



Jul. 2016 Ver.2.0  
TDK Corporation

## Multilayer Diplexer

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

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

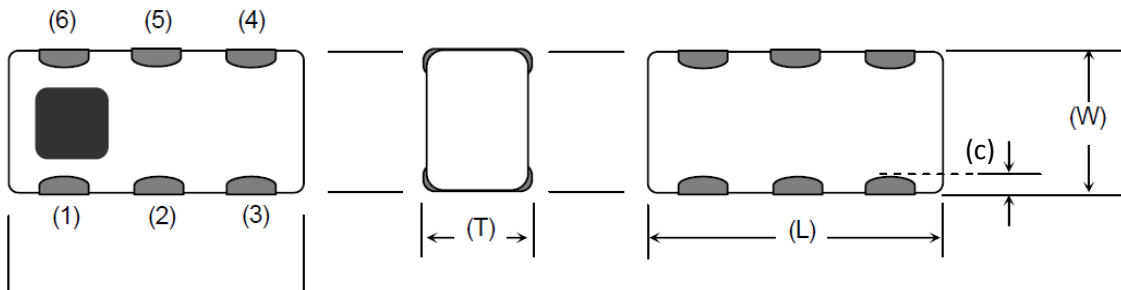
P/N: **DPX165850DT-8040A3**

## DPX165850DT-8040A3

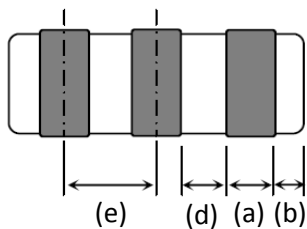
### SHAPES AND DIMENSIONS

[Top View]

[Bottom View]



[Side View]



Dimensions (mm)

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

Terminal functions

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

(6)	Low-Band Port
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### TEMPERATURE RANGE

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

## DPX165850DT-8040A3

### ■ ELECTRICAL CHARACTERISTICS

( Measurement )

#### Low-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	-	0.59	0.75
Attenuation (dB)	4800 to 5000	23.0	29.0	-
	7200 to 7500	30.0	49.0	-

 $T_a = +25 \pm 5^\circ\text{C}$ 

#### High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	5150 to 5850	-	1.48	1.90
Attenuation (dB)	2400 to 2500	25.0	34.0	-
	3400 to 3900	15.0	20.0	-
	3600 to 3600	19.0	30.0	-
	7200 to 7200	19.0	27.0	-
	7250 to 7550	23.0	29.0	-
	10600 to 11700	30.0	42.0	-
	15300 to 16200	20.0	27.0	-

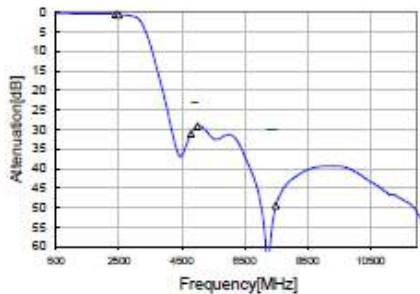
 $T_a = +25 \pm 5^\circ\text{C}$ 

We recommend to terminate for all port with 50ohm at all times.

# DPX165850DT-8040A3

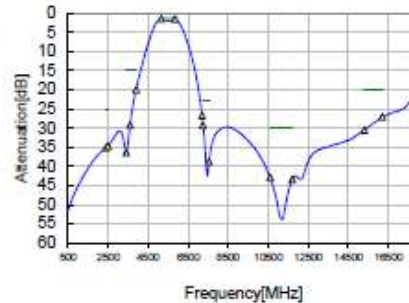
## FREQUENCY CHARACTERISTICS

Low band-Port



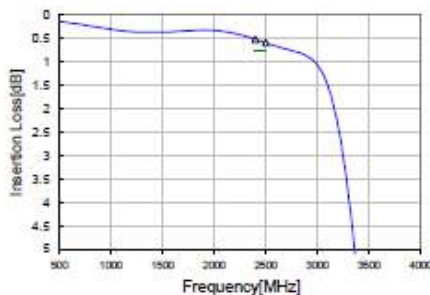
Attenuation	
4800 MHz	31.08 dB
5000 MHz	29.19 dB
7200 MHz	64.28 dB
7500 MHz	49.41 dB

High band-Port



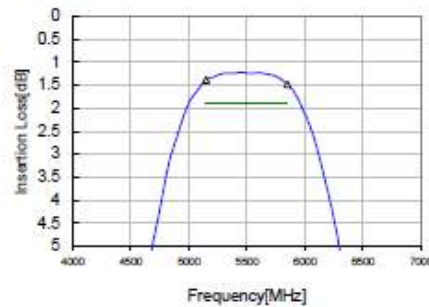
Attenuation	
2400 MHz	35.04 dB
2500 MHz	34.54 dB
3400 MHz	36.35 dB
3600 MHz	29.26 dB
3900 MHz	19.97 dB
7200 MHz	26.67 dB
7250 MHz	29.20 dB
7550 MHz	38.71 dB
10600 MHz	42.84 dB
11700 MHz	43.40 dB
16300 MHz	30.42 dB
16200 MHz	27.01 dB

Low band-Port



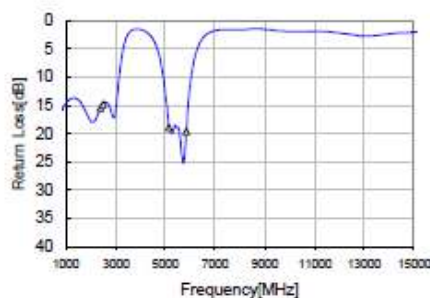
Insertion Loss	
2400 MHz	0.52 dB
2500 MHz	0.59 dB

High band-Port



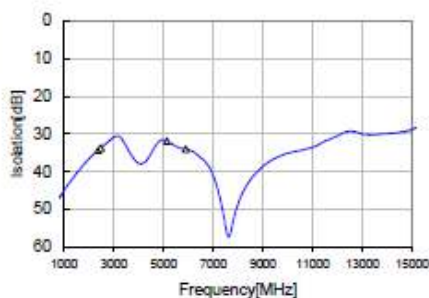
Insertion Loss	
5150 MHz	1.39 dB
5850 MHz	1.48 dB

Common Port Return Loss



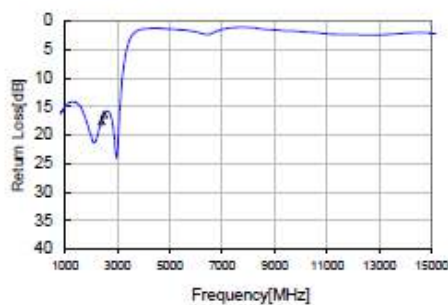
2400 MHz	15.47 dB
2500 MHz	14.78 dB
5150 MHz	18.59 dB
5850 MHz	19.55 dB

Isolation



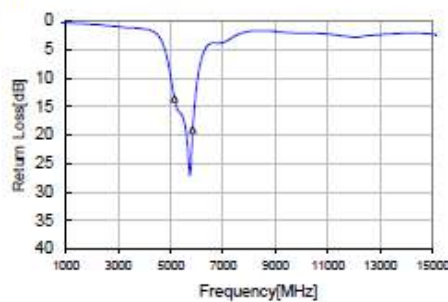
2400 MHz	34.2 dB
2500 MHz	33.6 dB
5150 MHz	31.9 dB
5900 MHz	34.0 dB

Low band-Port Return Loss



2400 MHz	17.61 dB
2500 MHz	16.42 dB

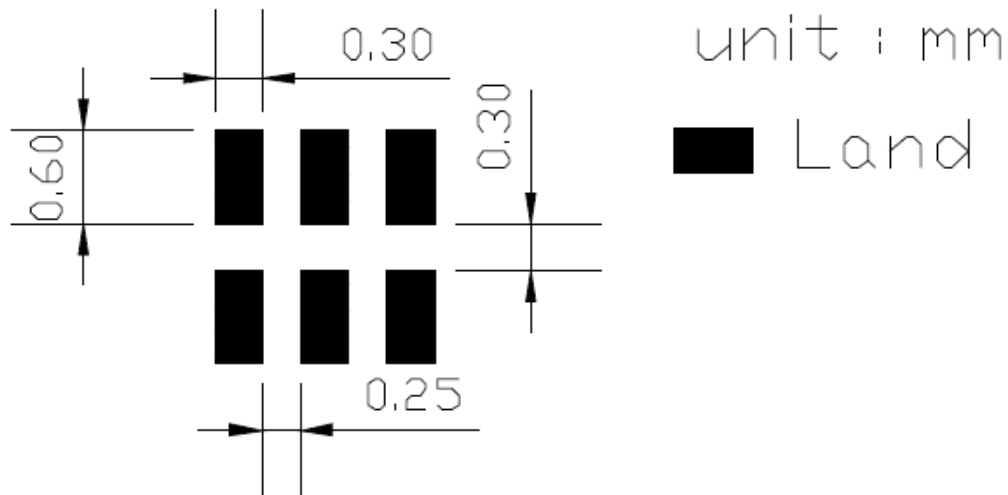
High band-Port Return Loss



5150 MHz	13.57 dB
5850 MHz	19.07 dB

## DPX165850DT-8040A3

### RECOMMENDED LAND PATTERN



Note:

Line width be designed to match 50 Ohm characteristic impedance, depending on PCB material and thickness.

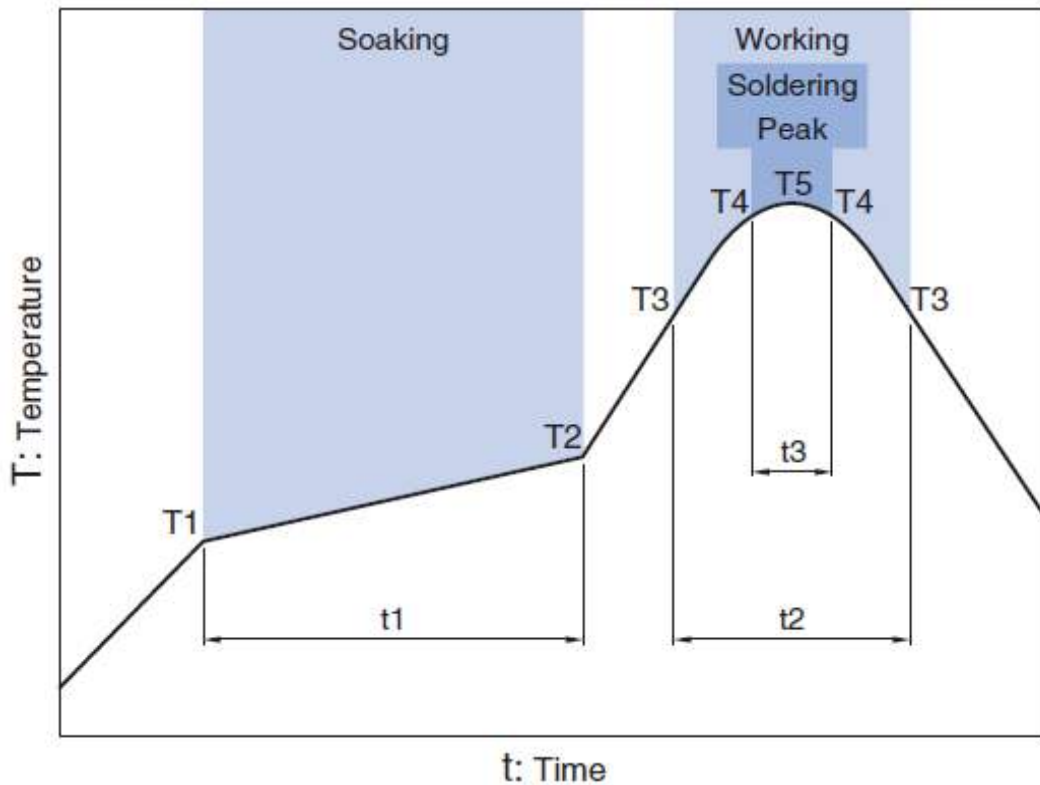
### ENVIRONMENT INFORMATION

RoHS Statement  
RoHS Compliance

## DPX165850DT-8040A3

### ■ 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.

 <b>REMINDERS</b>
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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.