Apr. 2015 Ver.2.0
TDK Corporation

Multilayer Diplexer

For UWB

DPX Series 2012 TYPE

P/N: **DPX209504DT-4183A1**

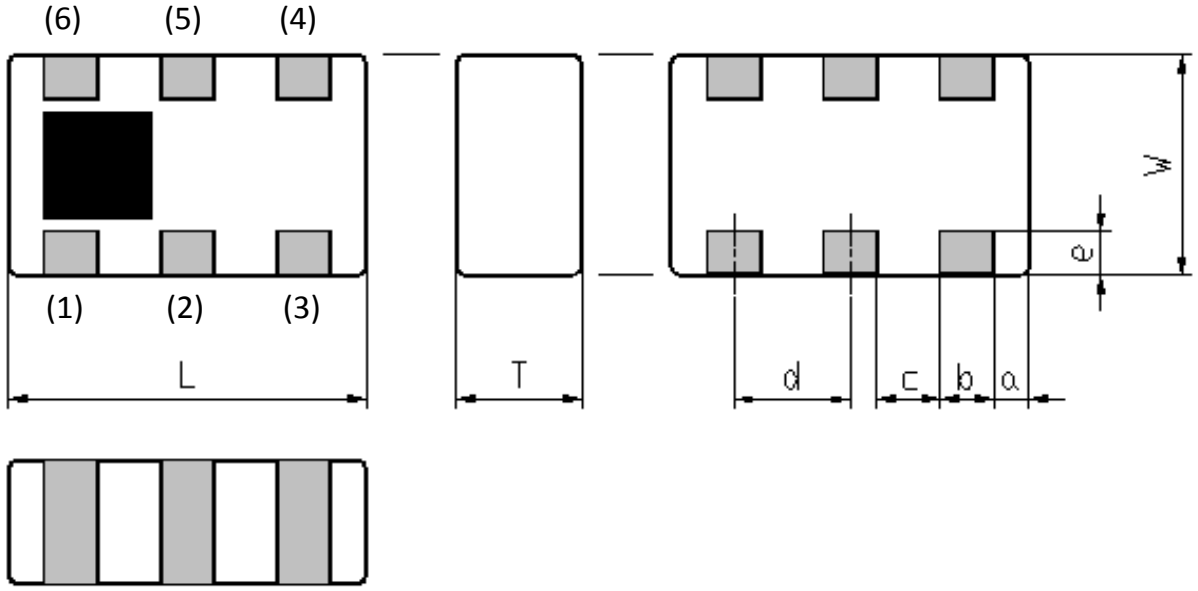
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Apr. 2015 Ver.2.0
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DPX209504DT-4183A1

SHAPES AND DIMENSIONS

[Top View] [Bottom View]



Dimensions (mm)

L	W	T	a	b	c	d
2.00 +/-0.15	1.25 +/-0.15	0.60 +/-0.10	0.20 +/-0.20	0.30 +/-0.20	0.35 +/-0.20	0.65 +/-0.20

Terminal functions

(1)	GND
(2)	Common Port
(3)	GND
(4)	Low-Band Port
(5)	GND
(6)	High-Band Port

Note:
These samples are marked with trial sample identification.
In mass production, this sample marking will be changed to show in the TDK full specification.

TEMPERATURE RANGE

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

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Apr. 2015 Ver.2.0
TDK Corporation

DPX209504DT-4183A1

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	Target Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	3168 to 4752	-	0.31	0.60
Attenuation (dB)	6336 to 9504	18	20.0	-
VSWR	3168 to 4752	-	1.4	2.0

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	Target Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	6336 to 9504	-	0.59	0.85
Attenuation (dB)	3168 to 4752	16	20	-
VSWR	6336 to 9504	-	1.8	2.2

Ta = +25+/-5°C

ESD

The Diplexer satisfies the electrical specification after the following tests.
(When measured after two hours in normal conditions):

・HBM
MIL-STD-883D
EIAJ ED-4701-1 C-111
Cd=100pF Rd=1.5kohm V=+/-1000V 1time

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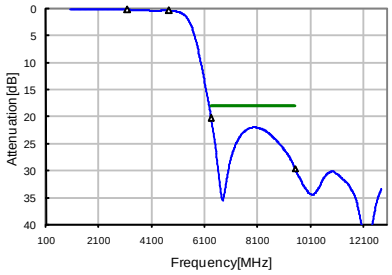
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DPX209504DT-4183A1

FREQUENCY CHARACTERISTICS

(Measurement)

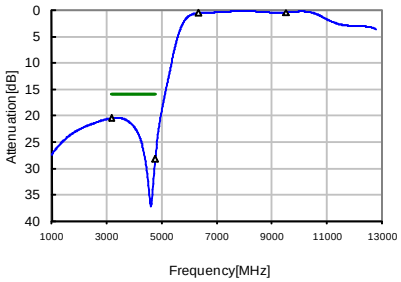
Low band-Port



Attenuation

6336 MHz	20.23	dB
9504 MHz	29.63	dB

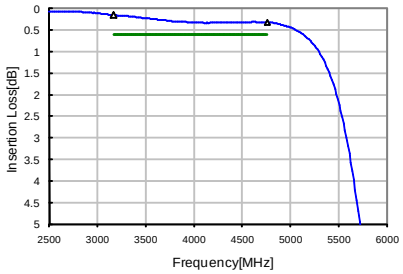
High band-Port



Attenuation

3168 MHz	20.52	dB
4752 MHz	28.28	dB

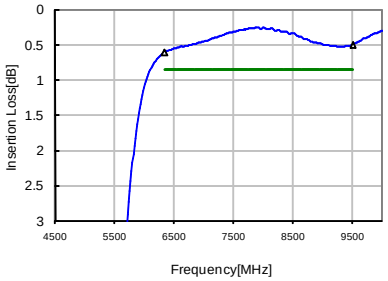
Low band-Port



Insertion Loss

3168 MHz	0.15	dB
4752 MHz	0.31	dB

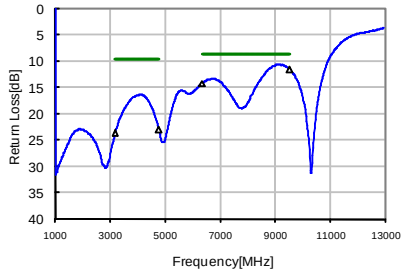
High band-Port



Insertion Loss

6336 MHz	0.61	dB
9504 MHz	0.50	dB

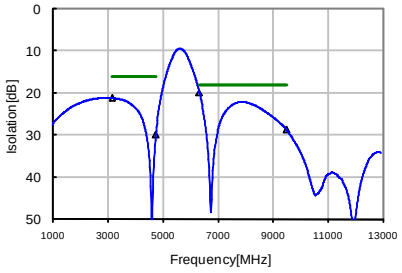
Common Port Return Loss



3168 MHz	23.62	dB
4752 MHz	22.95	dB

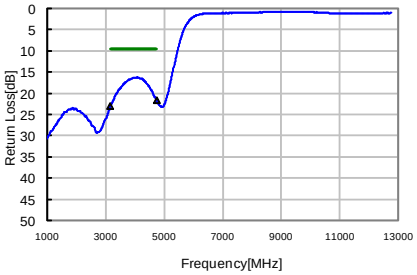
6336 MHz	14.15	dB
9504 MHz	11.49	dB

Isolation



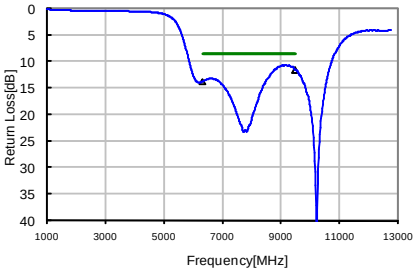
3168 MHz	21.2	dB
4752 MHz	30.0	dB
6336 MHz	19.9	dB
9504 MHz	28.8	dB

Low band-Port Return Loss



3168 MHz	22.90	dB
4752 MHz	21.65	dB

High band-Port Return Loss



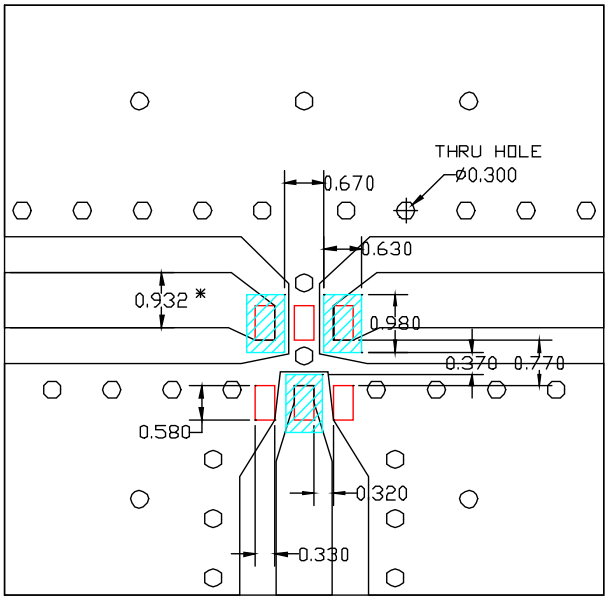
6336 MHz	13.71	dB
9504 MHz	11.55	dB

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Apr. 2015 Ver.2.0
TDK Corporation

DPX209504DT-4183A1

RECOMMENDED LAND PATTERN



No pattern area of internal layers

* Line width should be designed to mach 50 ohm characteristic impedance depending on PCB material and thickness.

ENVIROMENT INFORMATION

RoHS Statement
RoHS Compliance

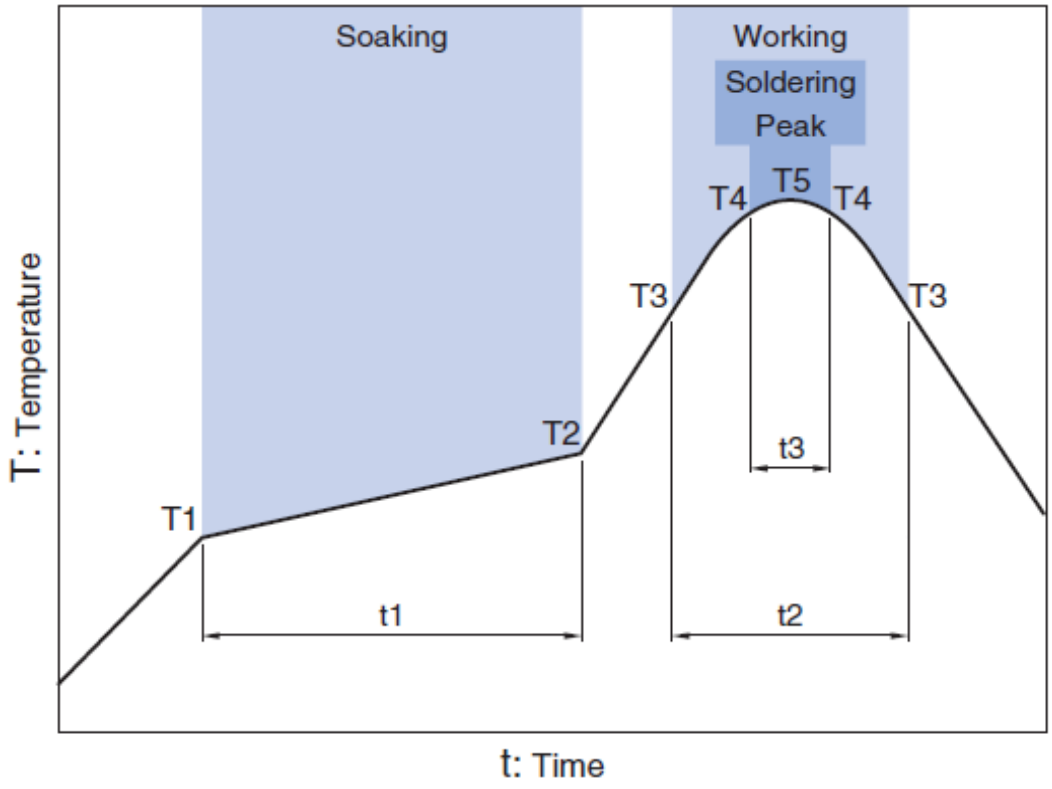
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■ RECOMMENDED REFLOW PROFILE

Pb free solder



Soaking			Working		Soldering		Peak
Temp.		Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5
150°C	180°C	60 to 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

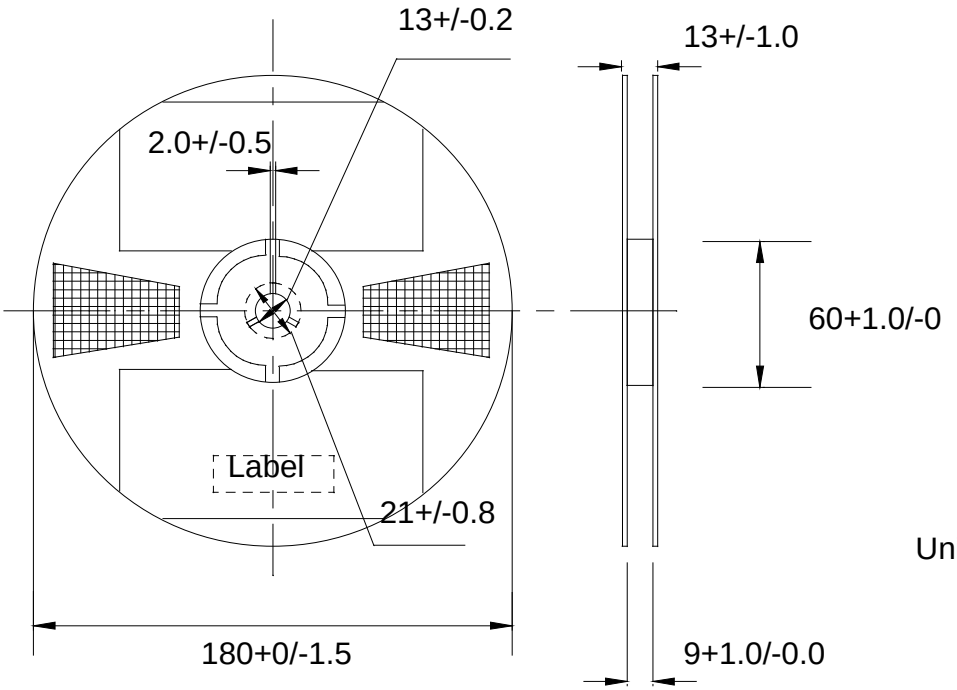
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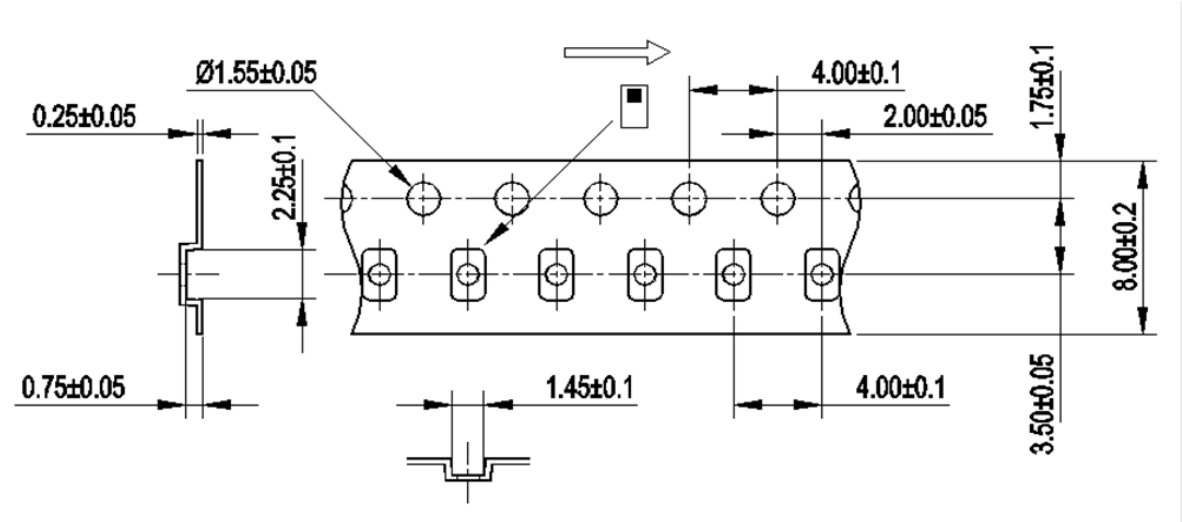
■ PACKAGING STYLE

Reel Dimensions



Unit: mm

Carrier Tape



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 specification sheet 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 specification sheet.

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.

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