



Oct. 2016 Ver.1.3a  
TDK Corporation

## Multilayer Diplexer

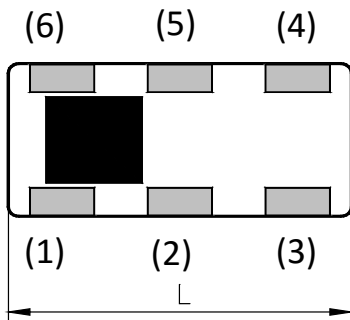
DPX Series 1.6x0.8mm [EIA 0603] TYPE

P/N: **DPX165950DT-8044A1**

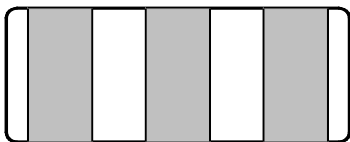
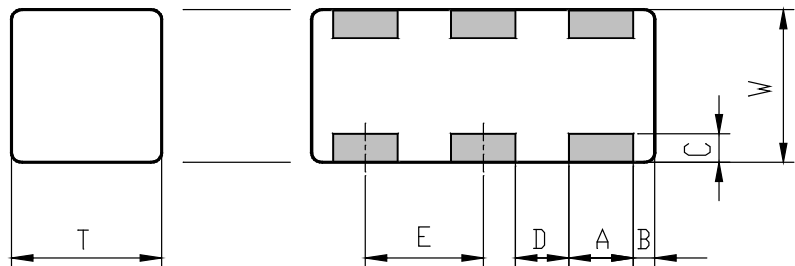
## DPX165950DT-8044A1

### ■ SHAPES AND DIMENSIONS

[Top View]



[Bottom 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	+0.15 /-0.10	+/-0.15	+/-0.15	+/-0.10

Terminal functions

(1)	GND
(2)	Common Port
(3)	GND

(4)	High-Band Port
(5)	GND
(6)	Low-Band Port

### ■ TEMPERATURE RANGE

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

### ■ TERMINATION FINISH

Material
Sn plate

**DPX165950DT-8044A1****ELECTRICAL CHARACTERISTICS**

( Measurement )

**Low-Band**

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	704 to 960	-	0.29	0.40
	1572 to 1578	-	0.35	0.40
	1570 to 1610	-	0.37	0.45
Insertion Loss (dB) ( -40 to +85 °C )	704 to 960	-	-	0.60
	1572 to 1578	-	-	0.60
	1570 to 1610	-	-	0.65
VSWR	704 to 960	-	1.11	1.92
	1572 to 1578	-	1.19	1.92
	1570 to 1610	-	1.20	1.92
Attenuation (dB)	2400 to 2500	15	19	-
	2500 to 2690	10	14	-
	4900 to 5150	17	29	-
	5150 to 5850	17	21	-
	5850 to 5950	16	20	-

Ta = +25+/-5°C

**High-Band**

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	2400 to 2500	-	0.39	0.55
	2500 to 2690	-	0.48	0.55
	4900 to 5150	-	0.24	0.50
	5150 to 5850	-	0.23	0.50
	5850 to 5950	-	0.25	0.50
Insertion Loss (dB) ( -40 to +85 °C )	2400 to 2500	-	-	0.75
	2500 to 2690	-	-	0.75
	4900 to 5150	-	-	0.70
	5150 to 5850	-	-	0.70
	5850 to 5950	-	-	0.70
VSWR	2400 to 2500	-	1.12	1.92
	2500 to 2690	-	1.26	1.92
	4900 to 5150	-	1.47	1.92
	5150 to 5850	-	1.37	1.92
	5850 to 5950	-	1.19	1.92
Attenuation (dB)	704 to 960	12	14	-
	1572 to 1578	20	23	-
	1570 to 1610	20	23	-

Ta = +25+/-5°C

**Common**

Parameter	TDK Spec		
	Min.	Typ.	Max.
Power Handling (W) 50% Duty	-		4

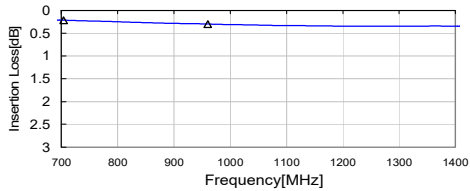
All specifications are subject to change without notice.

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# DPX165950DT-8044A1

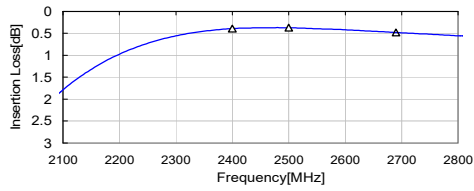
## FREQUENCY CHARACTERISTICS

Low-Band Port Insertion Loss

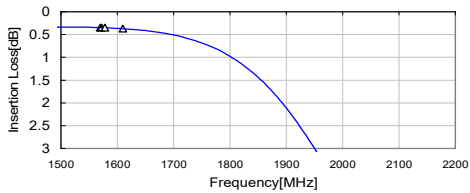


704 MHz	0.21 dB
960 MHz	0.29 dB

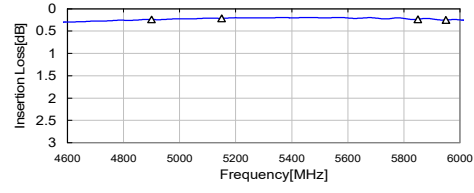
High-Band Port Insertion Loss



2400 MHz	0.39 dB
2500 MHz	0.37 dB
2690 MHz	0.48 dB

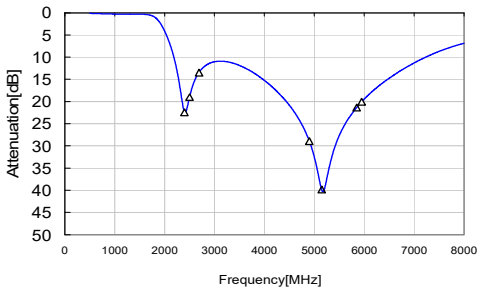


1572 MHz	0.35 dB
1578 MHz	0.35 dB
1570 MHz	0.35 dB
1610 MHz	0.37 dB



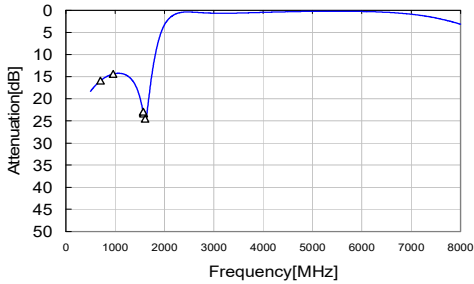
4900 MHz	0.24 dB
5150 MHz	0.21 dB
5850 MHz	0.23 dB
5950 MHz	0.25 dB

Low-Band Port Attenuation



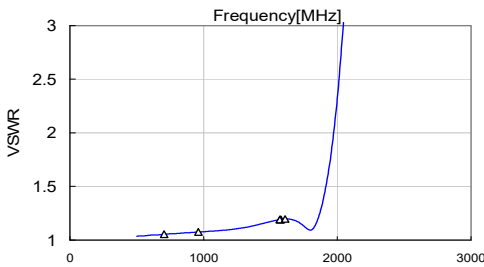
2400 MHz	22.4 dB
2500 MHz	19.0 dB
2690 MHz	13.5 dB
4900 MHz	28.9 dB
5150 MHz	39.8 dB
5850 MHz	21.4 dB
5950 MHz	20.1 dB

High-Band Port Attenuation



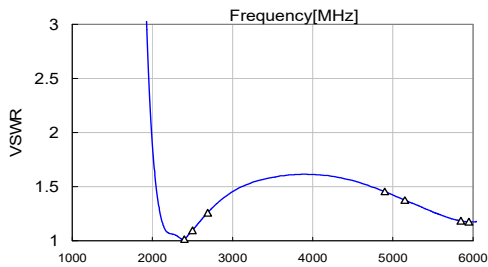
704 MHz	15.9 dB
960 MHz	14.4 dB
1572 MHz	23.1 dB
1578 MHz	23.3 dB
1570 MHz	22.9 dB
1610 MHz	24.5 dB

Low-Band Port VSWR



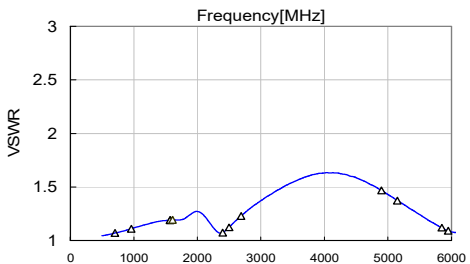
704 MHz	1.05
960 MHz	1.08
1572 MHz	1.19
1578 MHz	1.19
1570 MHz	1.19
1610 MHz	1.20

High-Band Port VSWR



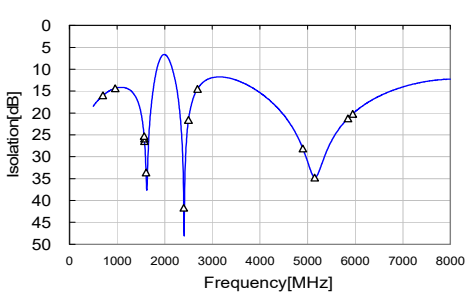
2400 MHz	1.02
2500 MHz	1.10
2690 MHz	1.26
4900 MHz	1.46
5150 MHz	1.38
5850 MHz	1.19
5950 MHz	1.18

Common Port VSWR



704 MHz	1.07 dB
960 MHz	1.11 dB
1572 MHz	1.19 dB
1578 MHz	1.19 dB
1570 MHz	1.19 dB
1610 MHz	1.19 dB
2400 MHz	1.07 dB
2500 MHz	1.12 dB
2690 MHz	1.23 dB
4900 MHz	1.47 dB
5150 MHz	1.37 dB
5850 MHz	1.12 dB
5950 MHz	1.09 dB

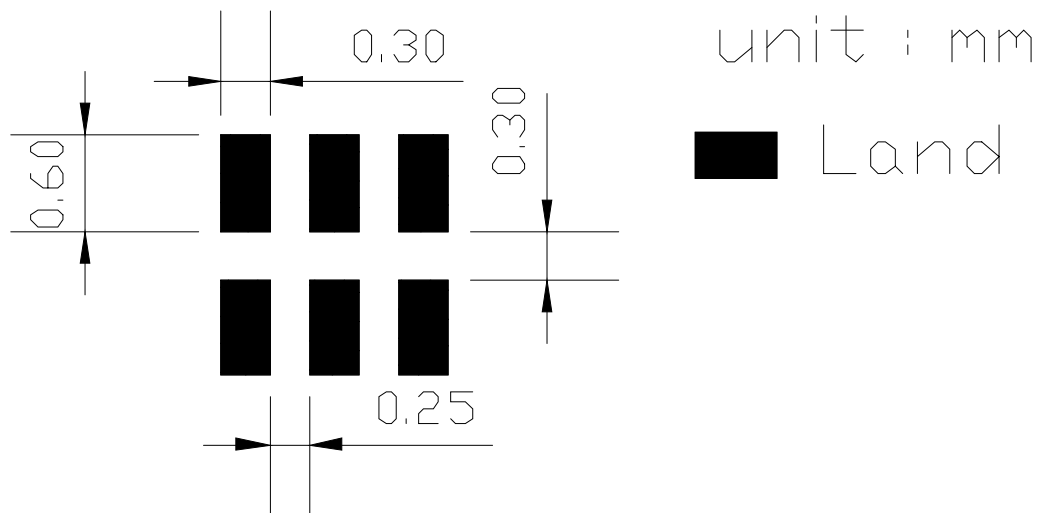
Isolation (Low - High)



704 MHz	16.0 dB
960 MHz	14.4 dB
1572 MHz	25.8 dB
1578 MHz	26.4 dB
1570 MHz	25.3 dB
1610 MHz	33.6 dB
2400 MHz	41.7 dB
2500 MHz	21.6 dB
2690 MHz	14.5 dB
4900 MHz	28.1 dB
5150 MHz	34.7 dB
5850 MHz	21.3 dB
5950 MHz	20.2 dB

## DPX165950DT-8044A1

### RECOMMENDED LAND PATTERN



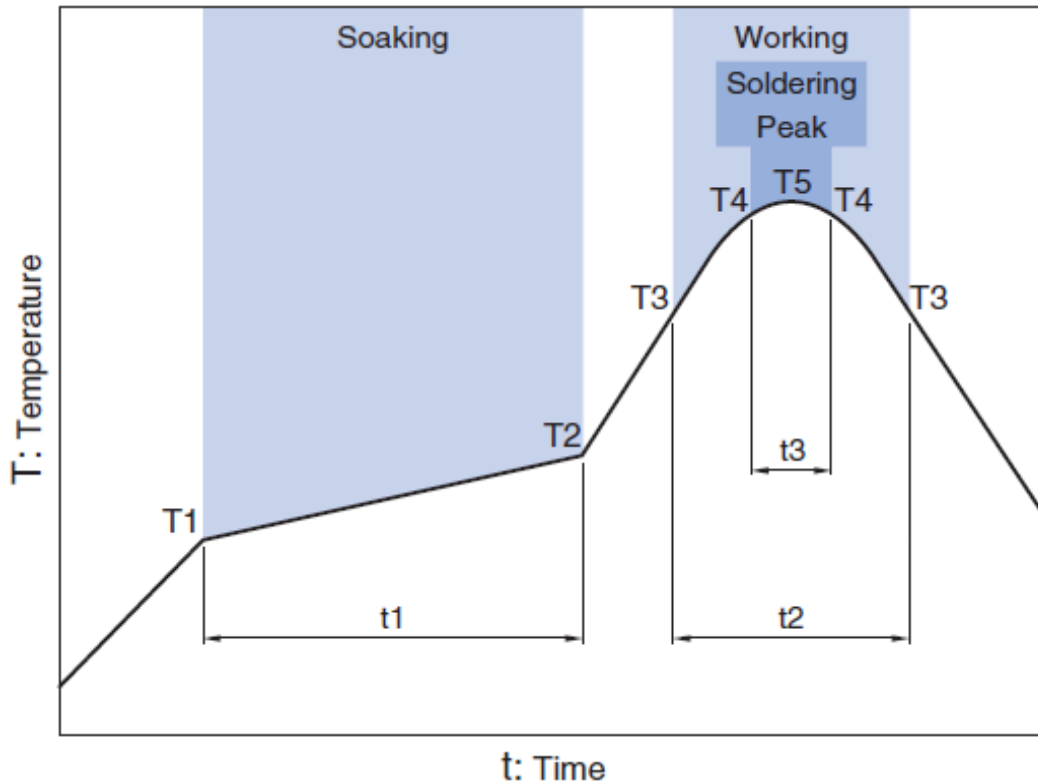
### ENVIRONMENT INFORMATION

RoHS Statement  
RoHS Compliance

## DPX165950DT-8044A1

### RECOMMENDED REFLOW PROFILE

Pb free solder

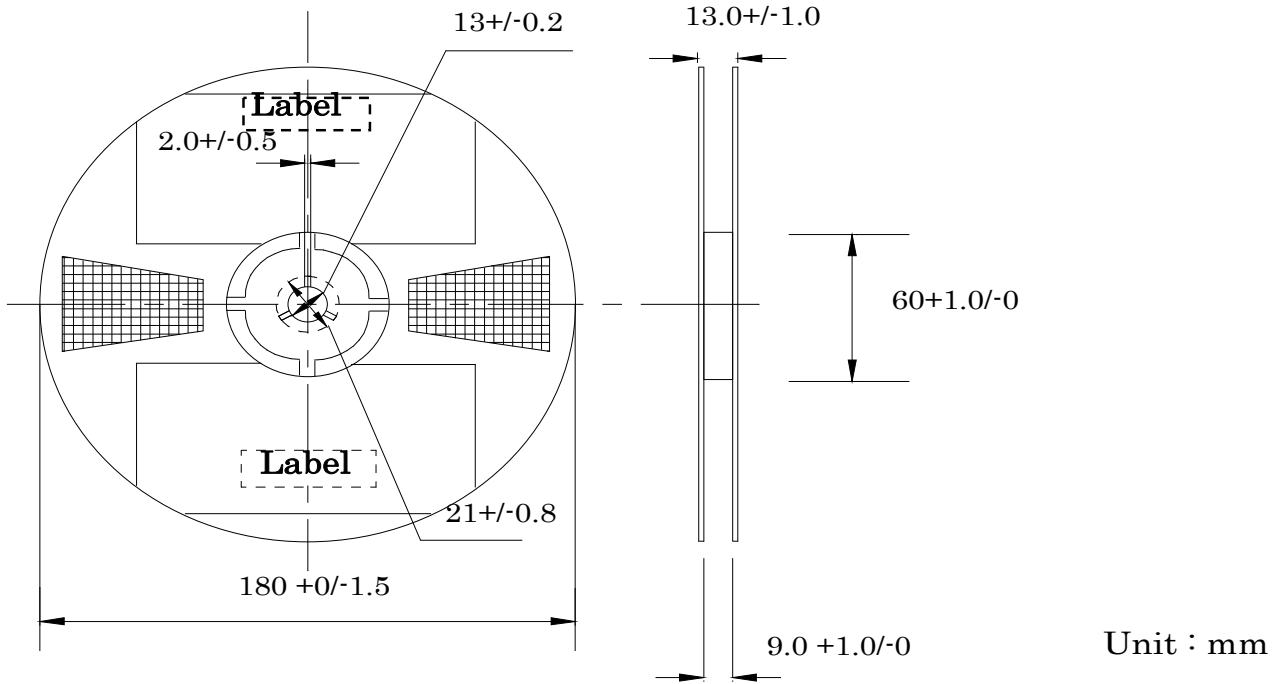


Soaking			Working		Soldering		Peak
Temp.	Temp.	Time	Temp.	Time	Temp.	Time	Temp.
T1	T2	t1	T3	t2	T4	t3	T5
150°C	180°C	60 to 120sec	230°C	more than 30sec	247 to 253°C	within 10sec	260°C Max.

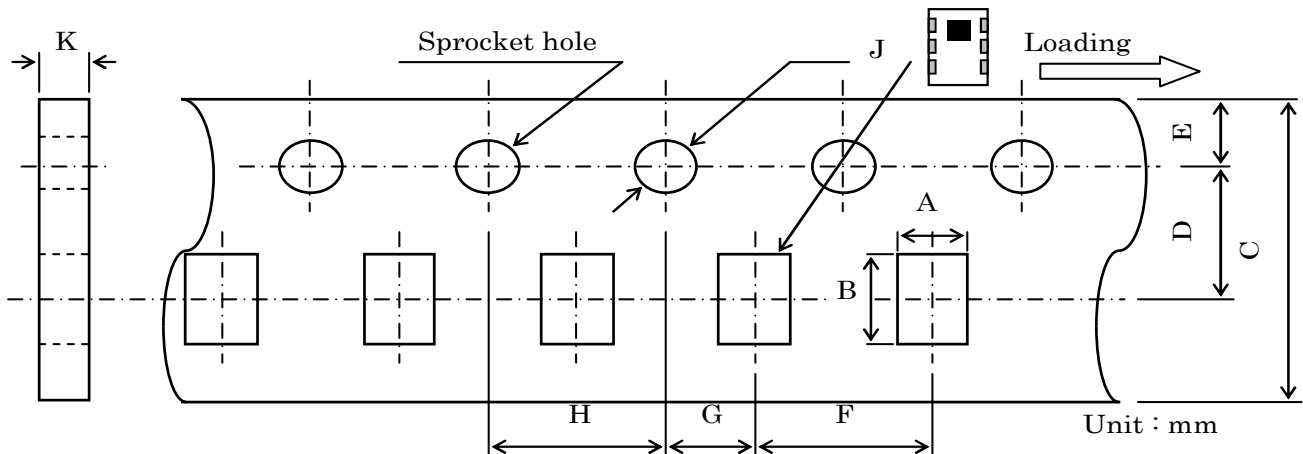
# DPX165950DT-8044A1

## PACKAGING STYLE

Reel Dimensions



Carrier Tape



Dimensions (mm)

A	B	C	D	E	F	G	H	J	K
0.97	1.8	8.0	3.5	1.75	4.0	2.0	4.0	1.5	0.8
+/-0.05	+/-0.05	+/-0.2	+/-0.05	+/-0.1	+/-0.1	+/-0.05	+/-0.1	+0.1/-0	MAX

STANDARD PACKAGE QUANTITY ( pieces/reel )
4,000

## 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.