



# Multilayer Diplexer

For 800-2170MHz / 2400-5850MHz

# DPX205850DT-4054B1

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**2.0x1.25mm [EIA 0805]\***

\* Dimensions Code JIS[EIA]

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# Multilayer Diplexer

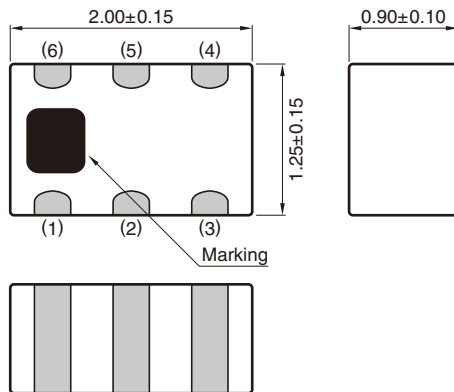
Conformity to RoHS Directive

For 800-2170MHz / 2400-5850MHz

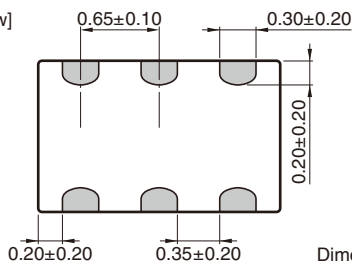
## DPX205850DT-4054B1

### SHAPES AND DIMENSIONS

[Top view]



[Bottom view]

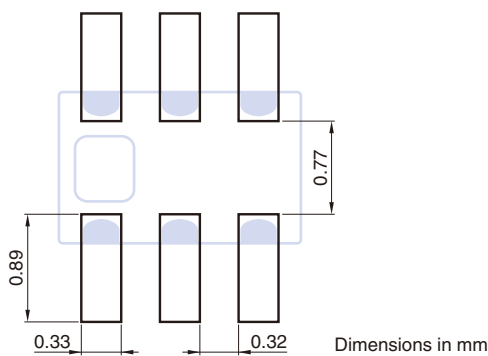


Terminal functions

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

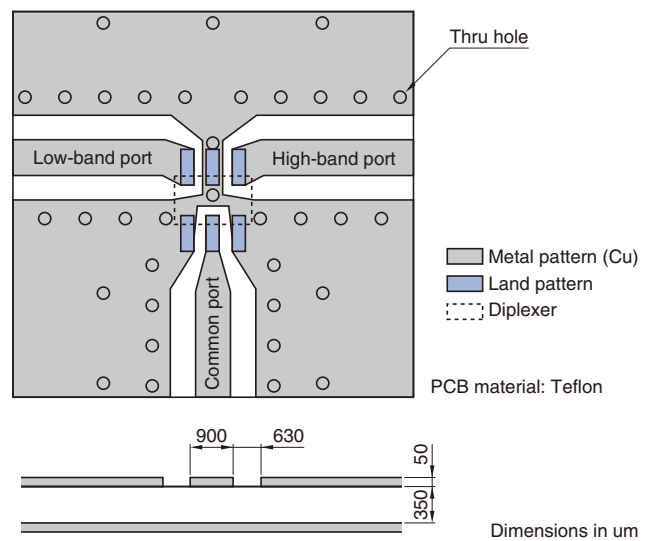
Dimensions in mm

### RECOMMENDED LAND PATTERN



Dimensions in mm

### EVALUATION BOARD



PCB material: Teflon

Dimensions in um

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)	800 to 960	—	0.23	0.50
	1710 to 1990	—	0.53	0.80
	1990 to 2170	—	0.98	1.30
	800 to 960	—	—	0.60 (−40 to +85°C)
	1710 to 1990	—	—	1.00 (−40 to +85°C)
	1990 to 2170	—	—	1.55 (−40 to +85°C)
Return Loss (dB)	800 to 960	10	16	—
	1710 to 2170	10	17	—
Attenuation (dB)	2400 to 2500	10	15	—
	5150 to 5850	25	36	—
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

### HIGH-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	—	1.27	1.70
	5150 to 5850	—	0.27	0.50
	2400 to 2500	—	—	2.00 (−40 to +85°C)
	5150 to 5850	—	—	0.60 (−40 to +85°C)
Return Loss (dB)	2400 to 2500	10	23	—
	5150 to 5850	10	14	—
Attenuation (dB)	800 to 960	18	24	—
	1710 to 2170	12	15	—
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

### COMMON

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Isolation (dB)	800 to 960	18	23	—
	1710 to 2170	12	15	—
	2400 to 2500	10	17	—
	5150 to 5850	25	35	—
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

## TEMPERATURE RANGE

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

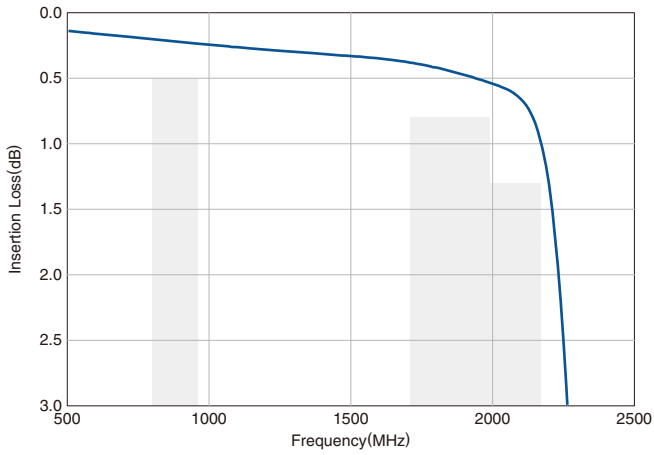
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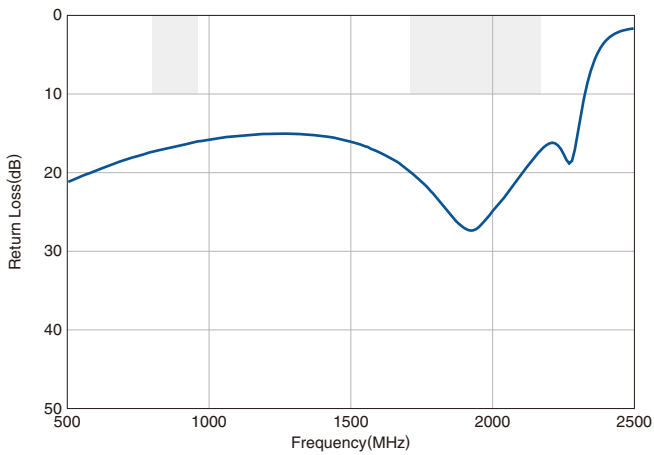
## FREQUENCY CHARACTERISTICS

### LOW-BAND

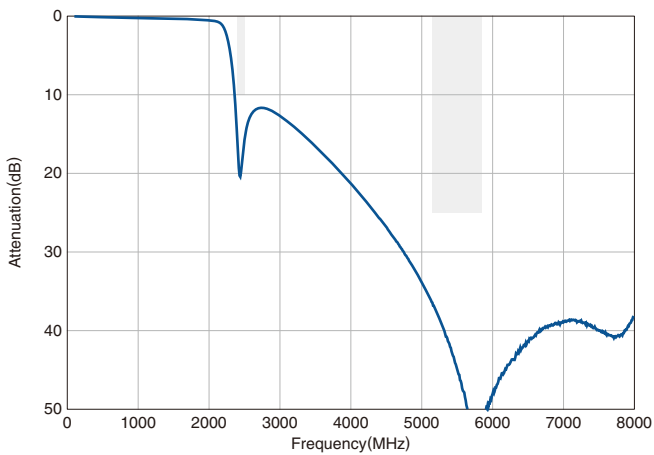
#### Insertion Loss



#### Return Loss

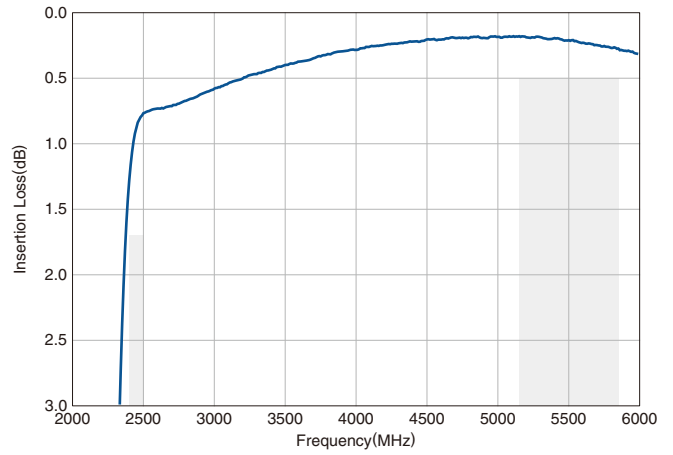


#### Attenuation

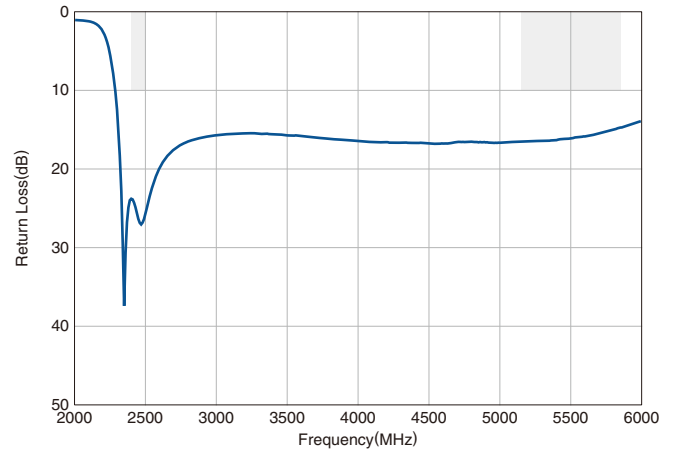


### HIGH-BAND

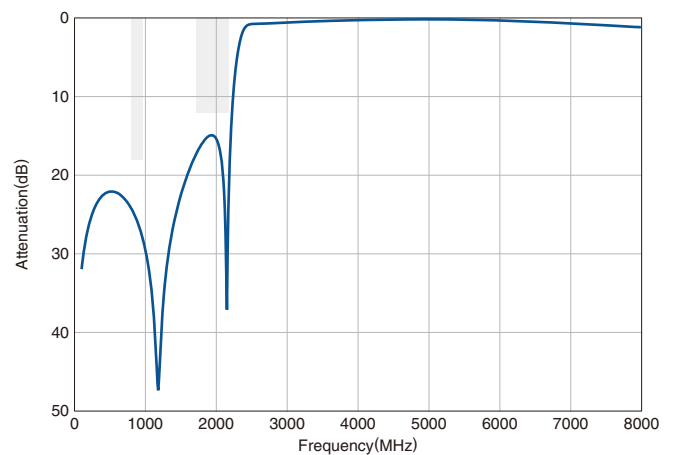
#### Insertion Loss



#### Return Loss



#### Attenuation



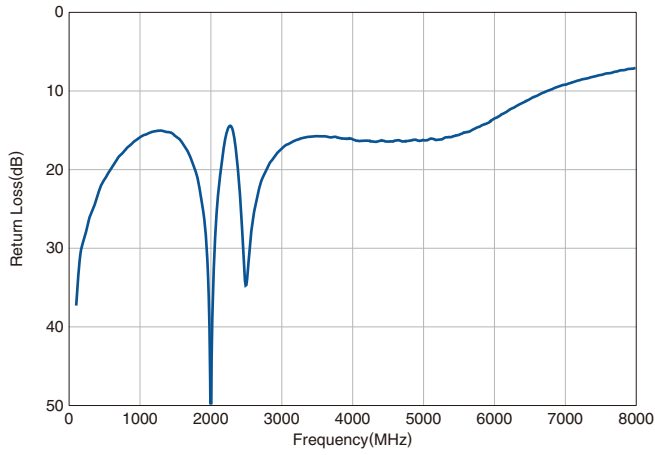
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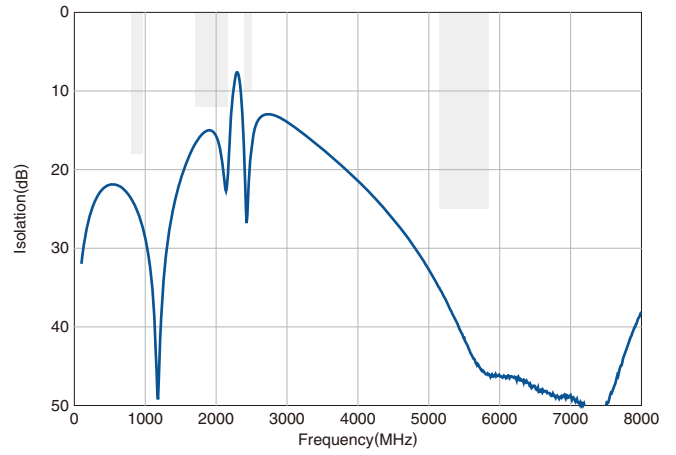
## FREQUENCY CHARACTERISTICS

COMMON

Return Loss



Isolation



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## RECOMMENDED REFLOW PROFILE



Soaking			Working		Soldering Peak		
Temp.	Temp.	Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	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                                  | (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.