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TDK Corporation

Multilayer Triplexer

For 698-960MHz / 1710-2170MHz / 2300-2690MHz

DPX Series 3.2x2.5mm [EIA 1210] TYPE

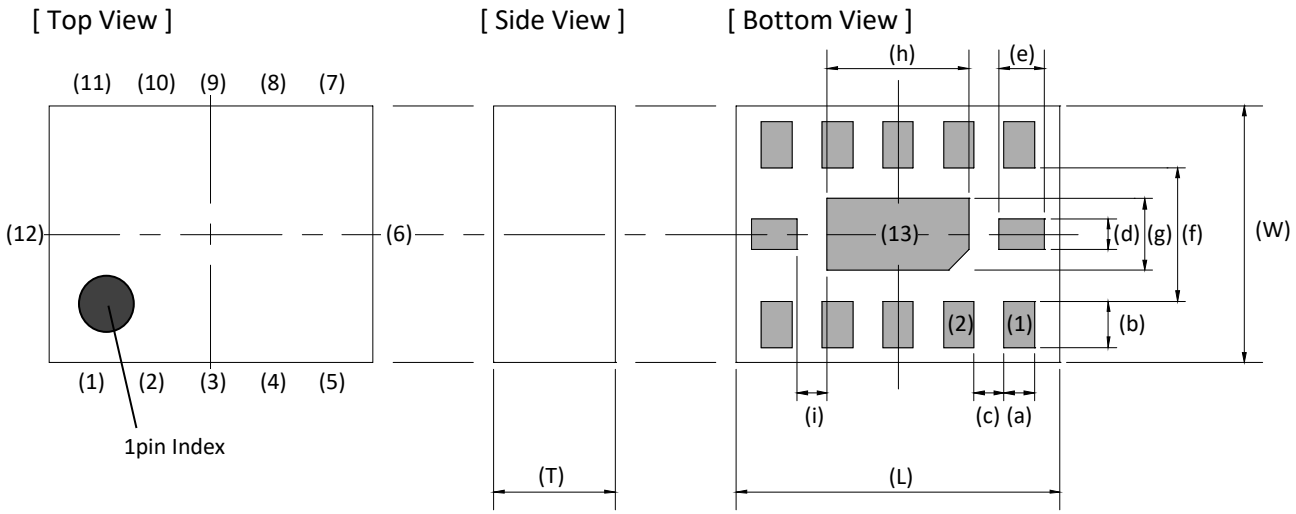
P/N: **TPX322690MT-7017C1**

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Jan. 2021 Ver.1.2a
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TPX322690MT-7017C1

SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d	e	f	g	h	i
3.20 +/-0.10	2.50 +/-0.10	1.00 Max	0.30 +/-0.10	0.45 +/-0.10	0.30 +/-0.10	0.30 +/-0.10	0.45 +/-0.10	1.30 +/-0.10	0.70 +/-0.10	1.40 +/-0.15	0.30 +/-0.10

Terminal functions

(1)	Common Port	**(6)**	GND	**(11)**	Low-Band Port
(2)	GND	**(7)**	Mid-Band Port	**(12)**	GND
(3)	GND	**(8)**	GND	**(13)**	GND
(4)	GND	**(9)**	GND		
(5)	High-Band Port	**(10)**	GND		

TEMPERATURE RANGE

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

TERMINATION FINISH

Material
Au plate

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Jan. 2021 Ver.1.2a
TDK Corporation

TPX322690MT-7017C1

ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter		Frequency (MHz)			TDK Spec		
					Min.	Typ.	Max.
Insertion Loss (dB)		698	to	960	-	0.30	0.70
Insertion Loss (dB)		698	to	960	-	-	0.80
(–40 to +85 °C)							
Isolation (dB)	-Mid	1710	to	2170	25	34	-
	-High	2300	to	2690	25	31	
Return Loss (dB)		698	to	960	18	25	-
Power Capacity(W)		698	to	960	-	-	3

Ta = +25+/-5°C

Mid-Band

Parameter		Frequency (MHz)			TDK Spec		
					Min.	Typ.	Max.
Insertion Loss (dB)		1710	to	2170	-	1.90	2.40
Insertion Loss (dB)		1710	to	2170	-	-	2.70
(–40 to +85 °C)					-	-	-
Isolation (dB)	-Low	698	to	960	25	27	-
	-High	2300	to	2690	8	14	-
Return Loss (dB)		1710	to	2170	10	15	-
Power Capacity(W)		1710	to	1910	-	-	3
		1910	to	2170	-	-	1

Ta = +25+/-5°C

High-Band

Parameter		Frequency (MHz)			TDK Spec		
					Min.	Typ.	Max.
Insertion Loss (dB)		2300	to	2690	-	2.15	2.80
Insertion Loss (dB)		2300	to	2690	-	-	3.00
(–40 to +85 °C)					-	-	-
Isolation (dB)	-Low	698	to	960	25	46	-
	-Mid	1710	to	2170	13	16	-
Return Loss (dB)		2300	to	2690	8	13	-
Power Capacity(W)		2300	to	2690	-	-	1

Ta = +25+/-5°C

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Jan. 2021 Ver.1.2a
TDK Corporation

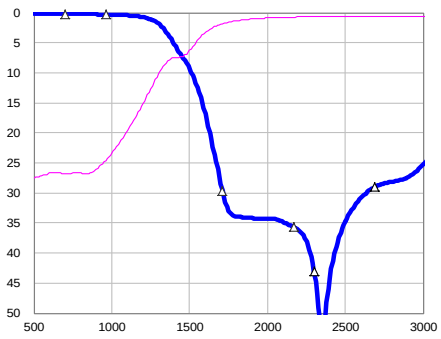
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FREQUENCY CHARACTERISTICS

(Measurement)

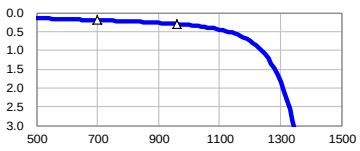
Low - Band

Attenuation



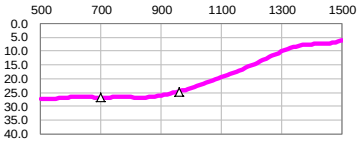
698 MHz	0.2 dB
960 MHz	0.3 dB
1710 MHz	29.7 dB
2170 MHz	35.7 dB
2300 MHz	43.1 dB
2690 MHz	29.0 dB

Insertion Loss



698 MHz	0.20 dB
960 MHz	0.30 dB

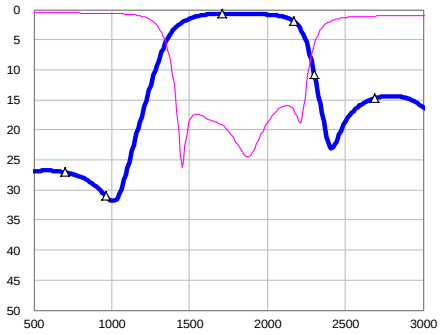
Return Loss



698 MHz	26.80
960 MHz	24.64

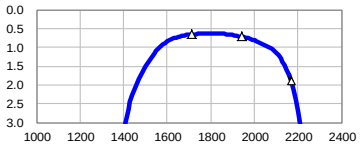
Mid - Band

Attenuation



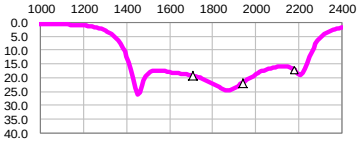
698 MHz	27.0 dB
960 MHz	31.0 dB
1710 MHz	0.7 dB
2170 MHz	1.9 dB
2300 MHz	10.7 dB
2690 MHz	14.8 dB

Insertion Loss



1710 MHz	0.66 dB
1940 MHz	0.72 dB
2170 MHz	1.90 dB

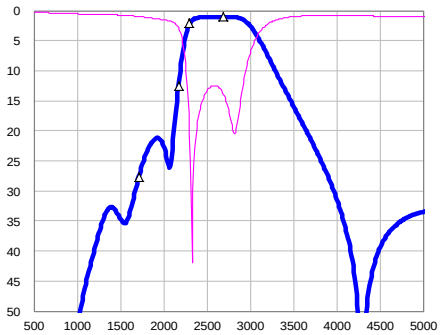
Return Loss



1710 MHz	19.29
1940 MHz	21.84
2170 MHz	16.64

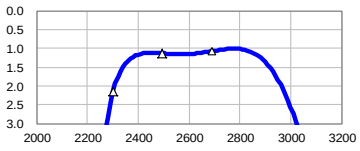
High - Band

Attenuation



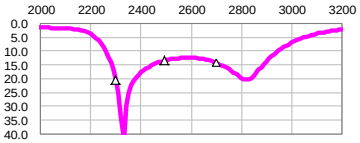
698 MHz	51.9 dB
960 MHz	57.9 dB
1710 MHz	27.7 dB
2170 MHz	12.5 dB
2300 MHz	2.2 dB
2690 MHz	1.1 dB

Insertion Loss



2300 MHz	2.15 dB
2495 MHz	1.14 dB
2690 MHz	1.08 dB

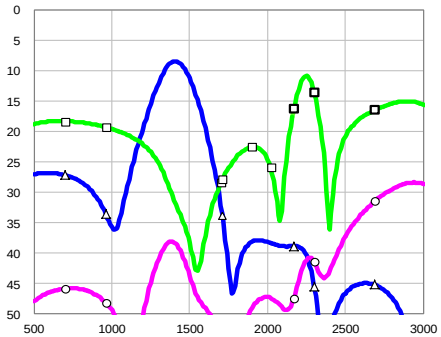
Return Loss



2300 MHz	20.53
2495 MHz	13.55
2690 MHz	13.90

Isolation

Isolation



Low - Middle

698 MHz	27.2 dB
960 MHz	33.5 dB
1710 MHz	33.9 dB
2170 MHz	38.8 dB
2300 MHz	45.4 dB
2690 MHz	45.2 dB

Low - High

698 MHz	45.8 dB
960 MHz	48.1 dB
1710 MHz	56.6 dB
2170 MHz	47.4 dB
2300 MHz	41.5 dB
2690 MHz	31.5 dB

Middle - High

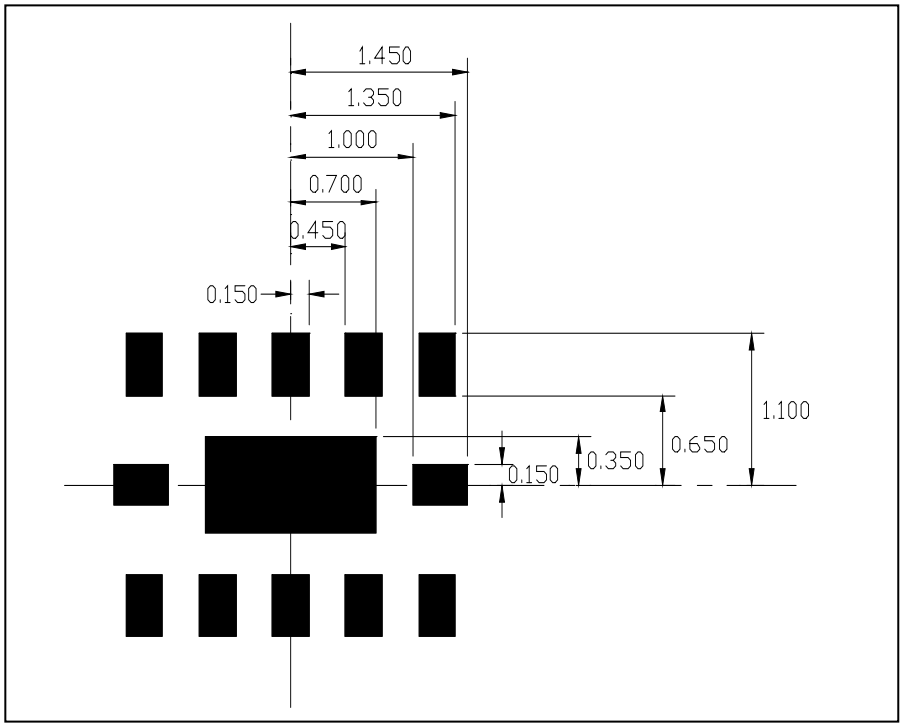
698 MHz	18.4 dB
960 MHz	19.3 dB
1700 MHz	28.4 dB
1710 MHz	27.9 dB
1900 MHz	22.5 dB
2025 MHz	26.0 dB
2170 MHz	16.3 dB
2300 MHz	13.6 dB
2690 MHz	16.5 dB

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Jan. 2021 Ver.1.2a
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TPX322690MT-7017C1

RECOMMENDED LAND PATTERN



ENVIRONMENT INFORMATION

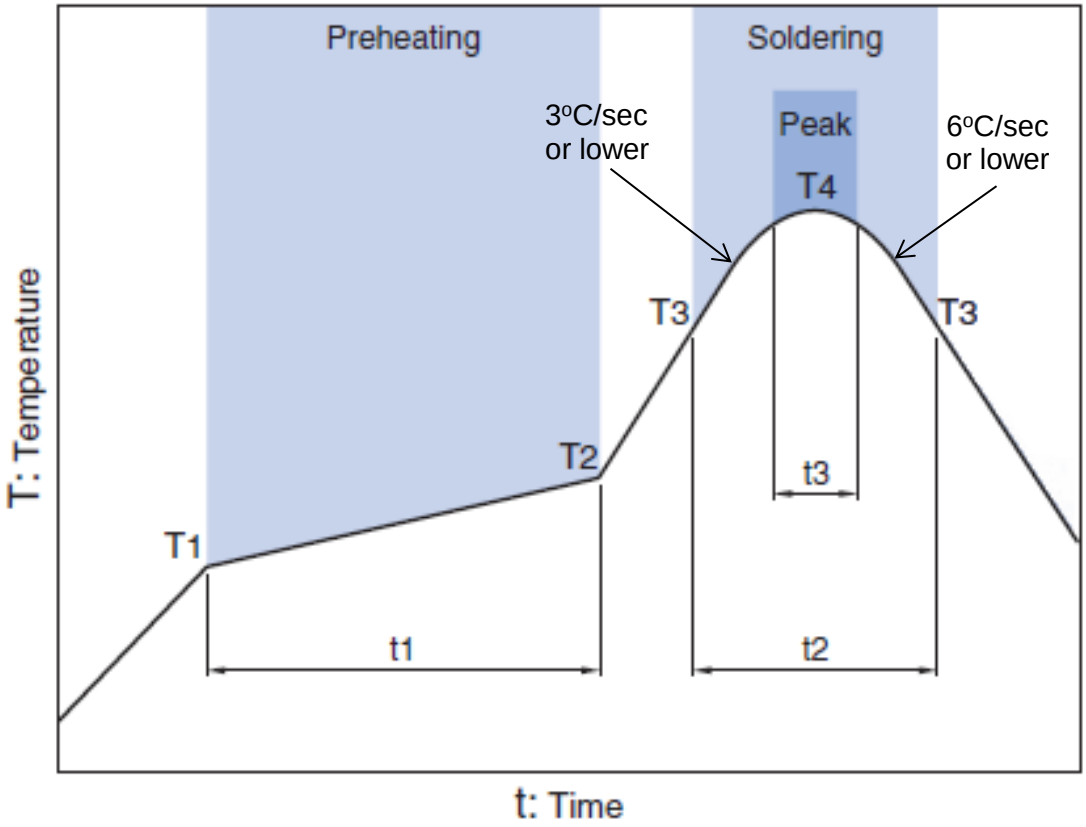
RoHS Statement
RoHS Compliance

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TPX322690MT-7017C1

■ 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	30 sec Max

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

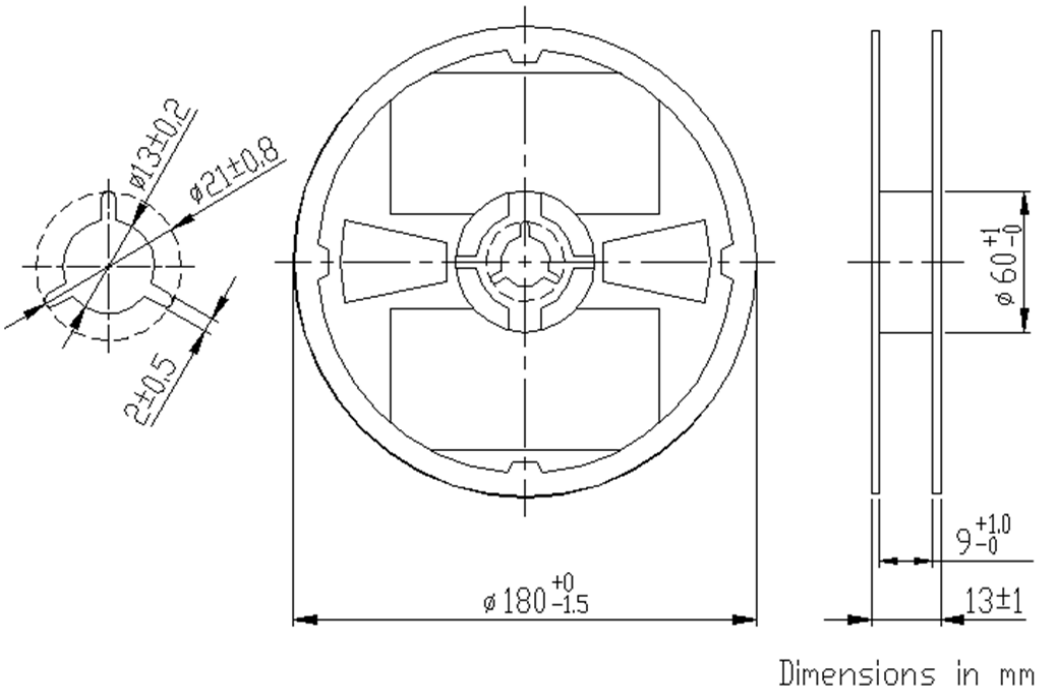
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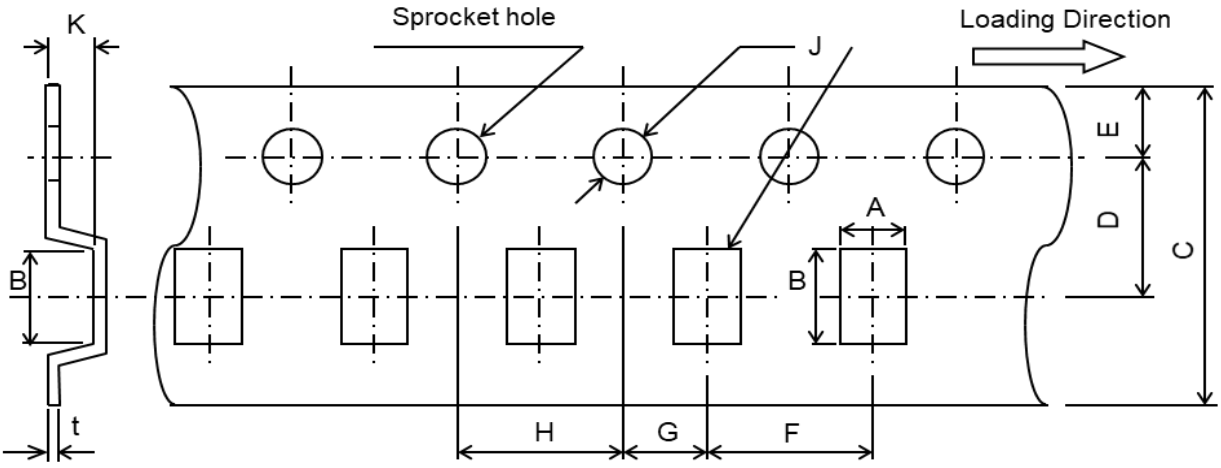
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■ PACKAGING STYLE

Reel Dimensions



Carrier Tape



Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	t
2.7 +/-0.05	3.45 +/-0.05	8.0 +0.3/-0.1	3.5 +/-0.05	1.75 +/-0.1	4.0 +/-0.1	2.0 +/-0.05	4.0 +/-0.1	1.5 +0.1/-0	1.45 MAX	0.25 +/-0.05

STANDARD PACKAGE QUANTITY (pieces/reel)
2,000

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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
(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.