TDK

June 2015

Multilayer Band Pass Filter (Balance Output Type)

For 2402–2480MHz

DEA202450BT-7099A1

2.0x1.25mm [EIA 0805]*

* 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)

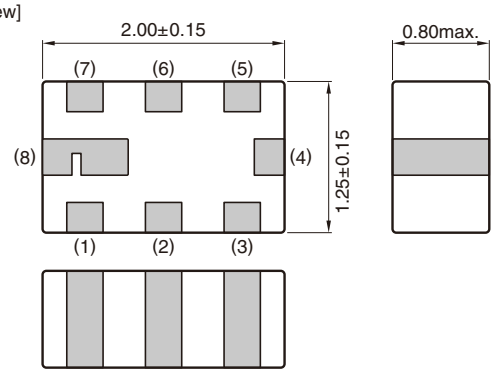
Conformity to RoHS Directive

For 2402–2480MHz

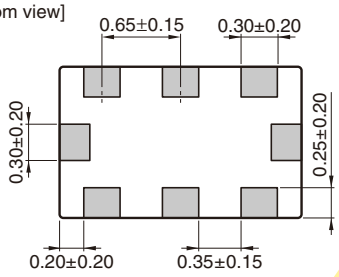
DEA202450BT-7099A1

SHAPES AND DIMENSIONS

[Top view]



[Bottom view]

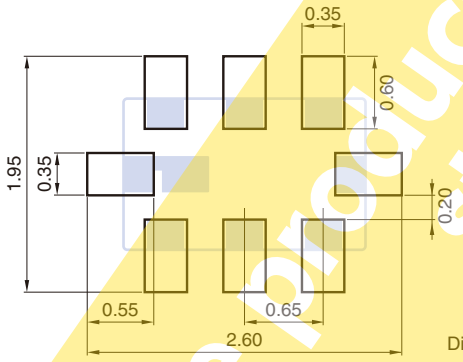


Terminal functions

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

Dimensions in mm

RECOMMENDED LAND PATTERN

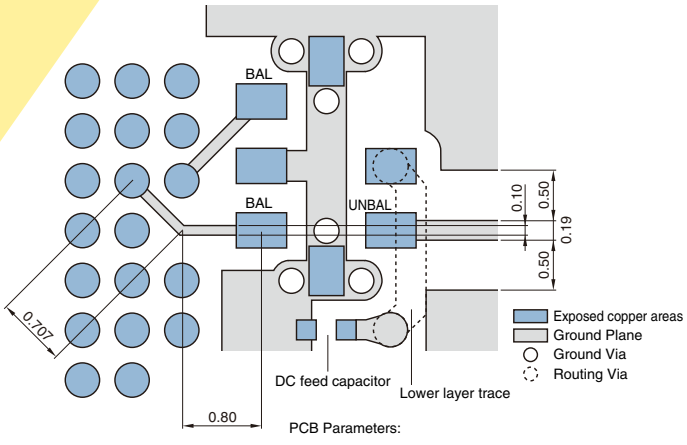


Dimensions in mm

Note1: Pin 2 of the filter provides a DC feed connection to the balanced ports. In the event that thisfunction is used, Pin 2 should be connected to ground using a de-coupling capacitor.

Note2: In the event that the pin 2 function is not used, the pin should be left unconnected.

EVALUATION BOARD



PCB Parameters:

Material: FR4
Top metal to GND layer height: 0.1mm
DC feed cap value: 15pF

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/

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ELECTRICAL CHARACTERISTICS

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Unbalanced Port Characteristic Impedance (Ω)			50 (Nominal)	
Balanced Port Characteristic Impedance (Ω)			Matched to CSR BC04 IC	
Insertion Loss (dB)	2402 to 2480	—	—	3
Attenuation (dB)	880 to 960	35	—	—
	1710 to 1880	22	—	—
	1880 to 1910	20	—	—
	4804 to 4960	18	—	—
Return Loss at Unbalanced Port (dB)	2402 to 2480	8.5	—	—
Return Loss at Balanced Port (dB)	2402 to 2480	8.5	—	—
Phase Balance (deg.)	2402 to 2480	170	—	190
Amplitude Balance (dB)	2402 to 2480	–2	—	2

・Ta: +25±5°C

TEMPERATURE RANGE

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

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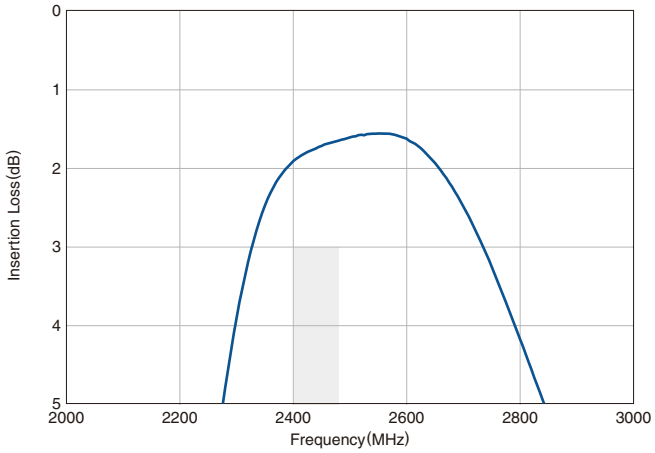
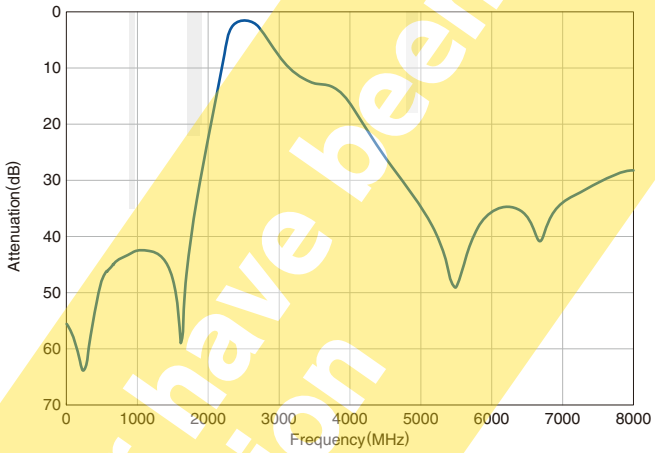
FREQUENCY CHARACTERISTICS

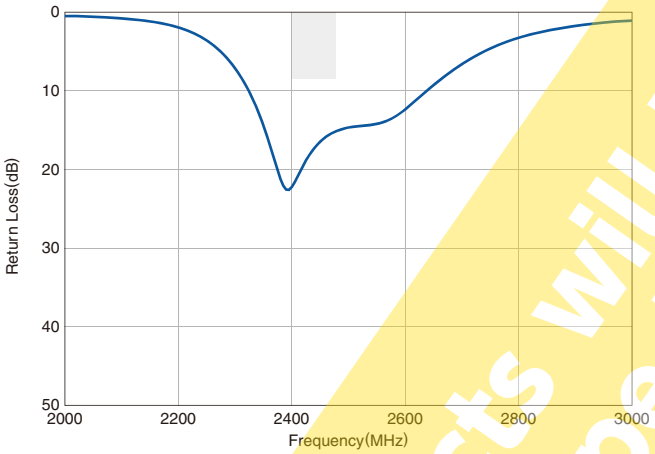
SDS21 INSERTION LOSS



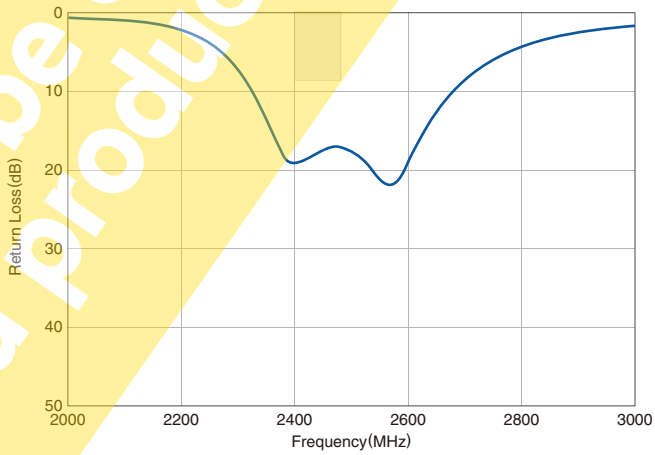
SDS21 ATTENUATION



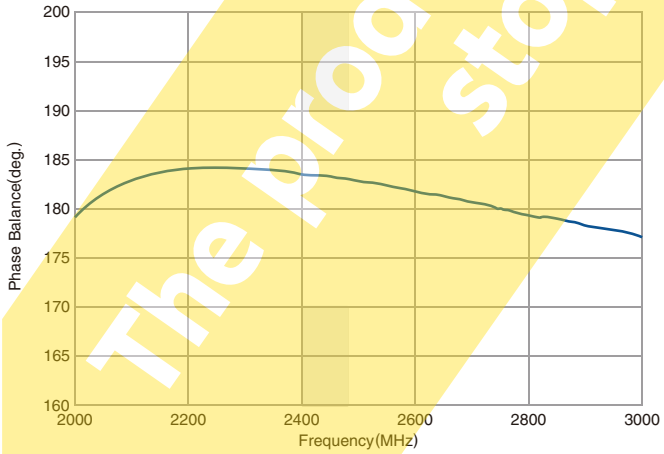
SSS11 RETURN LOSS at UNBALANCE PORT



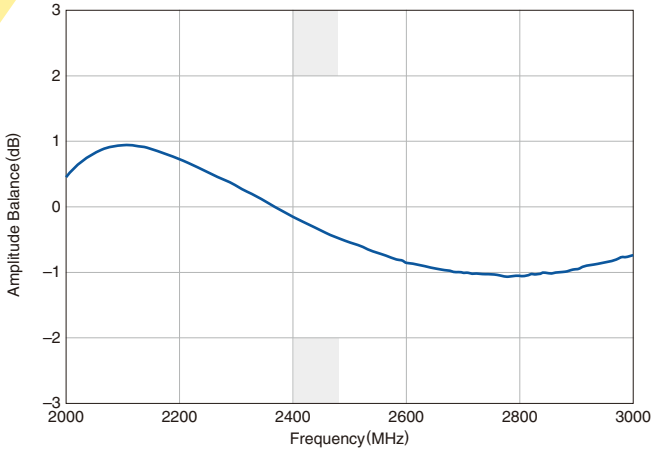
SDD22 RETURN LOSS at BALANCE PORT



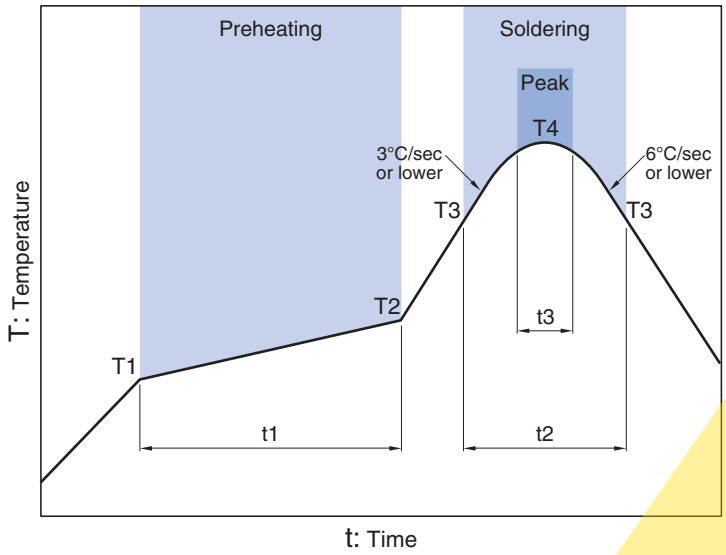
PHASE BALANCE



AMPLITUDE BALANCE



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.

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.