



Jul. 2016 Ver.3.0
TDK Corporation

Multilayer Diplexer

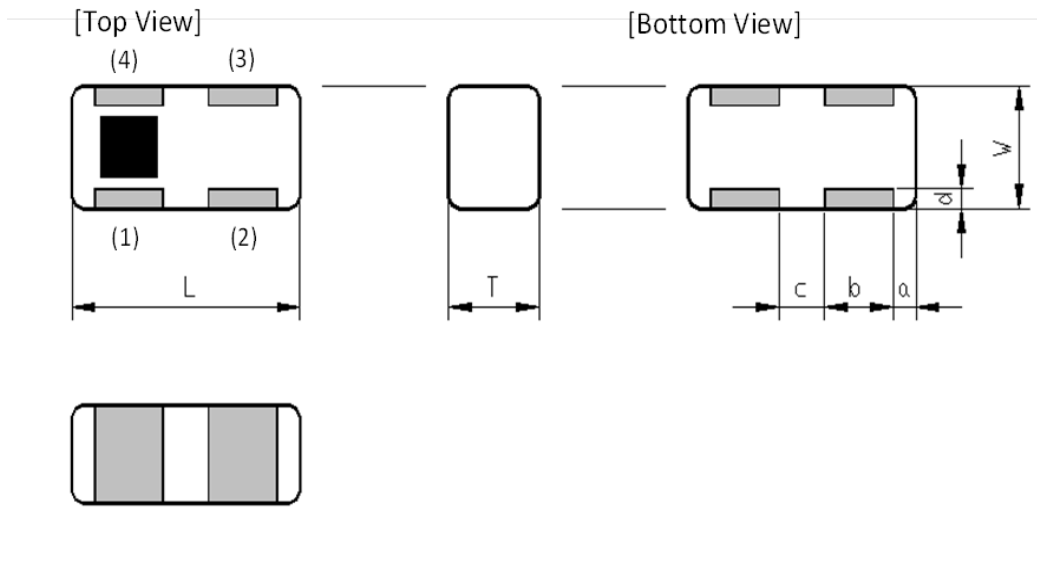
For 2.4GHz W-LAN & Bluetooth / 5GHz W-LAN

DPX Series 1.0x0.5mm [EIA 0402] TYPE

P/N: **DPX105950DT-6012A2**

DPX105950DT-6012A2

■ SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d
1.00	0.50	0.33	0.10	0.30	0.20	0.12
+/-0.05	+/-0.05	Max	+/-0.10	+/-0.10	+/-0.10	+/-0.07

Terminal functions

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

■ TEMPERATURE RANGE

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

DPX105950DT-6012A2

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	-	0.37	0.50
Insertion Loss (dB) (-40 to +85 °C)	2400 to 2500	-	-	0.60
	to	-	-	-
Return Loss (dB)	2400 to 2500	10	22	-
Attenuation (dB)	4800 to 6000	23	29	-
	7200 to 7500	23	29	-

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	4900 to 5950	-	0.56	0.80
Insertion Loss (dB) (-40 to +85 °C)	4900 to 5950	-	-	1.00
	to	-	-	-
Return Loss (dB)	4900 to 5950	10	15	-
Attenuation (dB)	30 to 2400	25	29	-
	2400 to 2500	32	41	-
	2500 to 2690	23	29	-
	9800 to 11900	20	30	-

Ta = +25+/-5°C

Common

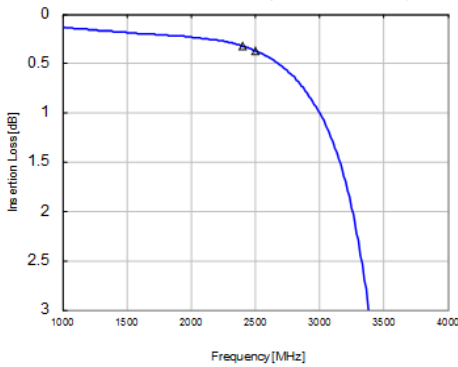
Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Return Loss (dB)	2400 to 2500	10	22	-
	4900 to 5950	10	15	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

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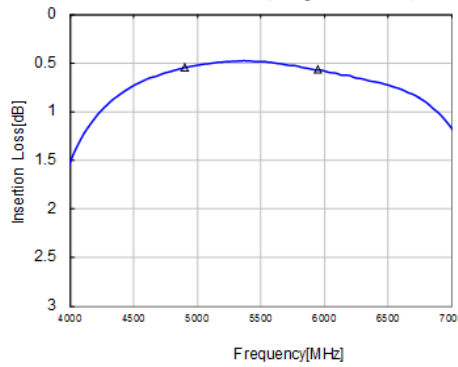
FREQUENCY CHARACTERISTICS

Insertion Loss (Low-Band)



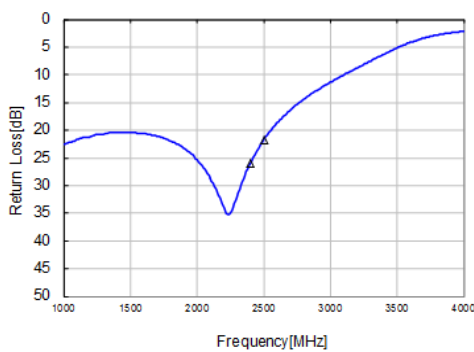
Insertion Loss	
2400 MHz	0.32 dB
2500 MHz	0.37 dB

Insertion Loss (High-Band)



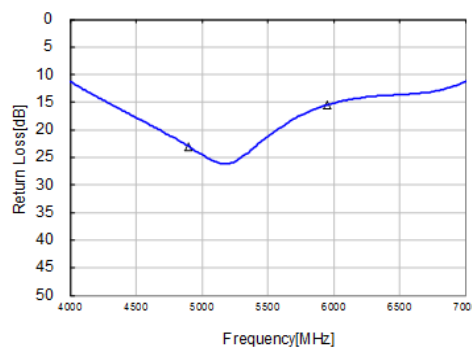
Insertion Loss	
4900 MHz	0.54 dB
5950 MHz	0.56 dB

Return Loss (Low-Band)



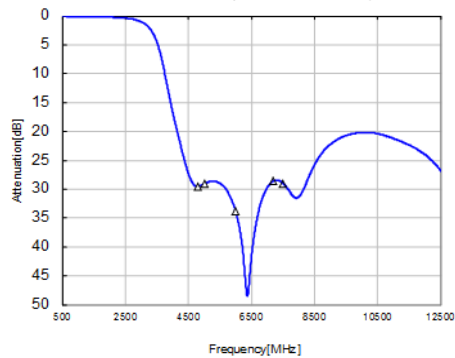
2400 MHz	26 dB
2500 MHz	22 dB

Return Loss (high-Band)



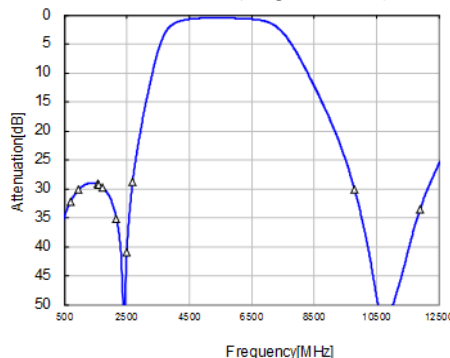
4900 MHz	23 dB
5950 MHz	15 dB

Attenuation (Low-Band)



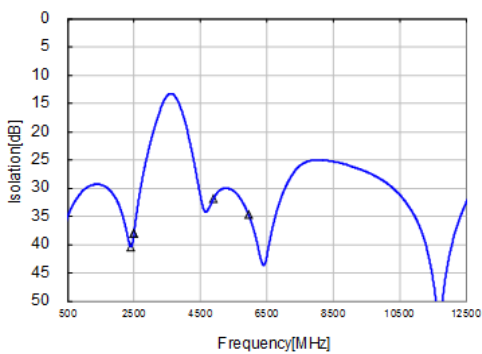
Attenuation	
4800 MHz	30 dB
5000 MHz	29 dB
6000 MHz	34 dB
7200 MHz	29 dB
7500 MHz	29 dB

Attenuation (High-Band)



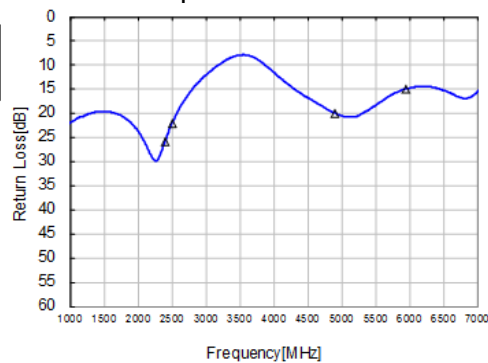
Attenuation	
700 MHz	32 dB
960 MHz	30 dB
1560 MHz	29 dB
1610 MHz	29 dB
1710 MHz	30 dB
2170 MHz	35 dB
2400 MHz	55 dB
2500 MHz	41 dB
2690 MHz	29 dB
9800 MHz	30 dB
11900 MHz	34 dB

Isolation



2400 MHz	40 dB
2500 MHz	38 dB
4900 MHz	32 dB
5950 MHz	35 dB

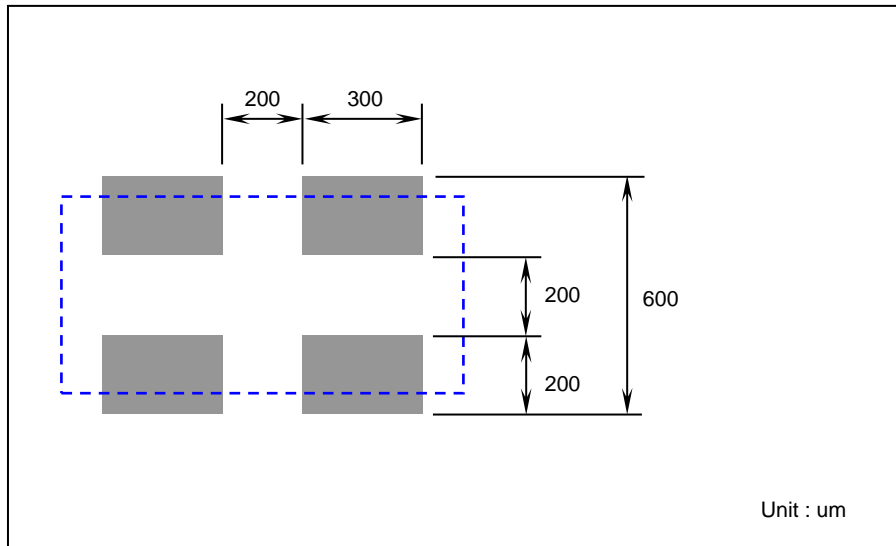
Common port Return Loss



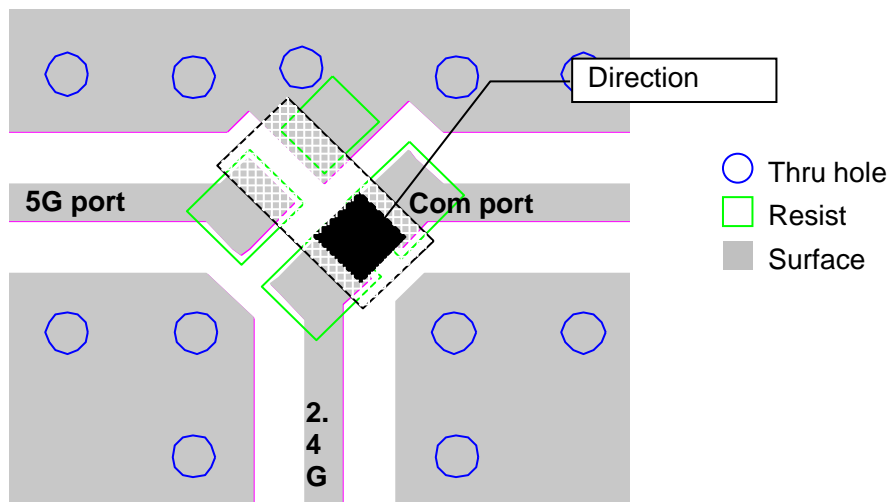
2400 MHz	26 dB
2500 MHz	22 dB
4900 MHz	20 dB
5950 MHz	15 dB

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RECOMMENDED LAND PATTERN



EVALUATION BOARD



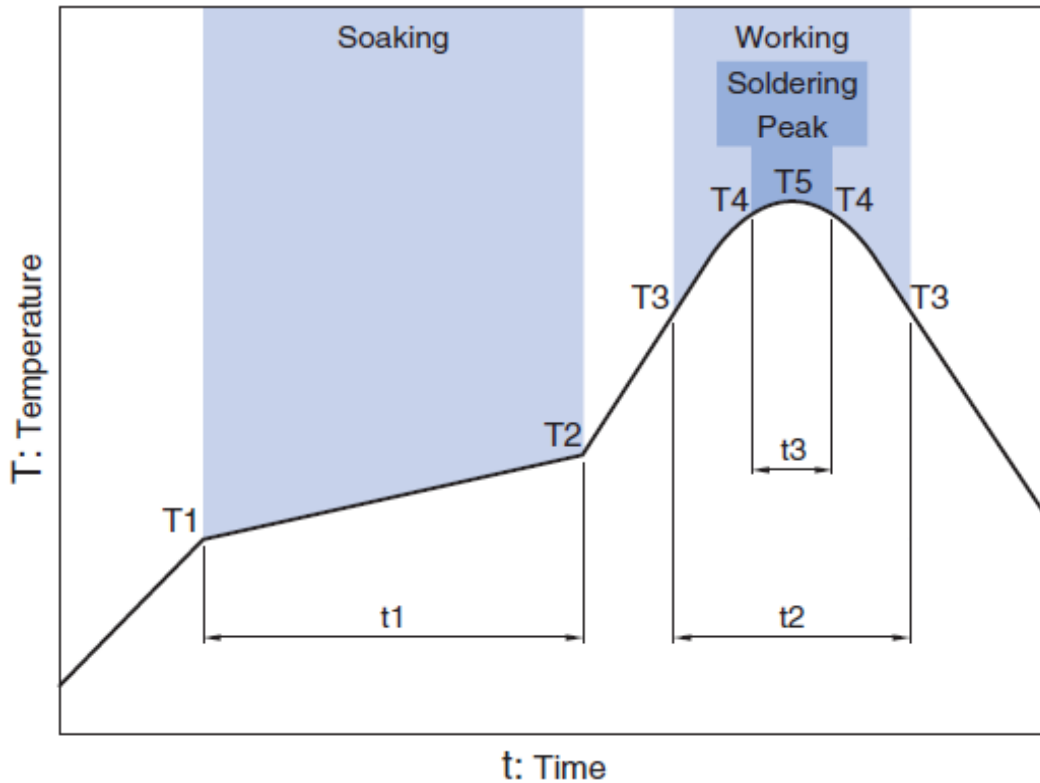
ENVIRONMENT INFORMATION

RoHS Statement
 RoHS Compliance

DPX105950DT-6012A2

■ RECOMMENDED REFLOW PROFILE

Pb free solder



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 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

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.