TDK

July 2015

Thin-film Diplexer

For 2400-2496MHz / 4900-5950MHz

TFSD10055950-5102A2

1.0x0.5mm [EIA 0402]*

*** Dimensions Code JIS[EIA]**

Thin-film Diplexer

Conformity to RoHS Directive

For 2400-2496MHz / 4900-5950MHz

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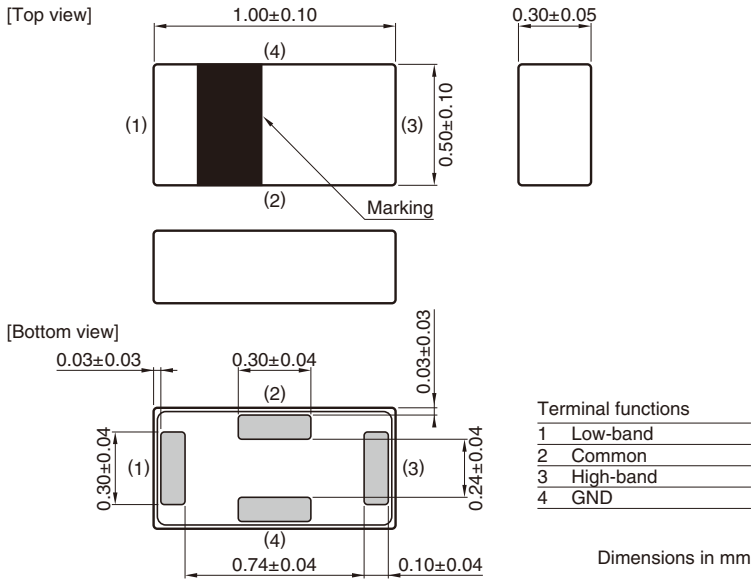
SHAPES AND DIMENSIONS

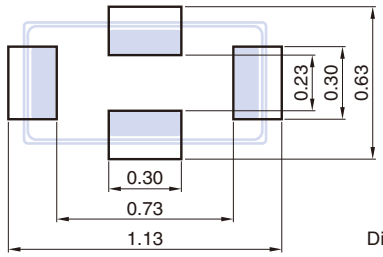


Terminal functions

1	Low-band
2	Common
3	High-band
4	GND

Dimensions in mm

RECOMMENDED LAND PATTERN



Dimensions in mm

The recommended distance to the PCB ground plane is 0.2mm.
Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

○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.

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■ELECTRICAL CHARACTERISTICS

□LOW-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2496	—	0.35	0.50
	2400 to 2496	—	—	0.65 (–40 to +85°C)
Return Loss (dB)	2400 to 2500	10	18.0	—
Attenuation (dB)	4900 to 5950	20	24.6	—
	7200 to 7488	20	27.3	—
Characteristic Impedance (Ω)			50 (Nominal)	

・Ta: +25°C

□HIGH-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	4900 to 5950	—	0.74	1.20
	4900 to 5950	—	—	1.40 (–40 to +85°C)
Return Loss (dB)	4900 to 5950	10	14.8	—
Attenuation (dB)	500 to 2700	26	30.8	—
	9800 to 11900	15	20.5	—
Characteristic Impedance (Ω)			50 (Nominal)	

・Ta: +25°C

□COMMON

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Isolation (dB)	500 to 2700	26	30.8	—
	4900 to 5950	20	24.2	—
Return Loss (dB)	2400 to 2500	10	21.2	—
	4900 to 5950	10	15.2	—
Characteristic Impedance (Ω)			50 (Nominal)	

・Ta: +25±5°C

■TEMPERATURE RANGE

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

■MSL

Moisture Sensitivity Level (MSL)
1

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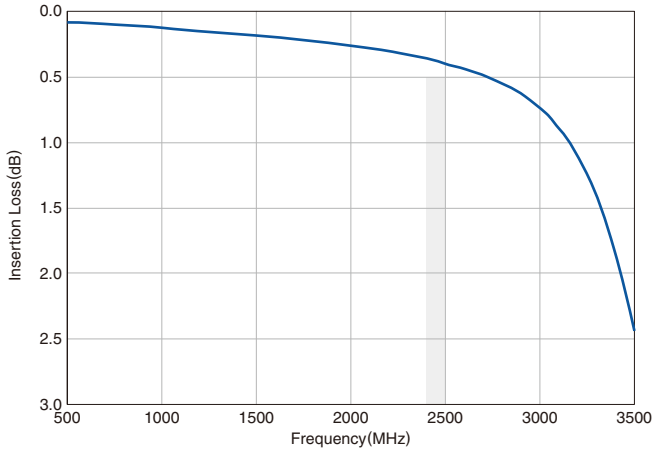
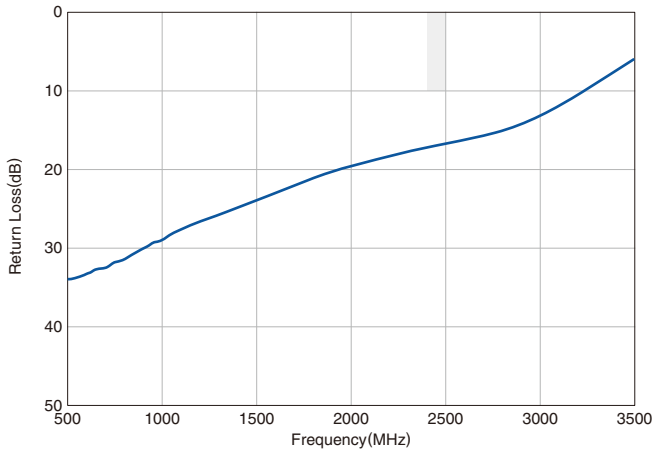
FREQUENCY CHARACTERISTICS

□LOW-BAND

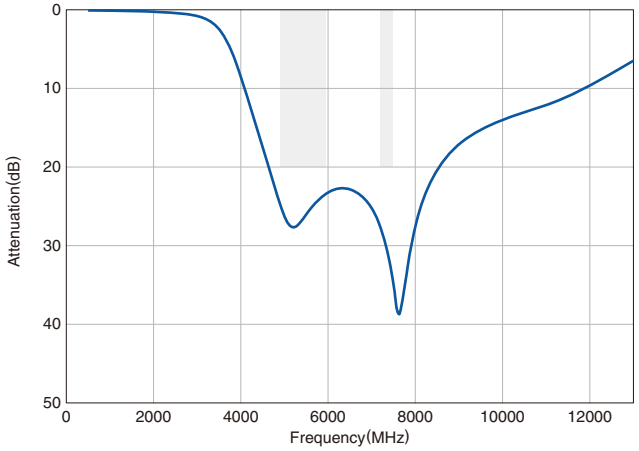
Insertion Loss



Return Loss

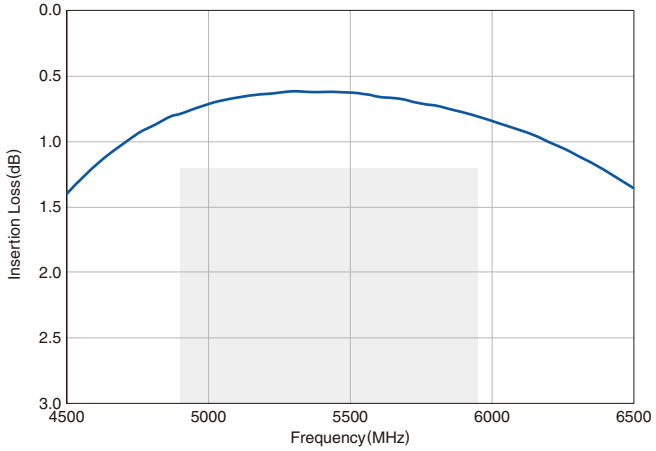


Attenuation

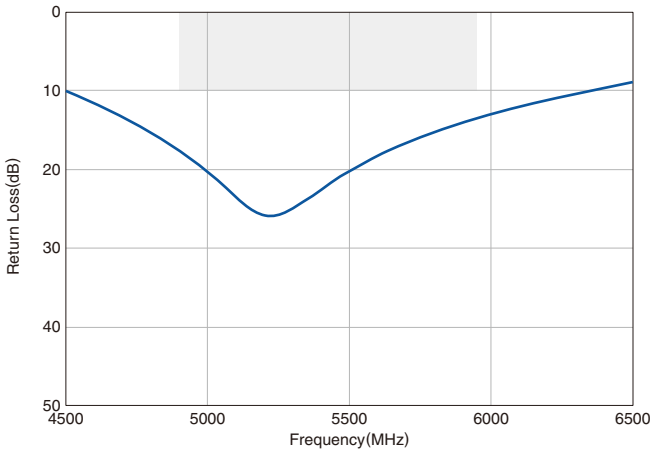


□HIGH-BAND

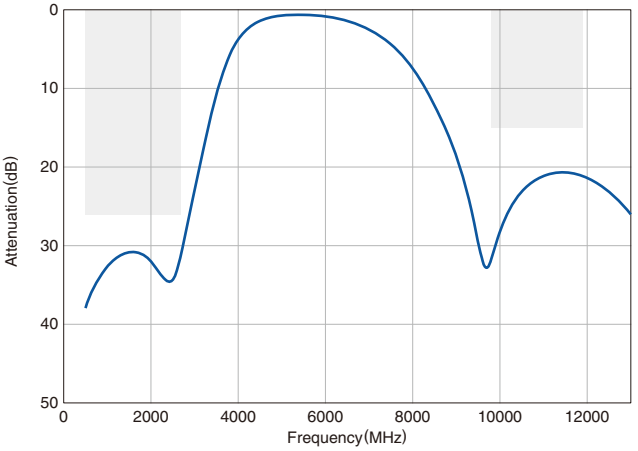
Insertion Loss



Return Loss



Attenuation



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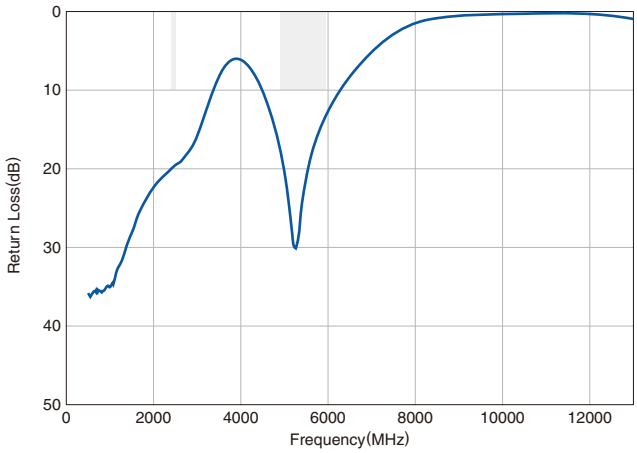
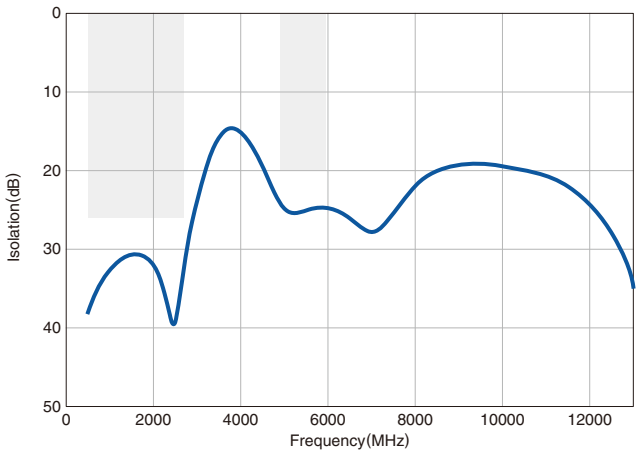
FREQUENCY CHARACTERISTICS

COMMON

Return Loss



Isolation



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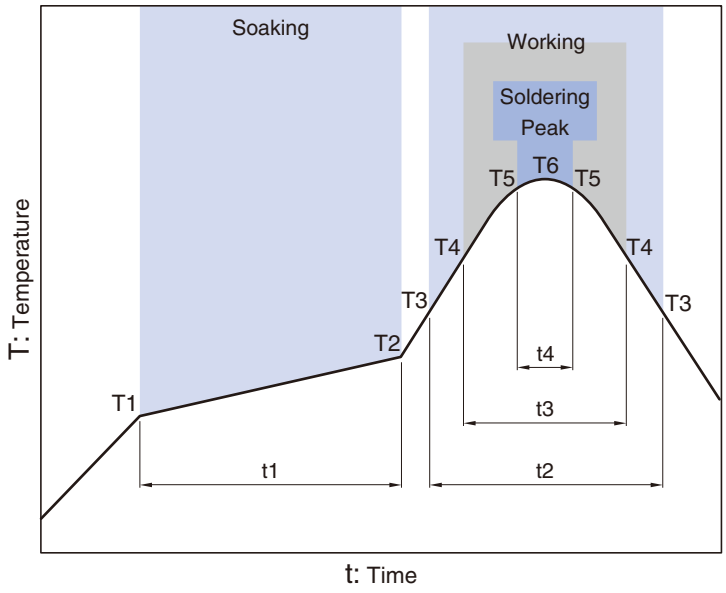
RECOMMENDED REFLOW PROFILE



Soaking			Working				Soldering		Peak
Temp.		Time	Temp.	Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5	t4	T6
150°C	180°C	60 to 120s	217°C	60 to 150s	230°C	more than 45s	247 to 253°C	within 10s	260°C max.

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.