



# Multilayer Band Pass Filter (Balance Output Type)

For 2400–2500MHz

# DEA252450BT-7012D1

2.5x2.0mm [EIA 1008]\*

\* Dimensions Code JIS[EIA]

## Caution

**The products in this catalog will be or have been  
stopped production**

|                          |               |
|--------------------------|---------------|
| Discontinue Issue Date   | Jun. 3, 2022  |
| Last Purchase Order Date | Mar. 31, 2023 |
| Last Shipment Date       | Mar. 31, 2024 |

Please refer to our Web site about replacement information.

# Multilayer Band Pass Filter (Balance Output Type)

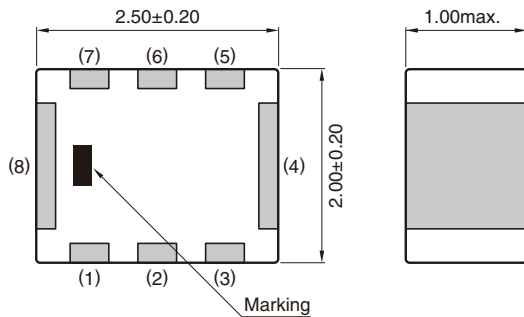
Conformity to RoHS Directive

For 2400–2500MHz

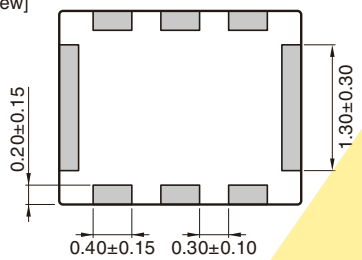
## DEA252450BT-7012D1

### SHAPES AND DIMENSIONS

[Top view]



[Bottom view]

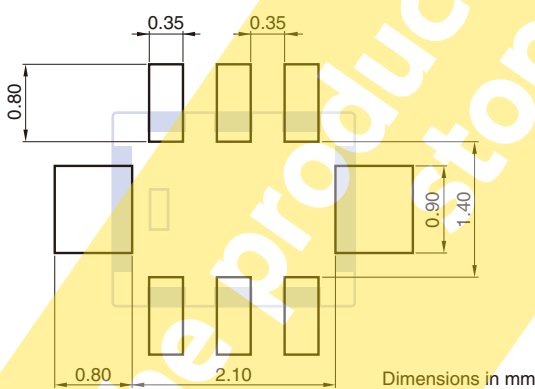


Terminal functions

|   |                 |
|---|-----------------|
| 1 | N.C.            |
| 2 | Unbalanced port |
| 3 | DC feed or N.C. |
| 4 | GND             |
| 5 | Balanced port   |
| 6 | N.C.            |
| 7 | Balanced port   |
| 8 | GND             |

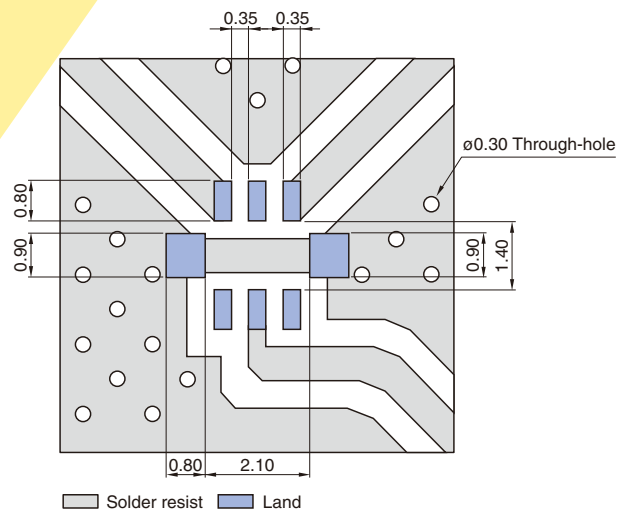
Dimensions in mm

### RECOMMENDED LAND PATTERN



Dimensions in mm

### EVALUATION BOARD



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

Dimensions in mm

RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>

- All specifications are subject to change without notice.
- Before using these products, be sure to request the delivery specifications.

## DEA252450BT-7012D1

### ELECTRICAL CHARACTERISTICS

| Item  | Frequency Range (MHz) | Min. | Typ.          | Max.               |
|---|-----------------------|------|---------------|--------------------|
| Unbalanced Port Characteristic Impedance ( $\Omega$ ) |                       |      | 50 (Nominal)  |                    |
| Balanced Port Characteristic Impedance ( $\Omega$ )   |                       |      | 100 (Nominal) |                    |
| Insertion Loss (dB)                                   | 2400 to 2500          | —    | 1.5           | 1.9                |
|   | 2400 to 2500          | —    | —             | 2.2 (–40 to +85°C) |
| Attenuation (dB)                                      | 880 to 960            | 40   | 50            | —                  |
|   | 1710 to 1910          | 32   | 42            | —                  |
|   | 4800 to 5000          | 30   | 40            | —                  |
| Return Loss at Unbalanced Port (dB)                   | 2400 to 2500          | 10   | 14            | —                  |
| Phase Balance (deg.)                                  | 2400 to 2500          | 168  | 188           | 192                |
| Amplitude Balance (dB)                                | 2400 to 2500          | –1   | 0             | 1                  |

· Ta: +25±5°C

### TEMPERATURE RANGE

| Operating temperature (°C) | Storage temperature (°C) |
|----------------------------|--------------------------|
| –40 to +85                 | –40 to +85               |

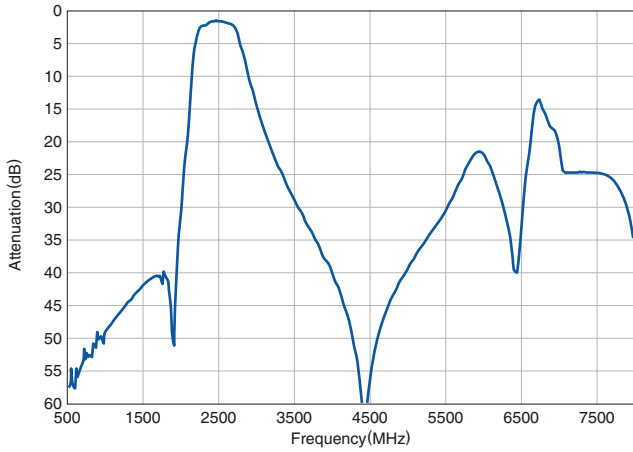
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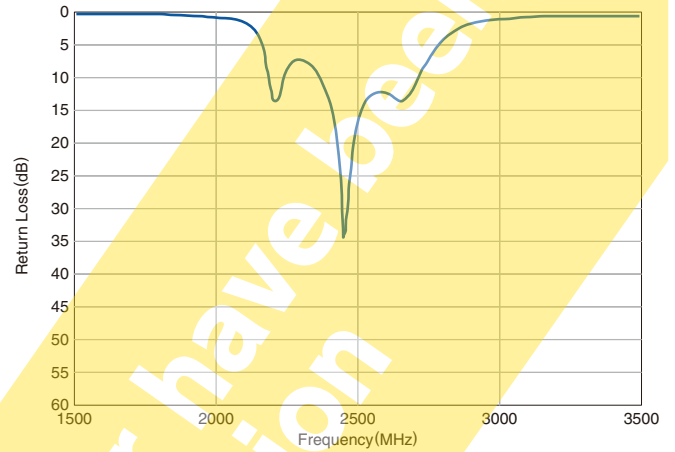
# DEA252450BT-7012D1

## FREQUENCY CHARACTERISTICS

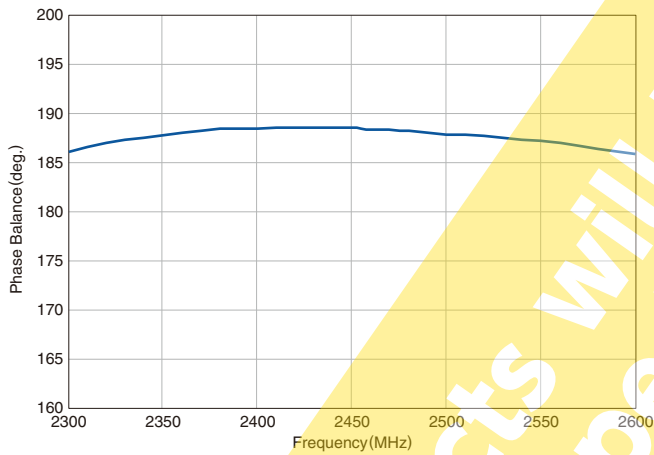
SDS21 ATTENUATION



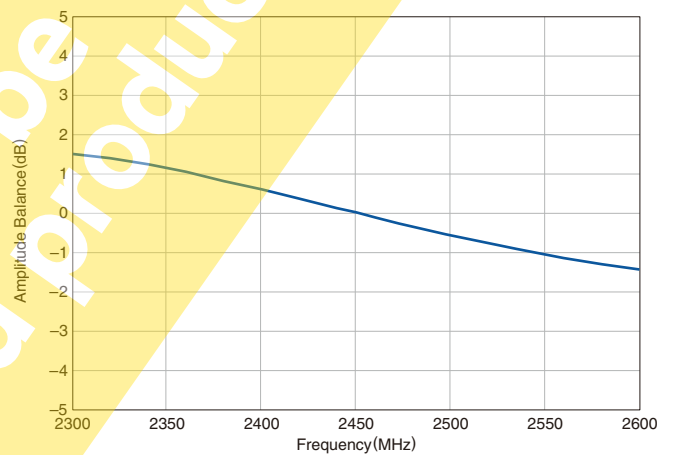
SSS11 RETURN LOSS at UNBALANCE PORT



PHASE BALANCE



AMPLITUDE BALANCE



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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 | 30sec max. |

\* t3 : Time within 5°C of actual peak temperature  
 The maximum number of reflow is 3.

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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.

#### REMINDERS

The products listed on this catalog 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 catalog.

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

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.