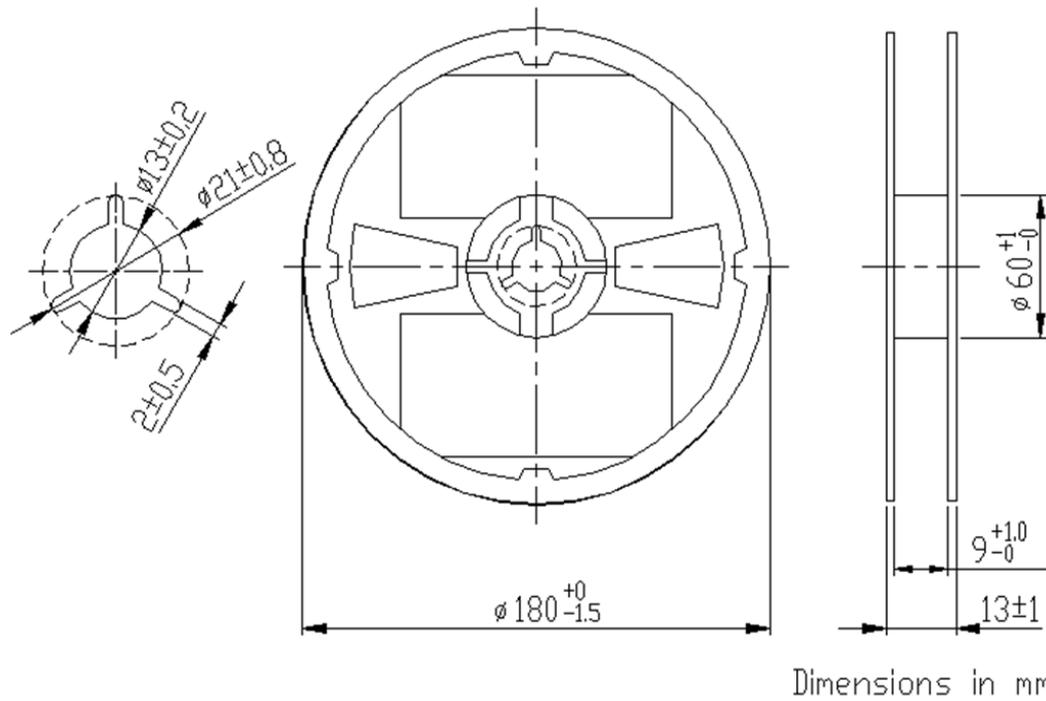
\* t3 : Time within 5°C of actual peak temperature

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)

**DEA161953BT-2303B1-H****PACKAGING STYLE**

## Reel Dimensions



## Dimensions (mm)

| A       | B       | C         | D       | E      | F      | G       | H      | J       | K   | t       |
|---------|---------|-----------|---------|--------|--------|---------|--------|---------|-----|---------|
| 0.97    | 1.8     | 8.0       | 3.5     | 1.75   | 4.0    | 2.0     | 4.0    | 1.5     | 1.0 | 0.25    |
| +/-0.05 | +/-0.05 | +0.3/-0.1 | +/-0.05 | +/-0.1 | +/-0.1 | +/-0.05 | +/-0.1 | +0.1/-0 | MAX | +/-0.05 |

**STANDARD PACKAGE QUANTITY**  
**( pieces/reel )**

4,000

All specifications are subject to change without notice.

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## 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.

|  |
|--|
|  <b>REMINDERS</b> |
|--|

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.