Jul. 2016 Ver.5.0a
TDK Corporation

Multilayer Diplexer

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

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

P/N: **DPX165950DT-8048A1**

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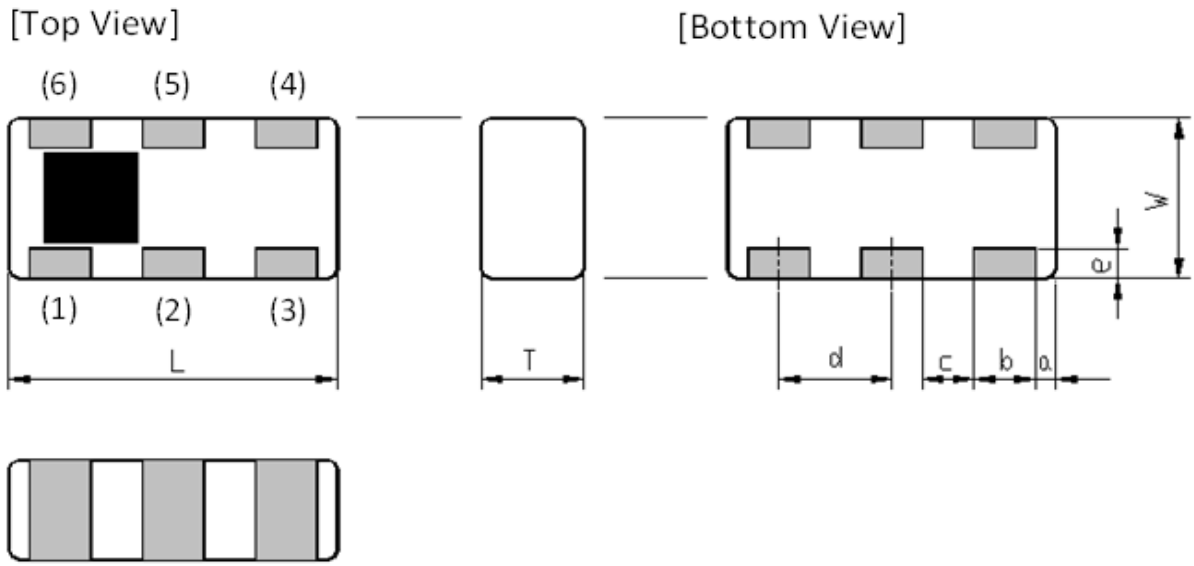
SHAPES AND DIMENSIONS



Dimensions (mm)

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

Terminal functions

(1)	High-Band Port
(2)	GND
(3)	Low-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	-	0.19	0.35
Insertion Loss (dB)	2400 to 2500	-	-	0.45
(–40 to +85 °C)				
VSWR	2400 to 2500	-	1.08	1.6
Attenuation (dB)	4800 to 5000	21	23	-
	5000 to 5950	23	29	-
	7200 to 7500	25	37	-
Input power (W)	2400 to 2500	-	-	3

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	4900 to 5950	-	0.44	0.55
Insertion Loss (dB)	4000 to 5950	-	-	0.65
(–40 to +85 °C)				
VSWR	4000 to 5950	-	1.24	1.7
Attenuation (dB)	824 to 2170	27	33	-
	2400 to 2500	32	41	-
	9800 to 11900	23	31	-
Input power (W)	4900 to 5950	-	-	3

Ta = +25+/-5°C

Common

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
VSWR	2400 to 2500	-	1.05	1.6
	4900 to 5950	-	1.23	1.7
Power Handling (W)		-	-	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

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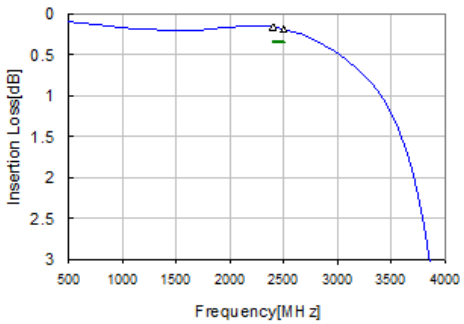
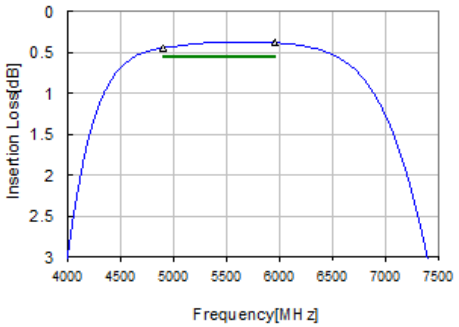
FREQUENCY CHARACTERISTICS

Insertion Loss (Low-Band)



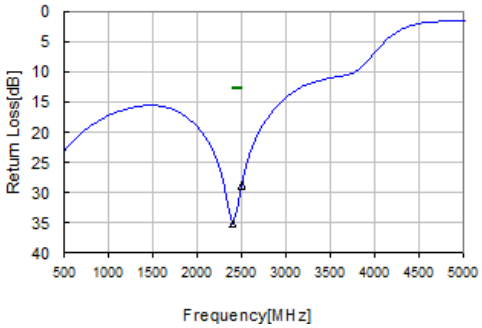
Insertion Loss		
2400 MHz	0.16	dB
2500 MHz	0.19	dB

Insertion Loss (High-Band)



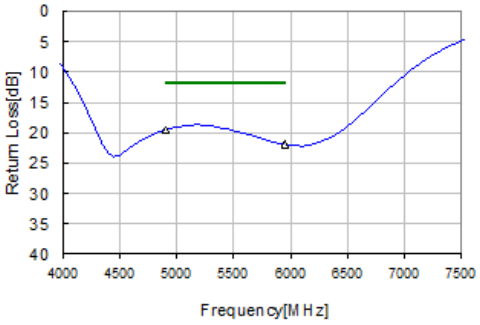
Insertion Loss		
4900 MHz	0.44	dB
5950 MHz	0.38	dB

Return Loss (Low-Band)



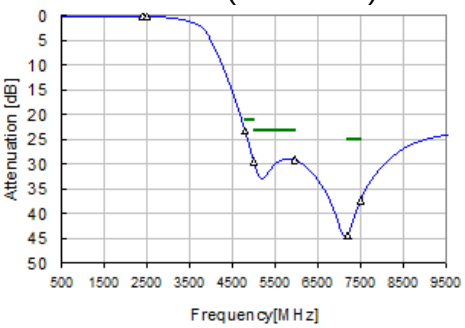
2400 MHz	35.16	dB
2500 MHz	28.75	dB

Return Loss (high-Band)



4900 MHz	19.49	dB
5950 MHz	21.85	dB

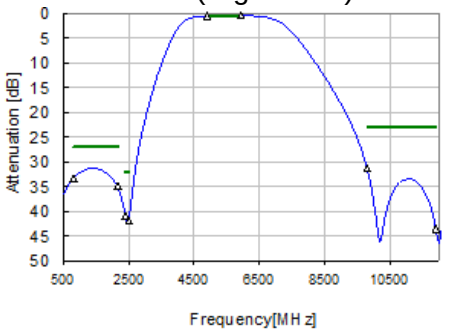
Attenuation (Low-Band)



Insertion Loss		
2400 MHz	0.16	dB
2500 MHz	0.19	dB

Attenuation		
4800 MHz	23.30	dB
5000 MHz	29.42	dB
5950 MHz	29.09	dB
7200 MHz	44.47	dB
7500 MHz	37.30	dB

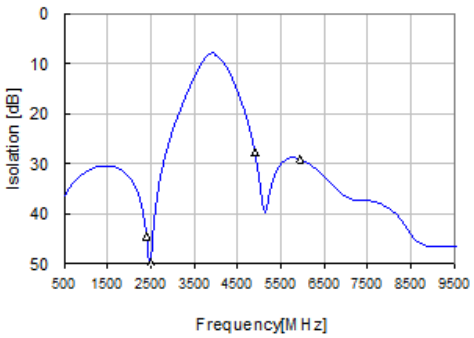
Attenuation (High-Band)



Insertion Loss		
4900 MHz	0.44	dB
5950 MHz	0.38	dB

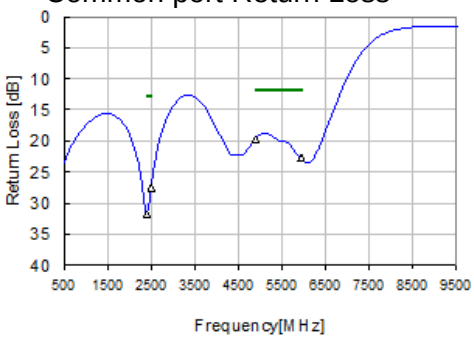
Attenuation		
824 MHz	33.35	dB
2170 MHz	34.93	dB
2400 MHz	41.01	dB
2500 MHz	41.88	dB
9800 MHz	31.33	dB
11900 MHz	43.54	dB

Isolation



2400 MHz	44.5	dB
2500 MHz	49.8	dB
4900 MHz	27.7	dB
5950 MHz	29.1	dB

Common port Return Loss



2400 MHz	31.86	dB
2500 MHz	27.48	dB

4900 MHz	19.73	dB
5950 MHz	22.60	dB

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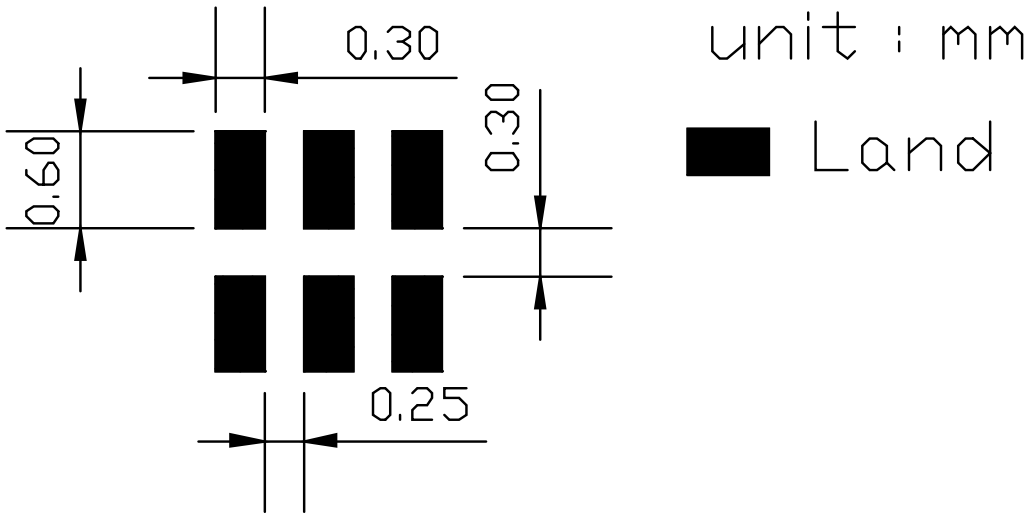
RECOMMENDED LAND PATTERN



ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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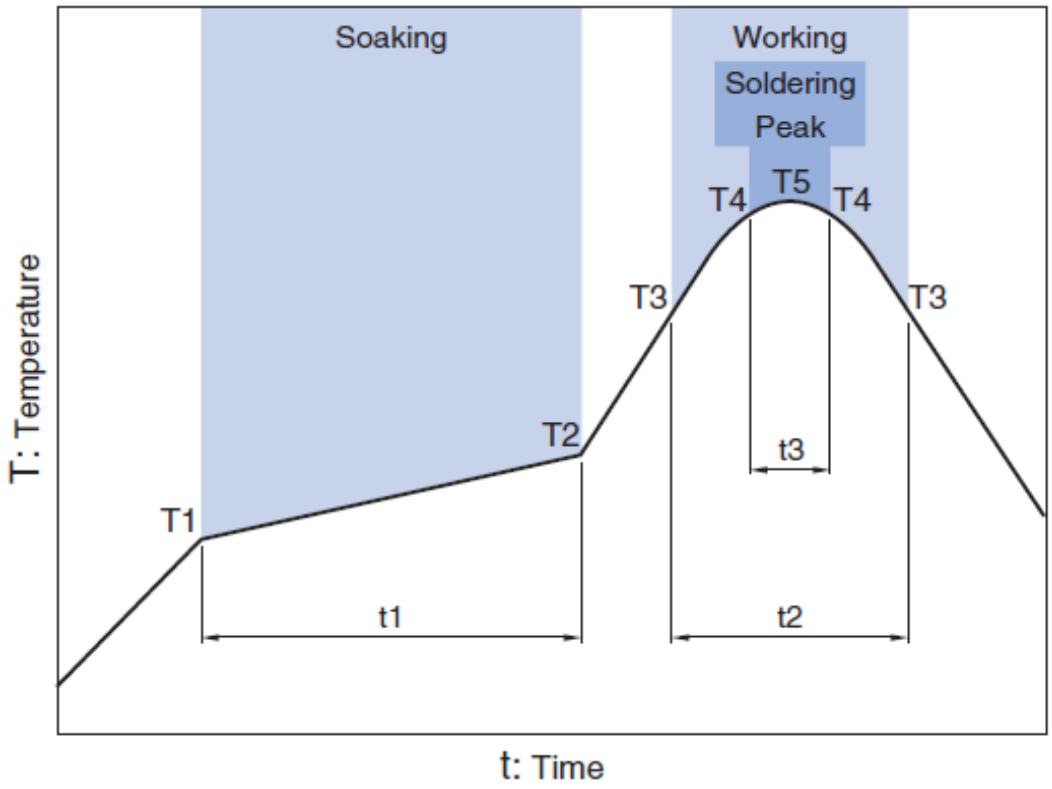
■ RECOMMENDED REFLOW PROFILE

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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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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