



# Multilayer Triplexer

For 1559-1606MHz / 2400-2500MHz / 4900-5950MHz

# TPX205950MT-7036A1

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

\* Dimensions Code JIS[EIA]

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# Multilayer Triplexer

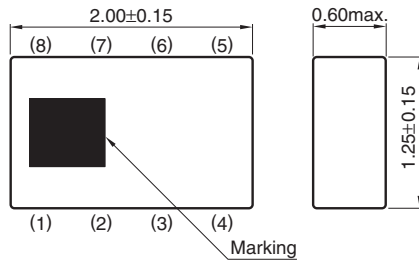
Conformity to RoHS Directive

For 1559-1606MHz / 2400-2500MHz / 4900-5950MHz

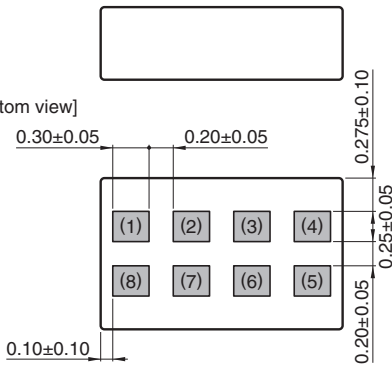
## TPX205950MT-7036A1

### SHAPES AND DIMENSIONS

[Top view]



[Bottom view]

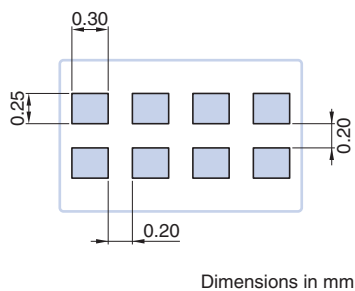


Terminal functions

1	GND
2	Common Port
3	GND
4	Low-Band Port
5	GND
6	Middle-Band Port
7	GND
8	High-Band Port

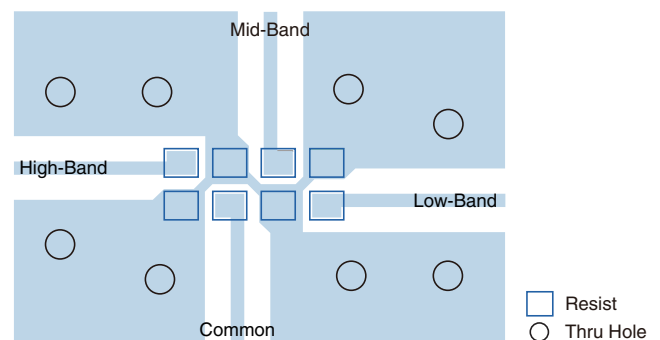
Dimensions in mm

### RECOMMENDED LAND PATTERN



Dimensions in mm

### EVALUATION BOARD



Material, Layer	Thickness
Top resist	Resist
Copper surface pattern	0.035mm
FR4	0.100mm
Copper inner GND	0.018mm
FR4	0.300mm
Copper bottom GND	0.035mm

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. <https://product.tdk.com/info/en/environment/rohs/index.html>

- 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)	1559 to 1606	—	0.58	0.70
	1559 to 1606	—	—	0.90 (−40 to +85°C)
Return Loss (dB)	1559 to 1606	10	22	—
Attenuation (dB)	2400 to 2500	19	23	—
	4900 to 5950	28	32	—
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

### MIDDLE-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	—	1.09	1.25
	2400 to 2500	—	—	1.45 (−40 to +85°C)
Return Loss (dB)	2400 to 2500	10	16	—
Attenuation (dB)	1560 to 1606	25	28	—
	4800 to 5000	25	29	—
	7200 to 7500	15	25	—
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

### HIGH-BAND

Item	Frequency Range (MHz)	Min.	Typ.	Max.
Insertion Loss (dB)	4900 to 5100	—	1.03	1.50
	5150 to 5950	—	1.14	1.50
	4900 to 5100	—	—	1.70 (−40 to +85°C)
	5150 to 5950	—	—	1.70 (−40 to +85°C)
Return Loss (dB)	4900 to 5100	10	15	—
	5150 to 5950	9	13	—
Attenuation (dB)	1560 to 1606	25	44	—
	3400 to 3600	30	44	—
	3600 to 3800	30	42	—
	6900 to 7200	10	15	—
	7200 to 7800	13	15	—
	10300 to 11700	21	24	—
15300 to 16200	15	25	—	
Characteristic Impedance (Ω)			50 (Nominal)	

· Ta: +25±5°C

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## ELECTRICAL CHARACTERISTICS

### COMMON

Item	Frequency Range (MHz)	Min.	Typ.	Max.	
Isolation (dB)	Low to Middle	1560 to 1606	25	31	—
		2400 to 2500	19	27	—
	Middle to High	2400 to 2500	30	35	—
		4900 to 5950	20	27	—
	Low to High	1560 to 1606	25	43	—
		4900 to 5950	28	35	—
Power Handling (W)		—	—	0.5	
Characteristic Impedance ( $\Omega$ )			50 (Nominal)		

· Ta: +25±5°C

## TEMPERATURE RANGE

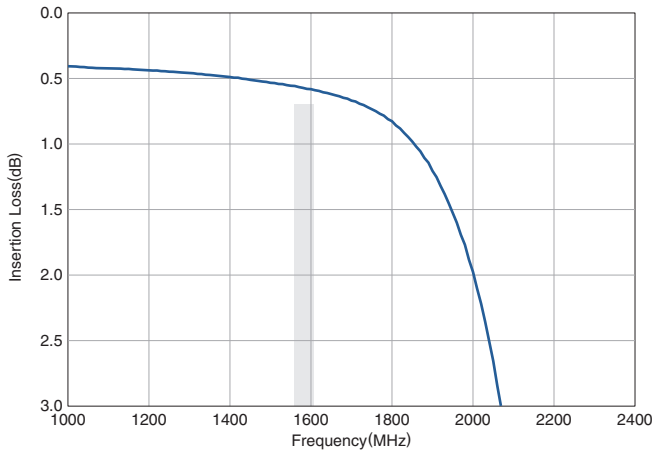
Operating temperature (°C)	Storage temperature (°C)
-40 to +85	-40 to +85

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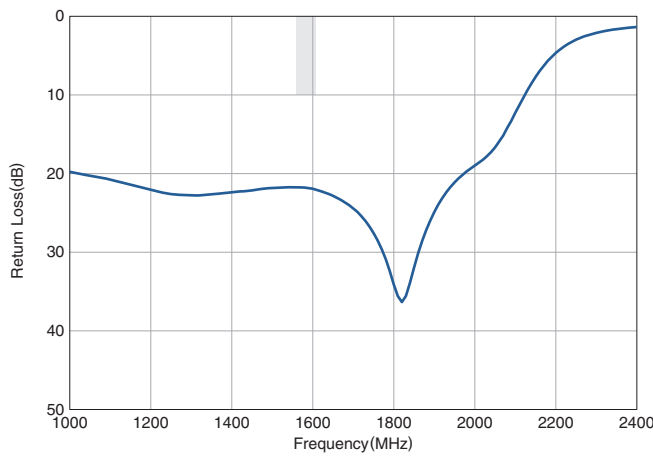
## FREQUENCY CHARACTERISTICS

### LOW-BAND

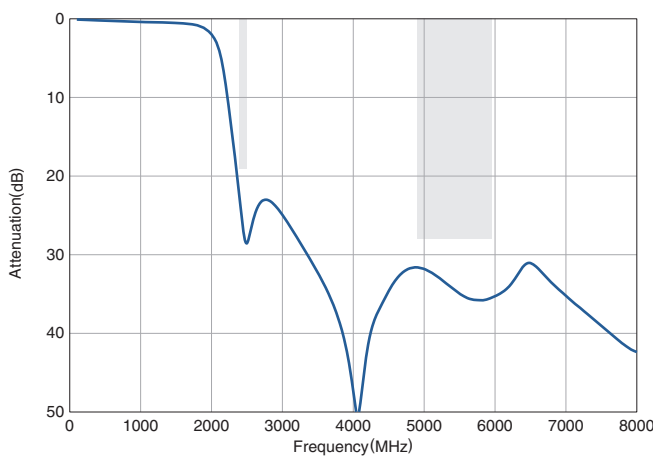
#### Insertion Loss



#### Return Loss

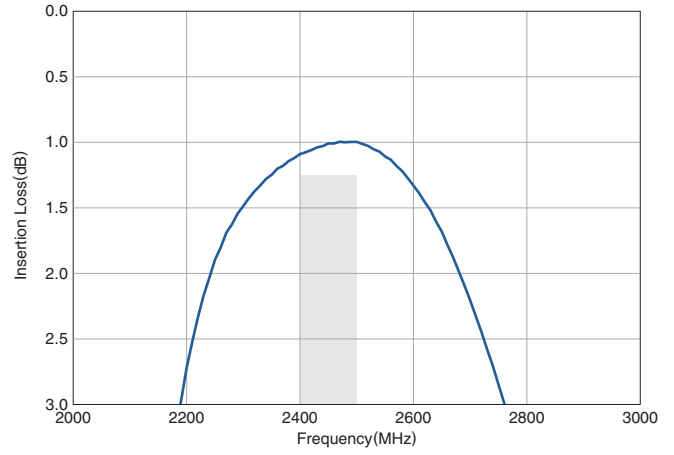


#### Attenuation

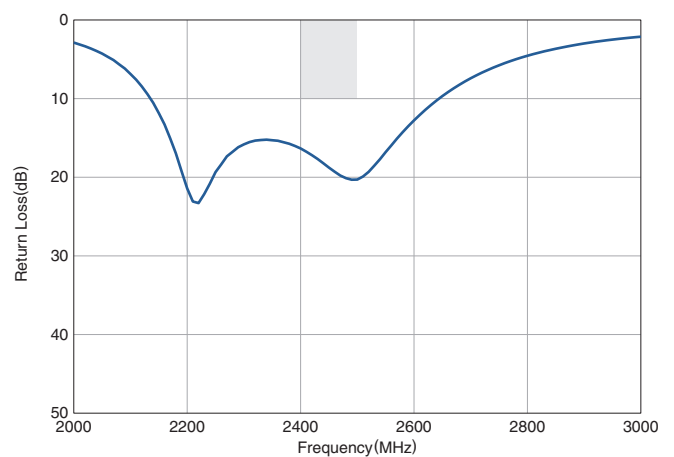


### MIDDLE-BAND

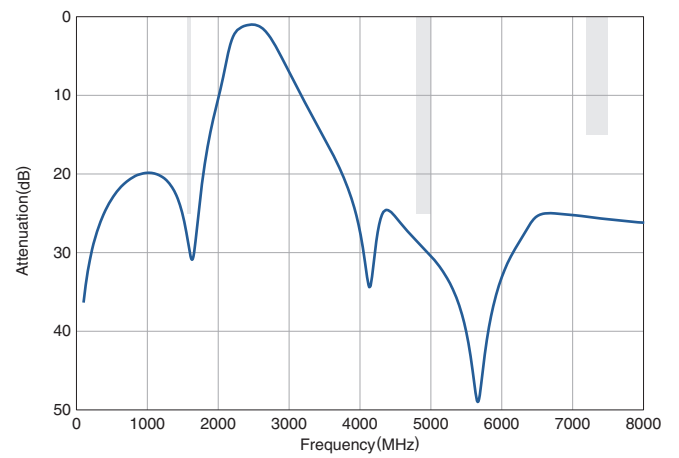
#### Insertion Loss



#### Return Loss



#### Attenuation



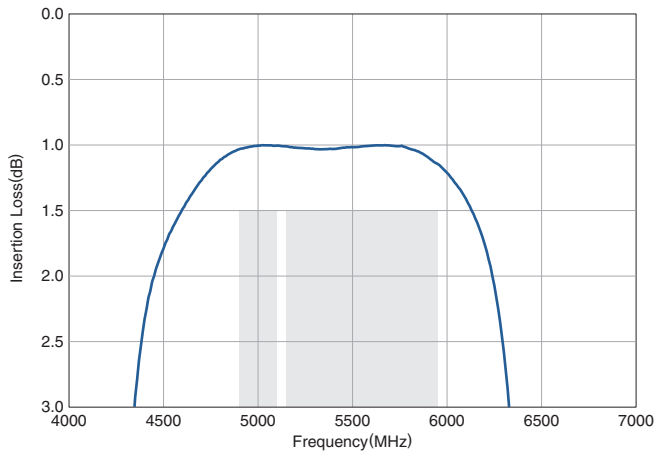
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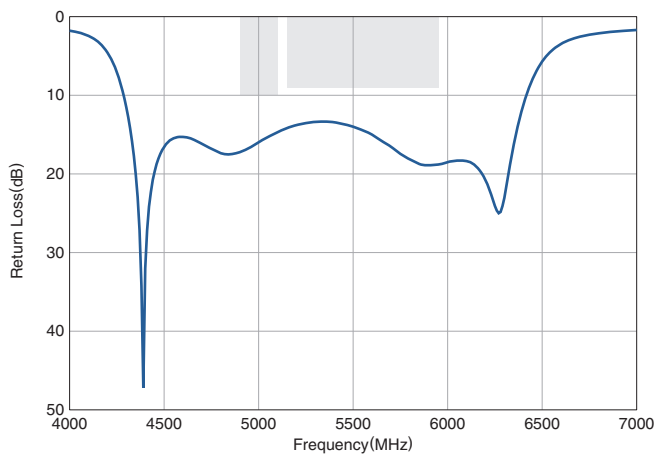
## FREQUENCY CHARACTERISTICS

### HIGH-BAND

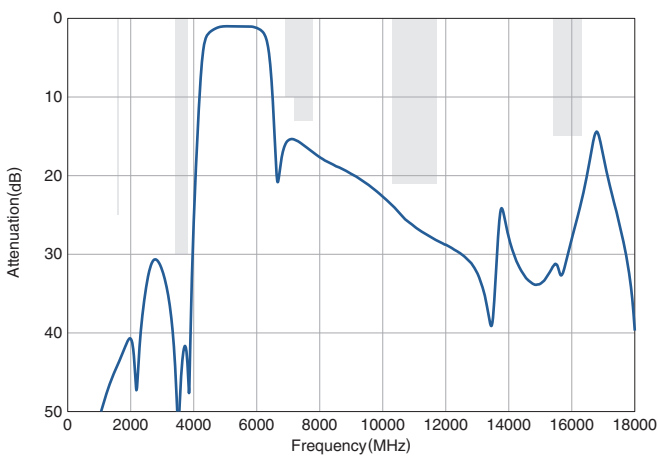
#### Insertion Loss



#### Return Loss



#### Attenuation



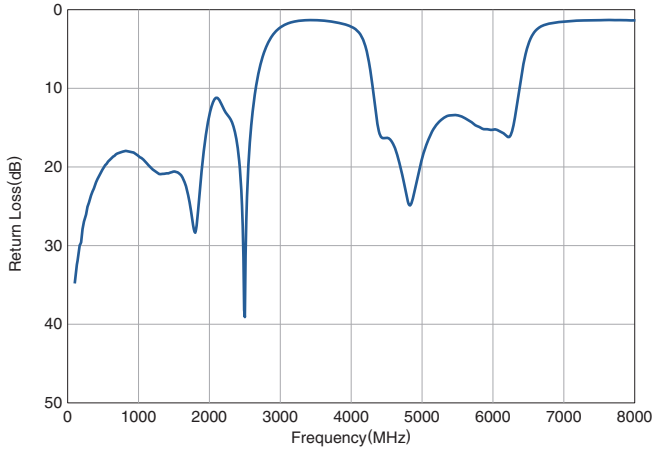
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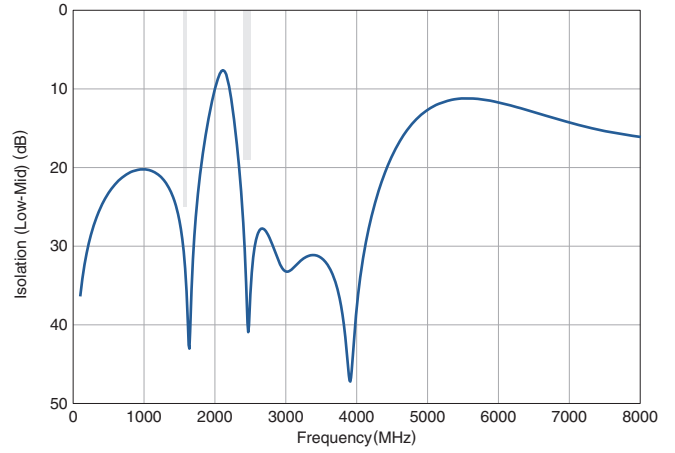
## FREQUENCY CHARACTERISTICS

### COMMON

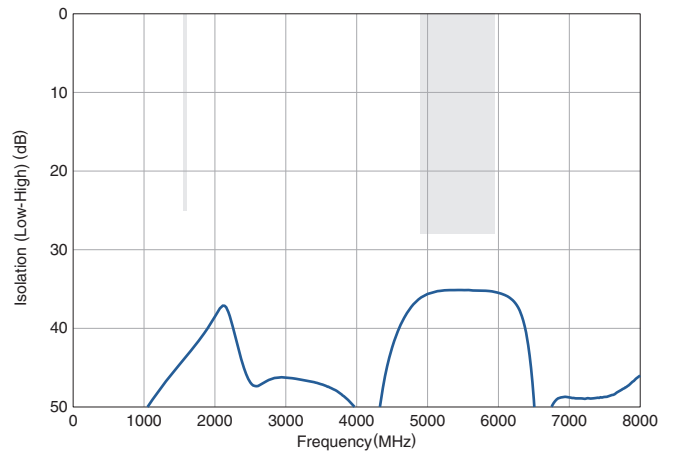
#### Return Loss



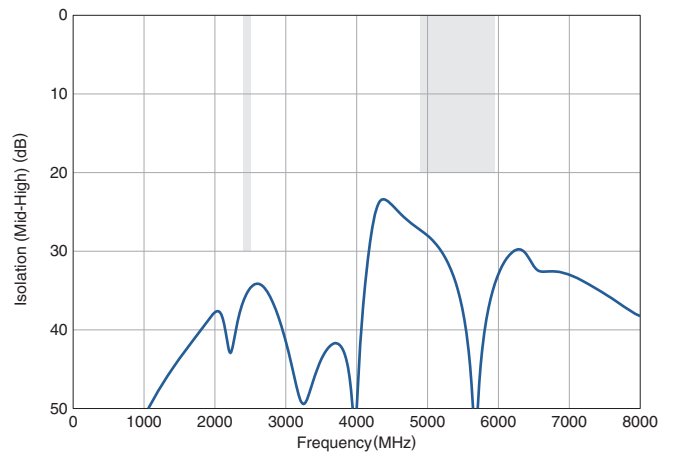
#### Isolation (Low-Mid)



#### Isolation (Low-High)



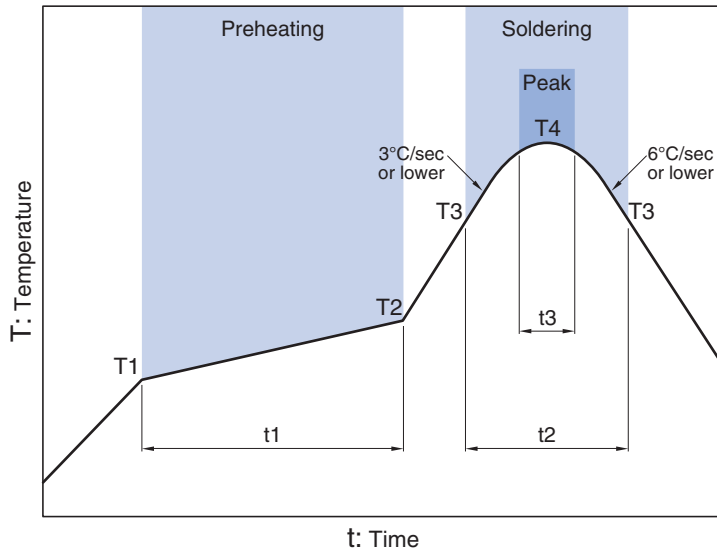
#### Isolation (Mid-High)



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## RECOMMENDED REFLOW PROFILE



Preheating			Soldering			
			Critical zone (T3 to T4)		Peak	
Temp.	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                                  | (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.

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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