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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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June 2015

Multilayer Band Pass Filter (Balance Output Type)
For 2400-2500MHz

# DEA202450BT-7112B1

2.0x1.25mm [EIA 0805]\*

\* Dimensions Code JIS[EIA]

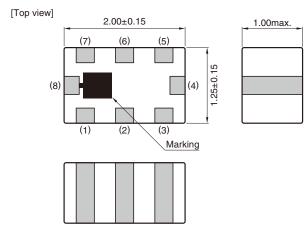


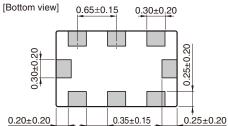
# Multilayer Band Pass Filter (Balance Output Type) For 2400-2500MHz

**Conformity to RoHS Directive** 

# DEA202450BT-7112B1

## SHAPES AND DIMENSIONS

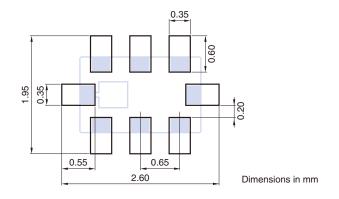




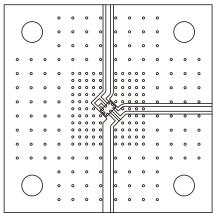
| Terminal functions         |                 |  |  |
|----------------------------|-----------------|--|--|
| 1                          | Unbalanced port |  |  |
| 2<br>3<br>4<br>5<br>6<br>7 | NC              |  |  |
| 3                          | NC              |  |  |
| 4                          | GND             |  |  |
| 5                          | Balanced port   |  |  |
| 6                          | GND             |  |  |
| 7                          | Balanced port   |  |  |
| 8                          | GND             |  |  |
|                            |                 |  |  |

Dimensions in mm

#### ■ RECOMMENDED LAND PATTERN



## **■ EVALUATION BOARD**



Port extension value is 139.56ps for all port.

Line width is designed to match  $50\Omega$  characteristic impedance depending on PCB material and thickness.

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

<sup>•</sup> All specifications are subject to change without notice.

<sup>•</sup> Before using these products, be sure to request the delivery specifications.



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## **ELECTRICAL CHARACTERISTICS**

| Item   | Frequency Range<br>(MHz) | Min. | Тур.             | Max.               |
|--|--------------------------|------|------------------|--------------------|
| Unbalanced Port Characteristic Impedance (Ω) |                          |      | 50 (Nominal)     |                    |
| Balanced Port Characteristic Impedance (Ω)   |                          |      | 50+j40 (Nominal) |                    |
| Insertion Loss (dB)                          | 2400 to 2500             | _    | _                | 2.5                |
| Insertion Loss (db)                          | 2400 to 2500             | _    | _                | 2.8 (-40 to +85°C) |
|  | 10 to 915                | 41   | _                | _                  |
|  | 925 to 960               | 34   | _                | _                  |
|  | 1570 to 1580             | 30   | _                | _                  |
|  | 1710 to 1785             | 40   | _                | _                  |
| Attenuation (dB)                             | 1805 to 1880             | 26   | _                | _                  |
|  | 1850 to 1910             | 40   | _                | _                  |
|  | 1920 to 1990             | 31   | _                | _                  |
|  | 4800 to 5000             | 25   | _                | _                  |
|  | 7200 to 7500             | 20   | _                | _                  |
| Return Loss at Unbalanced Port (dB)          | 2400 to 2500             | 9    | _                | _                  |
| Return Loss at Balanced Port (dB)            | 2400 to 2500             | 9    | _                | _                  |
| Phase Balance (deg.)                         | 2400 to 2500             | 170  | _                | 190                |
| Amplitude Balance (dB)                       | 2400 to 2500             | -2   | _                | 2                  |
| Common mode attenuation (dB)                 | 88 to 108                | 15   | _                | _                  |
| Common mode attenuation (db)                 | 4800 to 5000             | 18   | _                | _                  |
| Common mode impecdance                       | Magnitude                | 0.6  | _                | _                  |
| [4900MHz]                                    | Angle (deg.)             | -45  | _                | 12                 |

<sup>•</sup> Ta: +25±5°C

## **■TEMPERATURE RANGE**

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

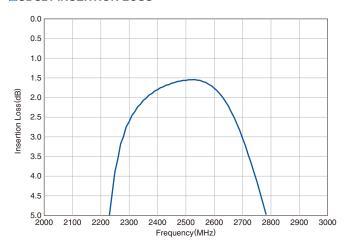
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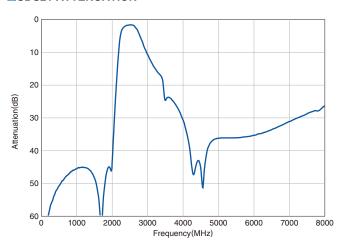
# DEA202450BT-7112B1

## FREQUENCY CHARACTERISTICS

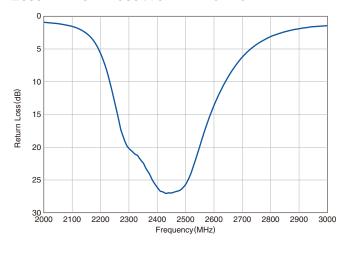
#### **□SDS21 INSERTION LOSS**



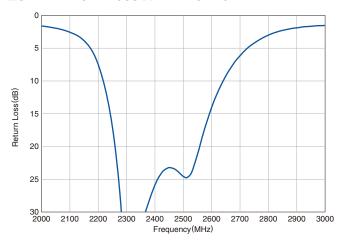
#### **□SDS21 ATTENUATION**



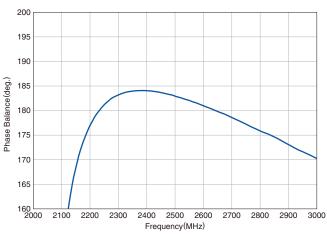
#### **SSS11 RETURN LOSS at UNBALANCE PORT**



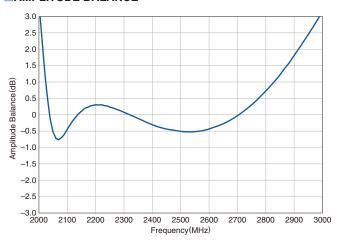
#### **□SDD22 RETURN LOSS at BALANCE PORT**



## □PHASE BALANCE



#### □AMPLITUDE BALANCE



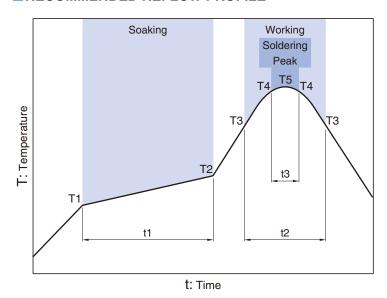
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## ■ RECOMMENDED REFLOW PROFILE



| Soaking |       |            | Working |               | Soldering Peak |            |            |
|---------|-------|------------|---------|---------------|----------------|------------|------------|
| Temp.   |       | Time       | Temp.   | Time          | Temp.          | Time       | Temp.      |
| T1      | T2    | t1         | Т3      | t2            | T4             | t3         | T5         |
| 150°C   | 180°C | 60 to 120s | 230°C   | more than 30s | 247 to 253°C   | within 10s | 260°C max. |

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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
- (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.

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