Jan. 2022 Ver.2.0
TDK Corporation

Multilayer Diplexer

For 698-1511MHz / 1710-2700MHz

DPX Series 2.0x1.25mm [EIA 0805] TYPE

P/N: **DPX201880DT-4061A2**

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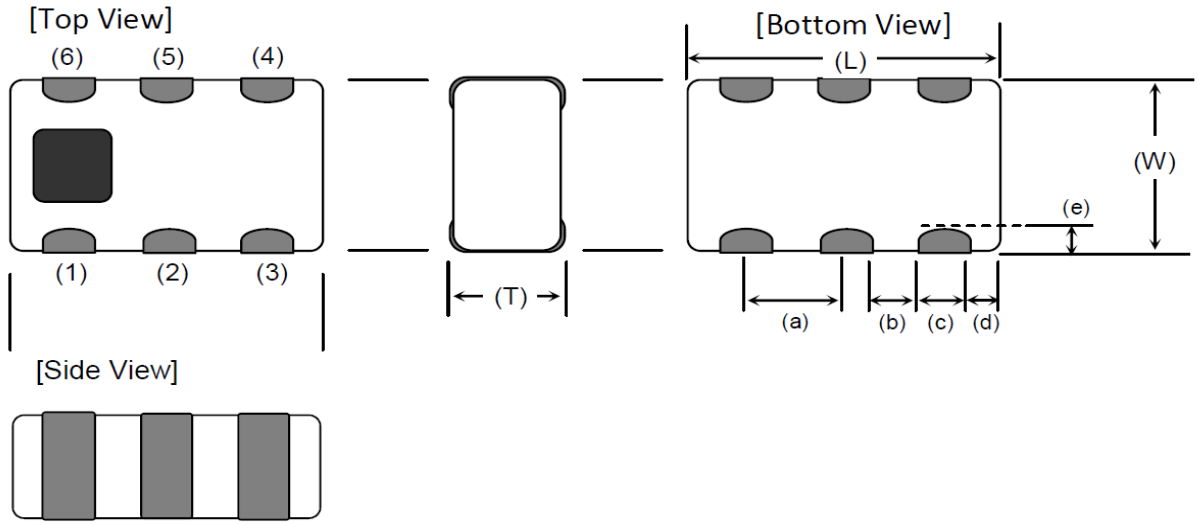
SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d	e
2.00 +/-0.15	1.25 +/-0.15	0.90 +/-0.10	0.65 +/-0.15	0.35 +/-0.15	0.30 +/-0.15	0.20 +/-0.15	0.20 +/-0.15

Terminal functions

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

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

TERMINATION FINISH

Material
Sn plate

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■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	698 to 960	-	0.63	0.85
	960 to 1447	-	0.71	0.85
	1447 to 1511	-	0.98	1.60
VSWR (Low-Band Port)	698 to 960	-	1.12	1.92
	960 to 1447	-	1.21	1.92
	1447 to 1511	-	1.21	1.92
Attenuation (dB)	1710 to 1880	10	15.0	-
	1880 to 2170	10	15.0	-
	2170 to 2700	10	15.0	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	1710 to 1880	-	1.02	1.60
	1880 to 2170	-	0.29	1.00
	2170 to 2700	-	0.52	1.00
VSWR (High-Band Port)	1710 to 1880	-	1.35	1.92
	1880 to 2170	-	1.40	1.92
	2170 to 2700	-	1,86	2.32
Attenuation (dB)	698 to 960	7	9.0	-
	960 to 1447	7	9.0	-
	1447 to 1511	10	15.0	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

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■ MAXIMUM RATINGS

(Measurement)

Parameter			TDK Spec	Conditions
Operating temperature (°C)			–40 to +85 °C	
Storage temperature (°C)			–40 to +85 °C	
Power Handling (W) *1		Frequency (MHz)		
	Low-Band	698 to 1511	1	CW
	High-Band	1710 to 2700	1	CW
Human Body Model : HBM		@Each Port (V)	+/-1000	100pF / 1500ohm
Machine Model : MM		@Each Port (V)	+/-150	200pF / 0ohm
Charged Device Model : CDM		@Each Port (V)	+/-500	Humidity : 60%RH max

*1 : Refer to 3GPP TS 38.101-1 V15.2.0

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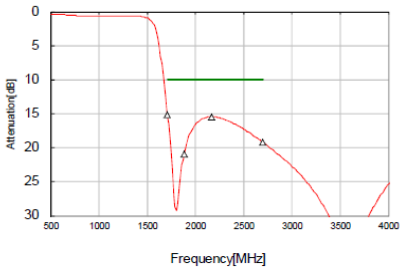
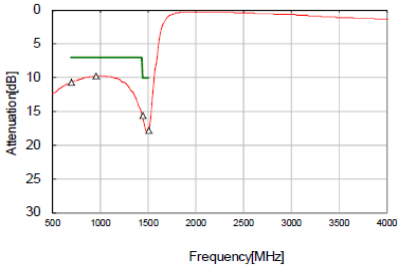
FREQUENCY CHARACTERISTICS

Lo-Band Port S21



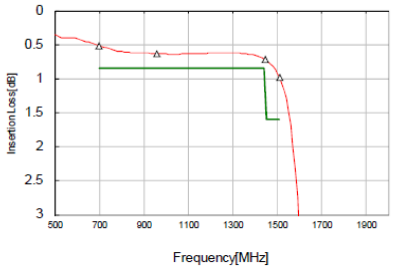
Attenuation		
1710	MHz	15.06 dB
1880	MHz	20.94 dB
2170	MHz	15.45 dB
2700	MHz	19.22 dB

Hi-Band Port S31



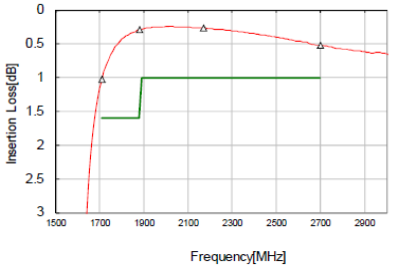
Attenuation		
698	MHz	10.71 dB
960	MHz	9.76 dB
1447	MHz	15.62 dB
1511	MHz	17.76 dB

Lo-Band Port S21



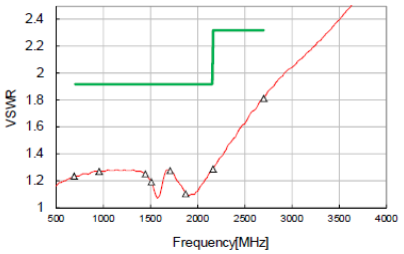
Insertion Loss		
698	MHz	0.51 dB
960	MHz	0.63 dB
1447	MHz	0.71 dB
1511	MHz	0.98 dB

Hi-Band Port S31



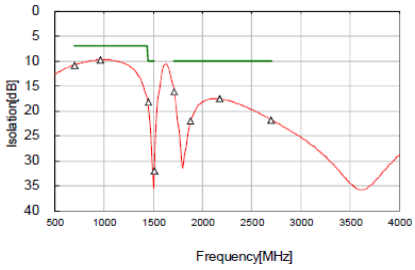
Insertion Loss		
1710	MHz	1.02 dB
1880	MHz	0.29 dB
2170	MHz	0.26 dB
2700	MHz	0.52 dB

Common Port VSWR S11



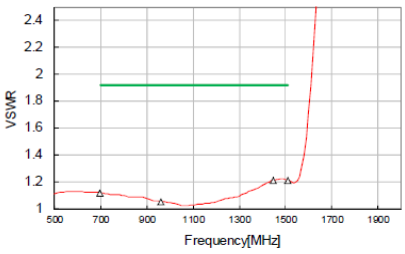
698	MHz	1.23
960	MHz	1.27
1447	MHz	1.25
1511	MHz	1.19
1710	MHz	1.28
1880	MHz	1.10
2170	MHz	1.29
2700	MHz	1.81

Isolation S23



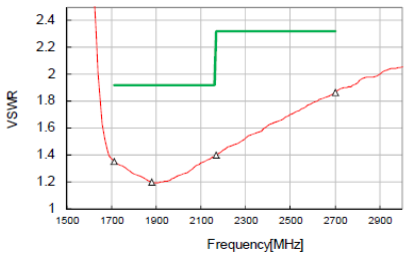
698	MHz	10.8 dB
960	MHz	9.8 dB
1447	MHz	18.1 dB
1511	MHz	32.0 dB
1710	MHz	16.1 dB
1880	MHz	22.0 dB
2170	MHz	17.6 dB
2700	MHz	21.8 dB

Lo-Band Port VSWR S22



698	MHz	1.12
960	MHz	1.05
1447	MHz	1.21
1511	MHz	1.21

Hi-band Port VSWR S33



1710	MHz	1.35
1880	MHz	1.20
2170	MHz	1.40
2700	MHz	1.86

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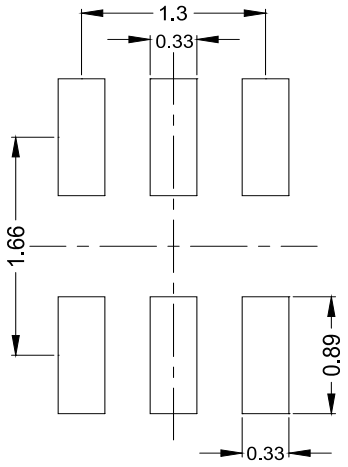
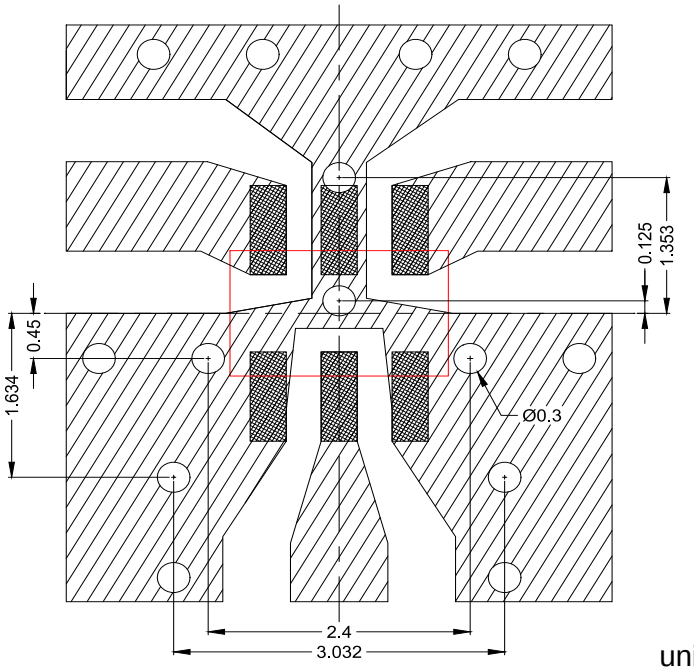
RECOMMENDED LAND PATTERN



unit : mm

EVALUATION BOARD



Thru Hole
Surface Pattern
Land Pattern
DUT

Material & Layer	Thickness
Copper Surface Pattern	0.05 mm
Teflon	0.35 mm
Copper Bottom GND	0.05 mm

unit : mm

* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.
** The position of the throuh hole which have possibility of influence to the prerformance are indicated by dimension line.

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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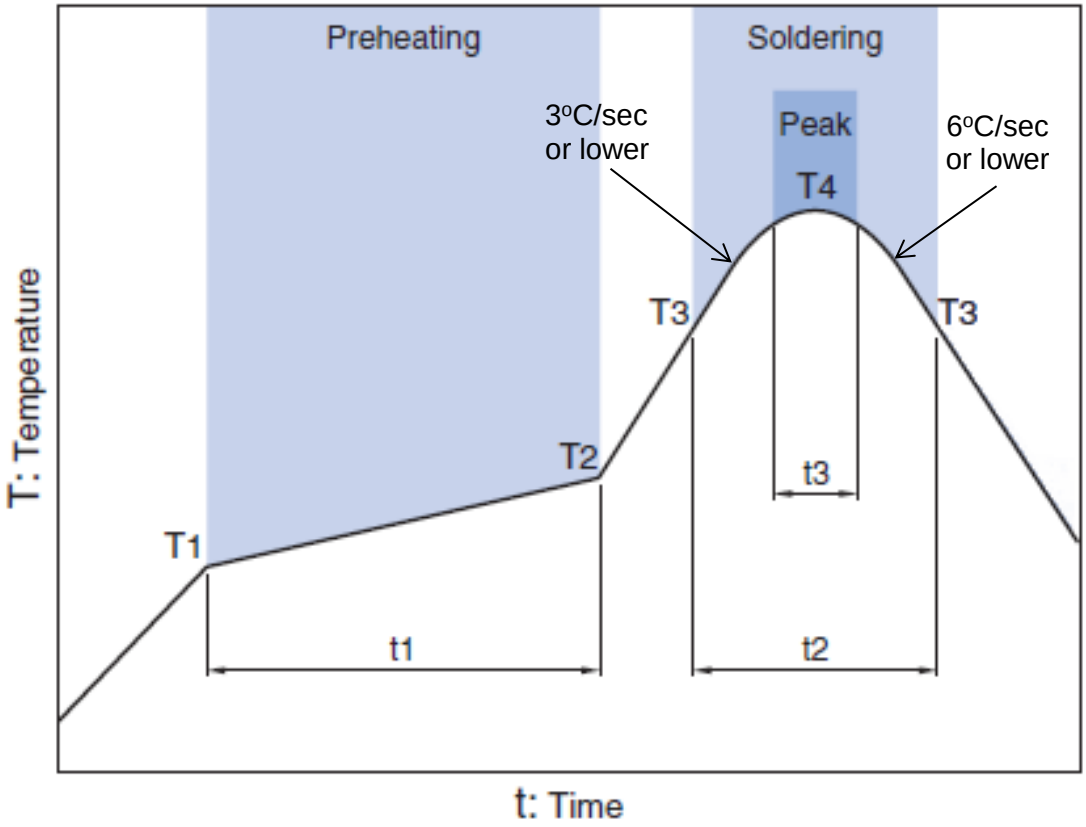
■ RECOMMENDED REFLOW PROFILE



Preheating			Soldering			
			Critical zone (T3 to T4)		Peak	
Temp.		Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3 *
150°C	200°C	60 to 120sec	217°C	60 to 120sec	240 to 260°C	30 sec Max

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

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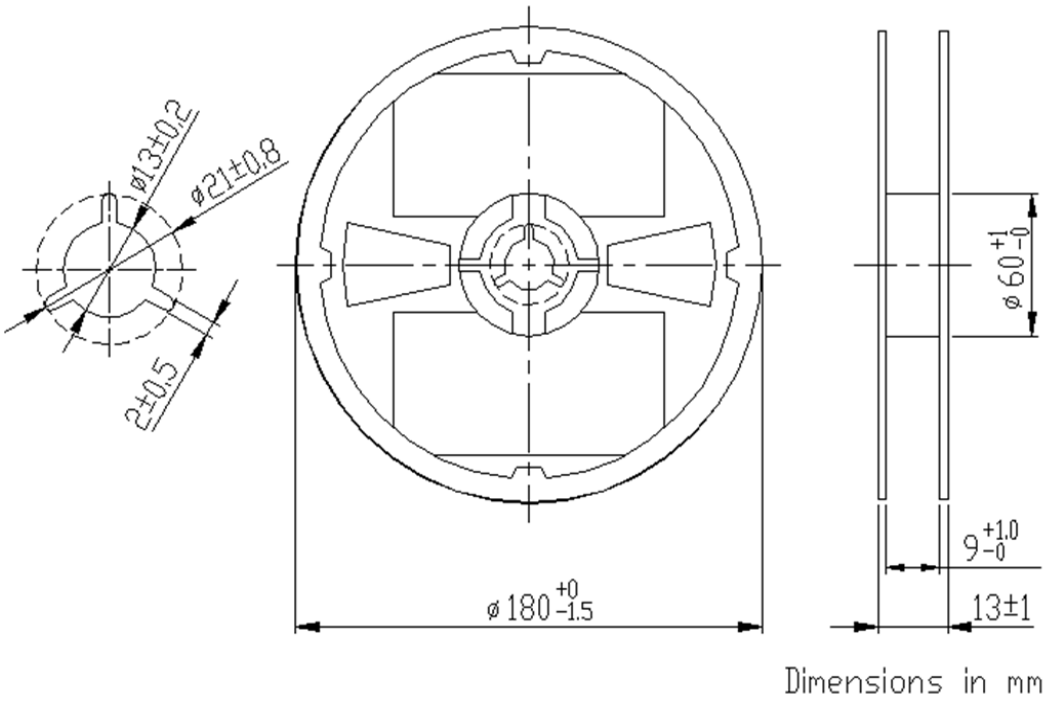
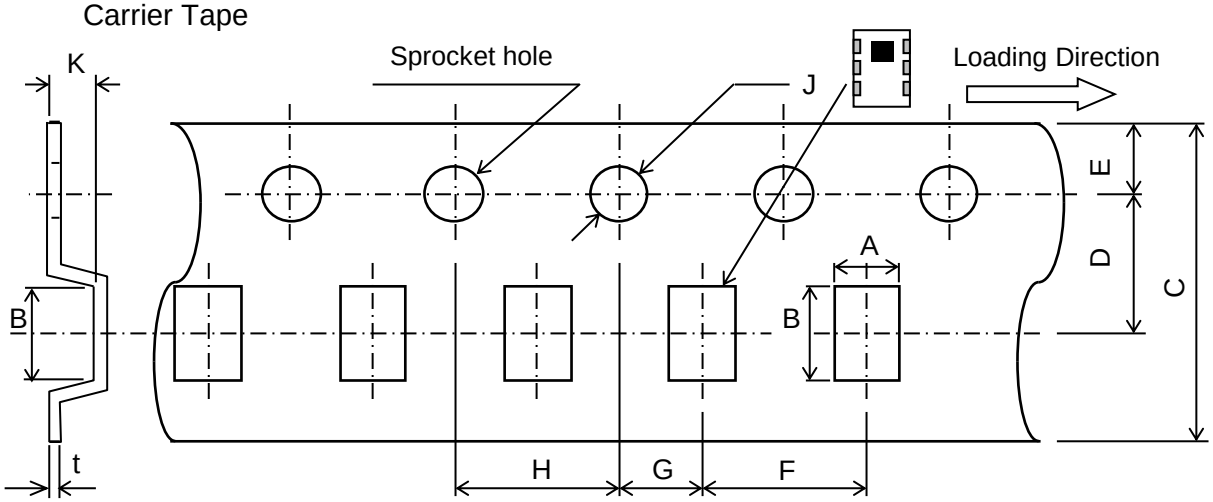
■ PACKAGING STYLE

Reel Dimensions



Dimensions in mm

Carrier Tape



Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	t
1.45 +/-0.05	2.2 +/-0.05	8.0 +0.3/-0.1	3.5 +/-0.05	1.75 +/-0.1	4.0 +/-0.1	2.0 +/-0.05	4.0 +/-0.1	1.5 +0.1/-0	1.15 MAX	0.25 +/-0.05

STANDARD PACKAGE QUANTITY (pieces/reel)
2,000

使用注意事项

在使用本产品前，请务必随附采购规格书。

安全注意事项

使用本产品时，请注意安全事项。

⚠ 注 意

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(2) 交通运输设备 （汽车，电动火车，船舶等）
(3) 医疗设备
(4) 发电控制设备
(5) 原子能源相关设备
(6) 海底设备
(7) 交通控制设备
(8) 公共信息处理设备
(9) 军事设备
(10) 电加热设备、燃烧设备
(11) 防灾 / 预防犯罪设备
(12) 安全设备
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