



Jul. 2016 Ver.8.0
TDK Corporation

Multilayer Diplexer

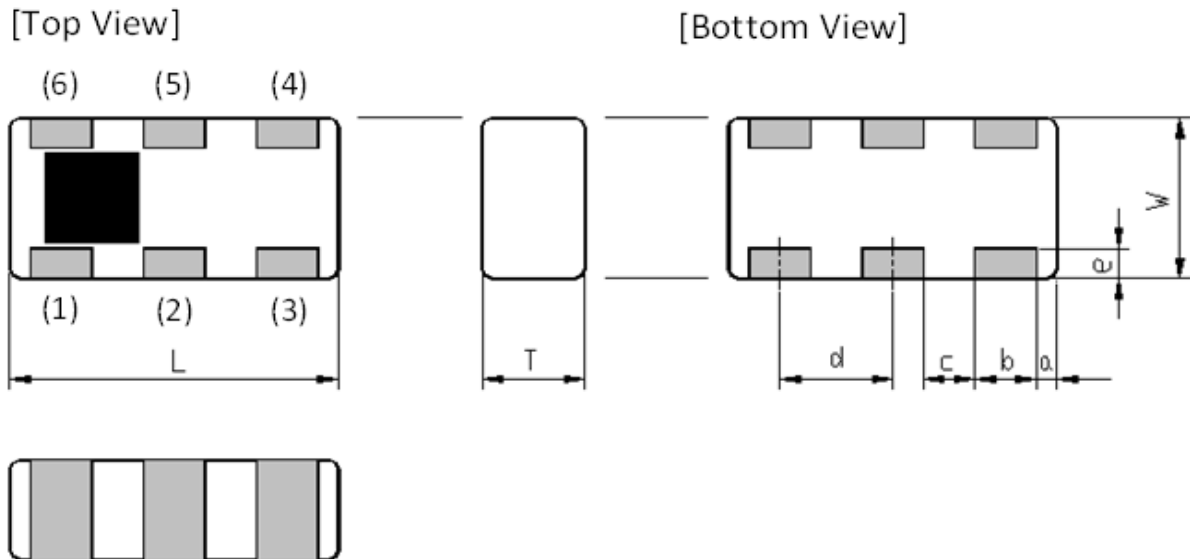
For 2.4GHz W-LAN & Bluetooth / 5GHz W-LAN

DPX Series 1.6x0.8mm [EIA 0603] TYPE

P/N: **DPX165950DT-8148A1**

DPX165950DT-8148A1

SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d	e
1.60	0.80	0.60	0.10	0.30	0.25	0.55	0.15
+/-0.15	+/-0.15	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10	+/-0.10

Terminal functions

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

(4)	GND
(5)	Common Port
(6)	GND

TEMPERATURE RANGE

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

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■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	-	0.23	0.35
Insertion Loss (dB) (-40 to +85 °C)	2400 to 2500	-	0.30	0.45
VSWR	2400 to 2500	-	1.14	1.6
Attenuation (dB)	4800 to 5000	21	25	-
	5000 to 5950	23	27	-
	7200 to 7500	25	36	-

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	4900 to 5950	-	0.45	0.60
Insertion Loss (dB) (-40 to +85 °C)	4900 to 5950	-	0.50	0.67
VSWR	4900 to 5950	-	1.28	1.7
Attenuation (dB)	824 to 2170	27	32	-
	2400 to 2500	32	42	-
	8100 to 8900	10	12	-
	9800 to 11900	25	29	-

Ta = +25+/-5°C

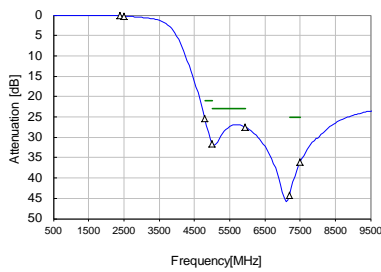
Common

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
VSWR	2400 to 2500	-	1.11	1.6
	4900 to 5950	-	1.20	1.7

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FREQUENCY CHARACTERISTICS

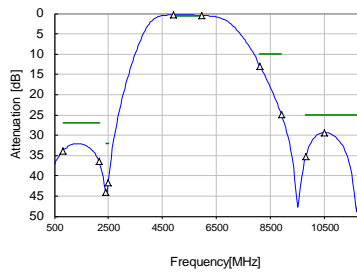
Low band-Port



Insertion Loss	
2400 MHz	0.19 dB
2500 MHz	0.23 dB

Attenuation	
4800 MHz	25.44 dB
5000 MHz	31.59 dB
5950 MHz	27.51 dB
7200 MHz	44.21 dB
7500 MHz	36.13 dB

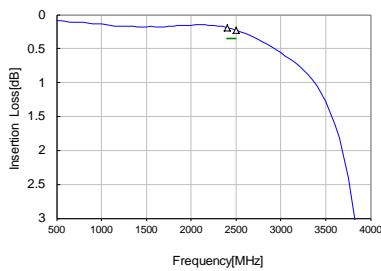
High band-Port



Insertion Loss	
4900 MHz	0.34 dB
5950 MHz	0.45 dB

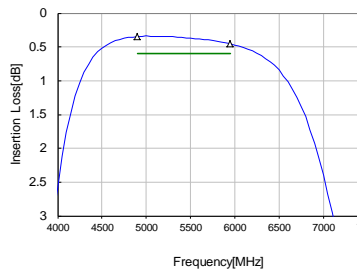
Attenuation	
824 MHz	33.92 dB
2170 MHz	36.50 dB
2400 MHz	43.99 dB
2500 MHz	41.66 dB
8100 MHz	12.92 dB
8900 MHz	24.87 dB
9800 MHz	35.19 dB
10500 MHz	29.31 dB
11900 MHz	35.75 dB

Low band-Port



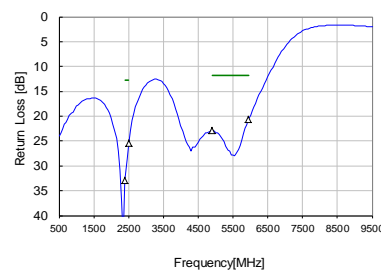
Insertion Loss	
2400 MHz	0.19 dB
2500 MHz	0.23 dB

High band-Port



Insertion Loss	
4900 MHz	0.34 dB
5950 MHz	0.45 dB

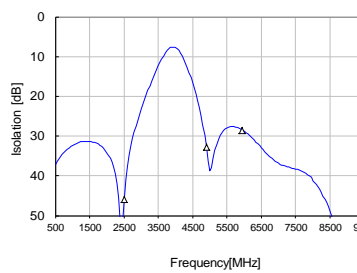
Common Port Return Loss



2400 MHz	32.95 dB
2500 MHz	25.45 dB

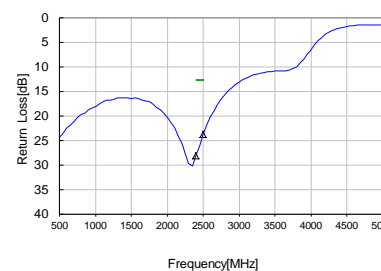
4900 MHz	22.90 dB
5950 MHz	20.69 dB

Isolation



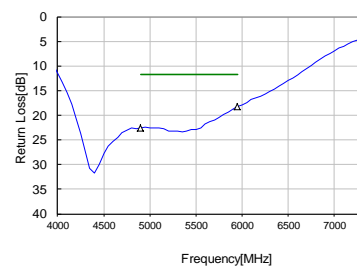
2400 MHz	51.7 dB
2500 MHz	45.9 dB
4900 MHz	32.8 dB
5950 MHz	28.5 dB

Low band-Port Return Loss



2400 MHz	28.09 dB
2500 MHz	23.81 dB

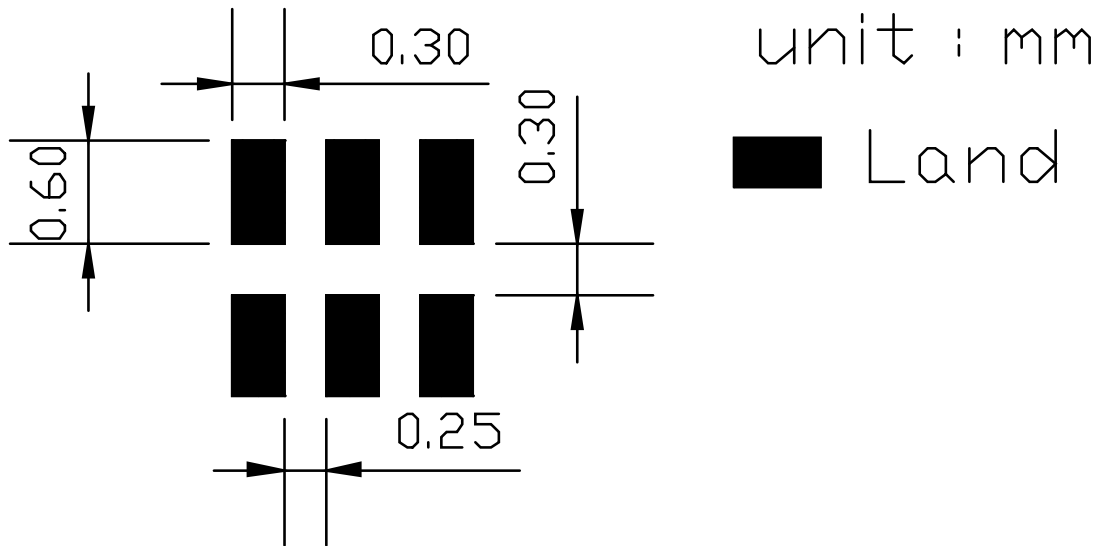
High band-Port Return Loss



4900 MHz	22.57 dB
5950 MHz	18.18 dB

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RECOMMENDED LAND PATTERN



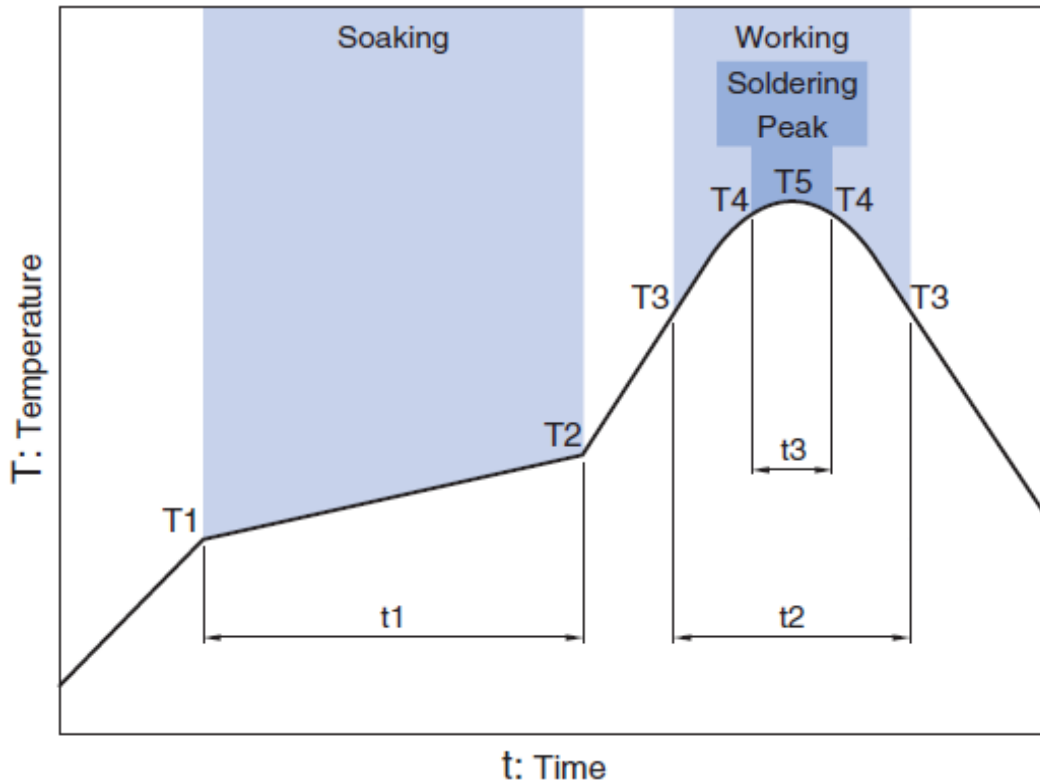
ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

DPX165950DT-8148A1

■ 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.

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