TDK

July 2015

# Multilayer Diplexer

For 698-1616MHz / 1920-2700MHz

# DPX202700DT-4035B5

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

*** Dimensions Code JIS[EIA]**

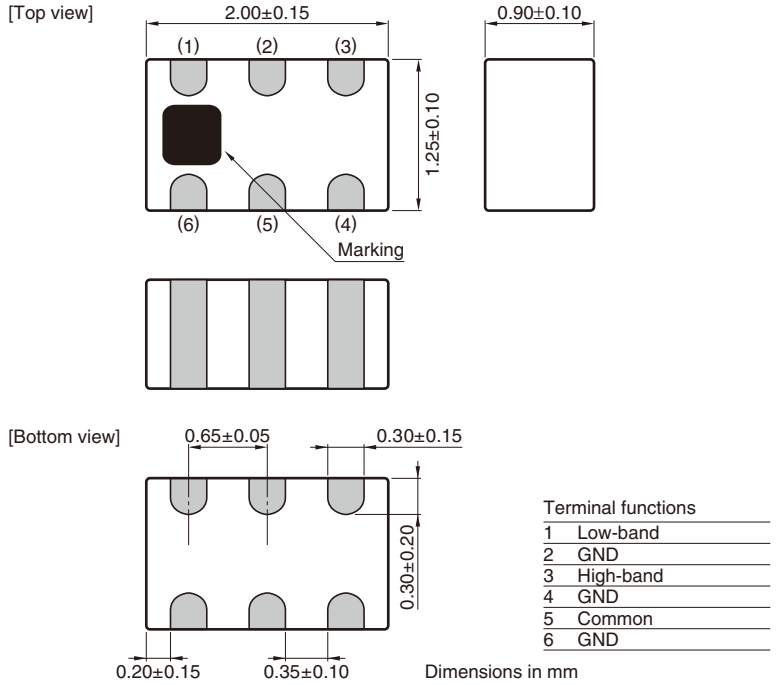
# Multilayer Diplexer

**Conformity to RoHS Directive**

## For 698-1616MHz / 1920-2700MHz

# DPX202700DT-4035B5

## SHAPES AND DIMENSIONS

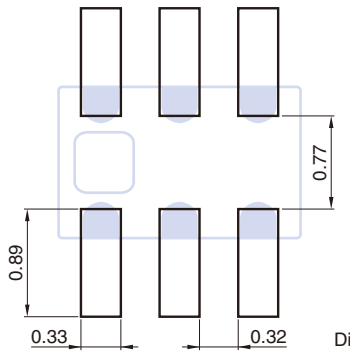



Terminal functions

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

Dimensions in mm

## RECOMMENDED LAND PATTERN




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/

# DPX202700DT-4035B5

## ■ELECTRICAL CHARACTERISTICS

### □LOW-BAND

| Item | Frequency Range (MHz) | Min. | Typ. | Max. |
|---|---|---|---|---|
| Insertion Loss (dB) | 698 to 960 | — | 0.31 | 0.50 |
| | 960 to 1572 | — | 0.57 | 0.85 |
| | 1572 to 1578 | — | 0.57 | 0.85 |
| | 1605 to 1616 | — | 0.75 | 1.10 |
| | 698 to 960 | — | — | 0.60 (–40 to +85°C) |
| | 960 to 1572 | — | — | 1.05 (–40 to +85°C) |
| | 1572 to 1578 | — | — | 1.05 (–40 to +85°C) |
| | 1605 to 1616 | — | — | 1.30 (–40 to +85°C) |
| Return Loss (dB) | 698 to 960 | 9.54 | 40.1 | — |
| | 960 to 1572 | 9.54 | 25.7 | — |
| | 1572 to 1578 | 9.54 | 24.3 | — |
| | 1605 to 1616 | 9.54 | 23.1 | — |
| Attenuation (dB) | 1920 to 1990 | 13 | 22 | — |
| | 2010 to 2025 | 10 | 16 | — |
| | 2110 to 2170 | 10 | 15 | — |
| | 2300 to 2700 | 10 | 14 | — |
| Characteristic Impedance (Ω) | | | 50 (Nominal) | |

・Ta: +25±5°C

### □HIGH-BAND

| Item | Frequency Range (MHz) | Min. | Typ. | Max. |
|---|---|---|---|---|
| Insertion Loss (dB) | 1920 to 1990 | — | 0.74 | 1.10 |
| | 2010 to 2025 | — | 0.54 | 0.80 |
| | 2110 to 2170 | — | 0.52 | 0.80 |
| | 2300 to 2700 | — | 0.53 | 0.80 |
| | 1920 to 1990 | — | — | 1.30 (–40 to +85°C) |
| | 2010 to 2025 | — | — | 1.00 (–40 to +85°C) |
| | 2110 to 2170 | — | — | 1.00 (–40 to +85°C) |
| | 2300 to 2700 | — | — | 1.00 (–40 to +85°C) |
| Return Loss (dB) | 1920 to 1990 | 9.54 | 18.0 | — |
| | 2010 to 2025 | 9.54 | 16.8 | — |
| | 2110 to 2170 | 9.54 | 14.1 | — |
| | 2300 to 2700 | 8.52 | 11.5 | — |
| Attenuation (dB) | 698 to 960 | 10 | 14 | — |
| | 960 to 1572 | 10 | 14 | — |
| | 1572 to 1578 | 18 | 30 | — |
| | 1605 to 1616 | 13 | 25 | — |
| Characteristic Impedance (Ω) | | | 50 (Nominal) | |

・Ta: +25±5°C

## ■TEMPERATURE RANGE

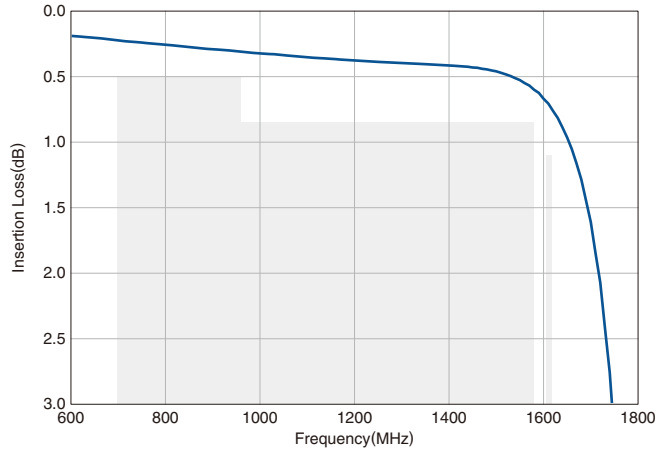
| Operating temperature (°C) | Storage temperature (°C) |
|---|---|
| –40 to +85 | –40 to +85 |

# DPX202700DT-4035B5

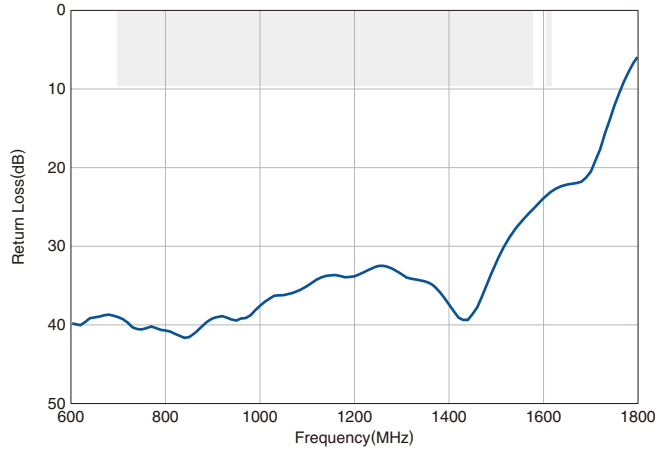
## FREQUENCY CHARACTERISTICS

### LOW-BAND

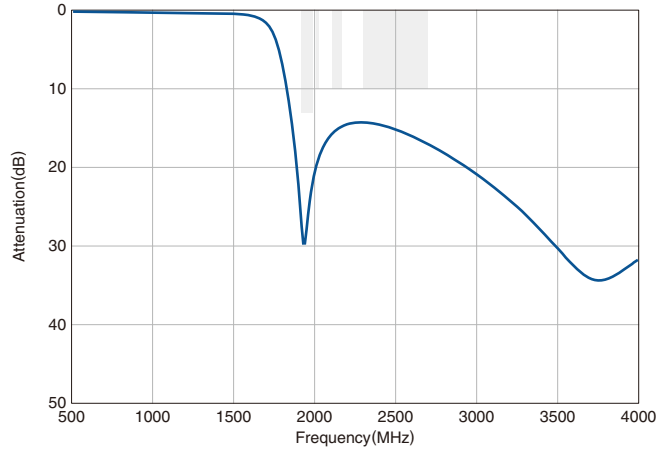
**Insertion Loss**




**Return Loss**

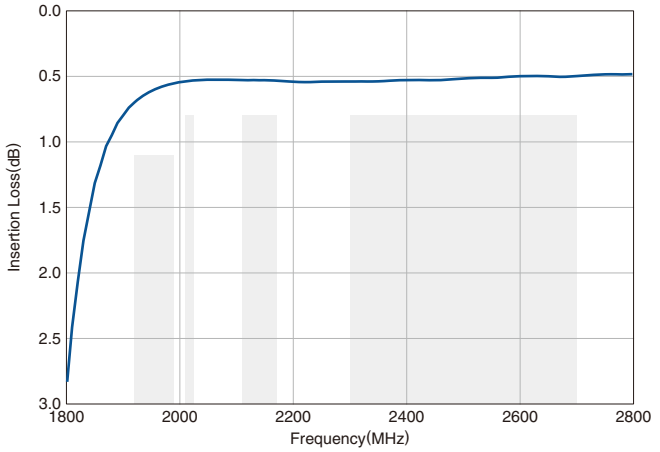



**Attenuation**

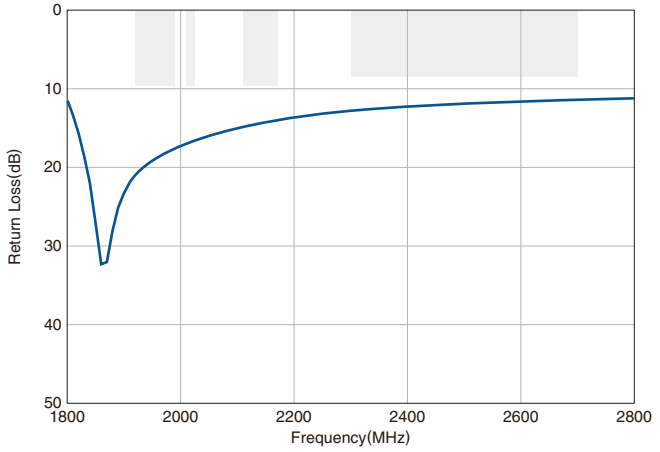



### HIGH-BAND

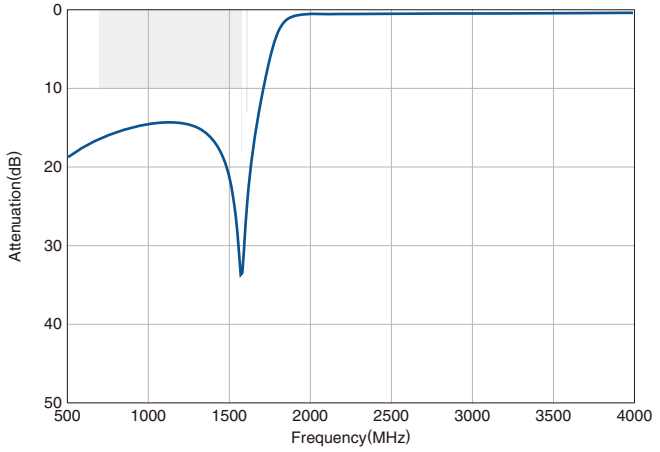
**Insertion Loss**




**Return Loss**




**Attenuation**

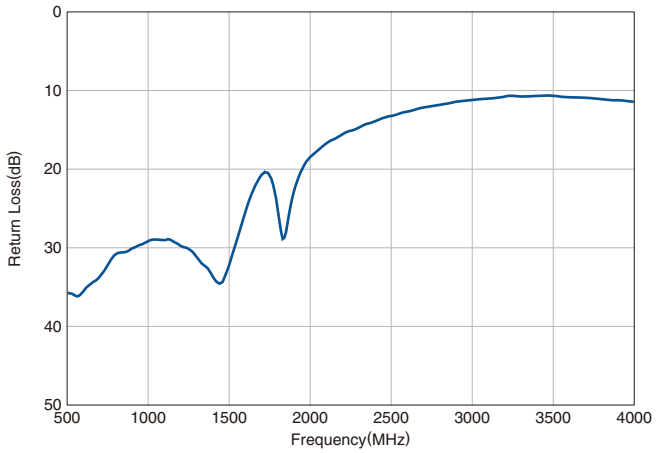


# DPX202700DT-4035B5

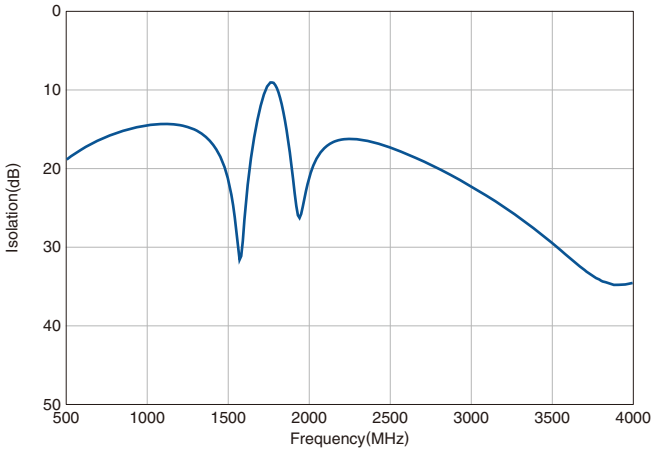
## FREQUENCY CHARACTERISTICS

### COMMON

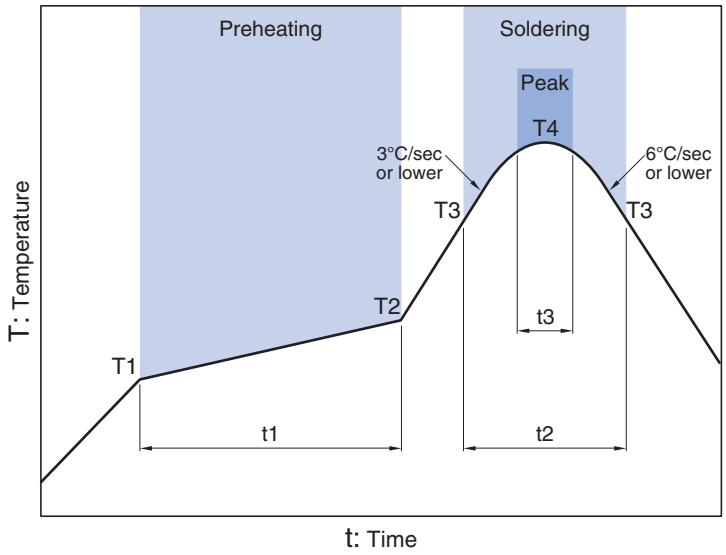
**Return Loss**




**Isolation**



## 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.