



Jun. 2021 Ver.2.0
TDK Corporation

Multilayer Diplexer

For LTE

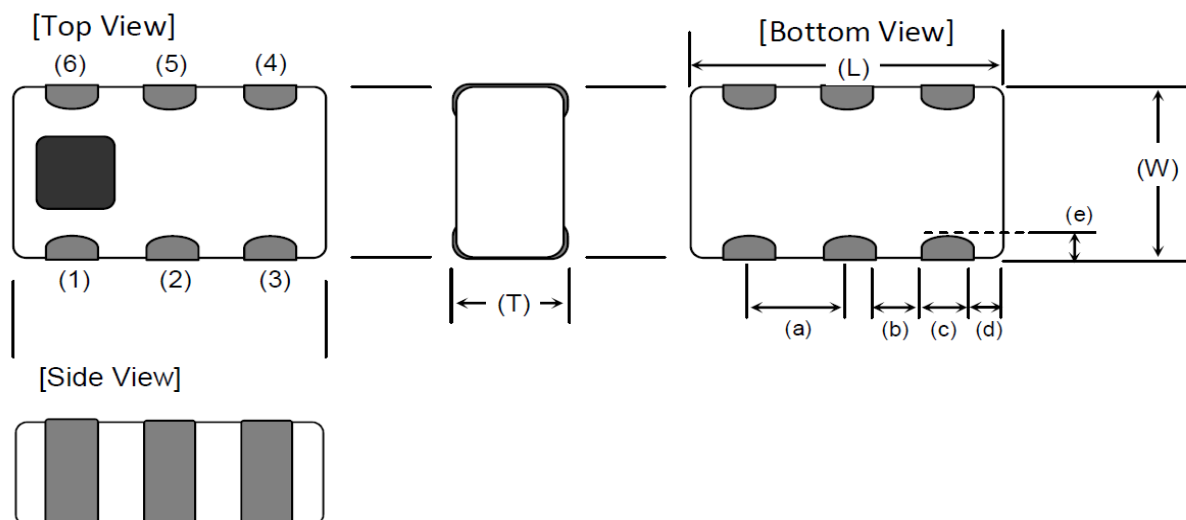
DPX Series 2.0x1.25mm [EIA 0805] TYPE

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

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DPX201880DT-4061A2

SHAPES AND DIMENSIONS



Dimensions (mm)

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

DPX201880DT-4061A2

■ 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

Jun. 2021 Ver.2.0
TDK Corporation

DPX201880DT-4061A2

■ 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

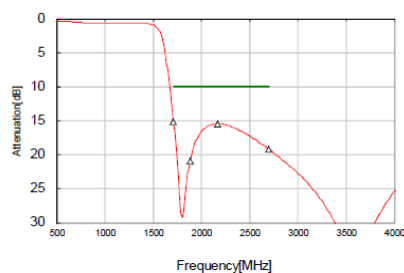
Jun. 2021 Ver.2.0
TDK Corporation

DPX201880DT-4061A2

FREQUENCY CHARACTERISTICS

Lo-Band Port

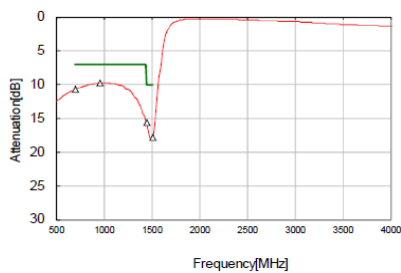
S21



Frequency [MHz]	Attenuation [dB]
1710	15.08
1880	20.94
2170	15.45
2700	19.22

Hi-Band Port

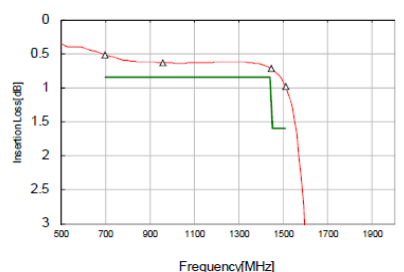
S31



Frequency [MHz]	Attenuation [dB]
698	10.71
960	9.76
1447	15.62
1511	17.76

Lo-Band Port

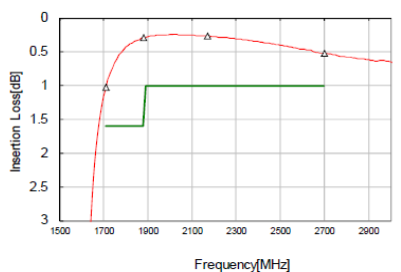
S21



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

Hi-Band Port

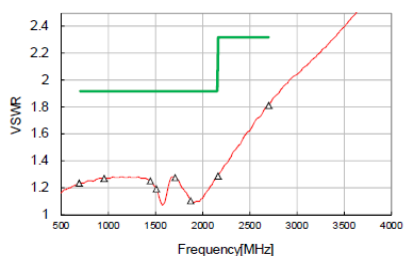
S31



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

Common Port VSWR

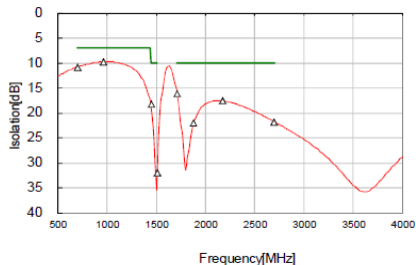
S11



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

Isolation

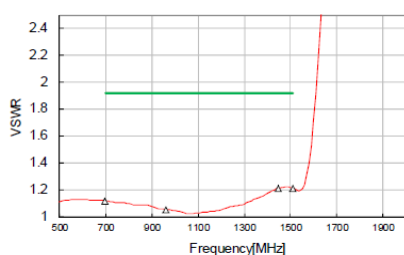
S23



Frequency [MHz]	Isolation [dB]
698	10.8
960	9.8
1447	18.1
1511	32.0
1710	18.1
1880	22.0
2170	17.6
2700	21.8

Lo-Band Port VSWR

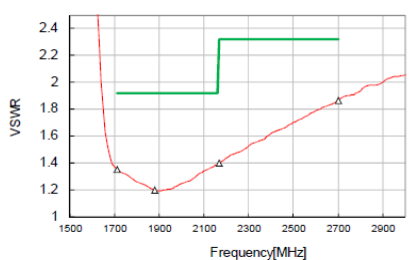
S22



Frequency [MHz]	VSWR
698	1.12
960	1.05
1447	1.21
1511	1.21

Hi-band Port VSWR

S33



Frequency [MHz]	VSWR
1710	1.35
1880	1.20
2170	1.40
2700	1.88

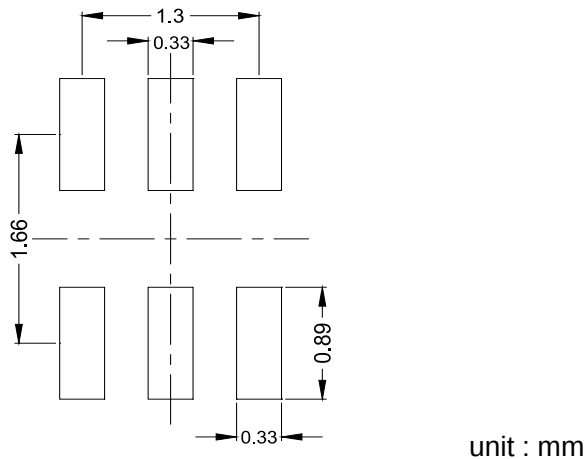
All specifications are subject to change without notice.

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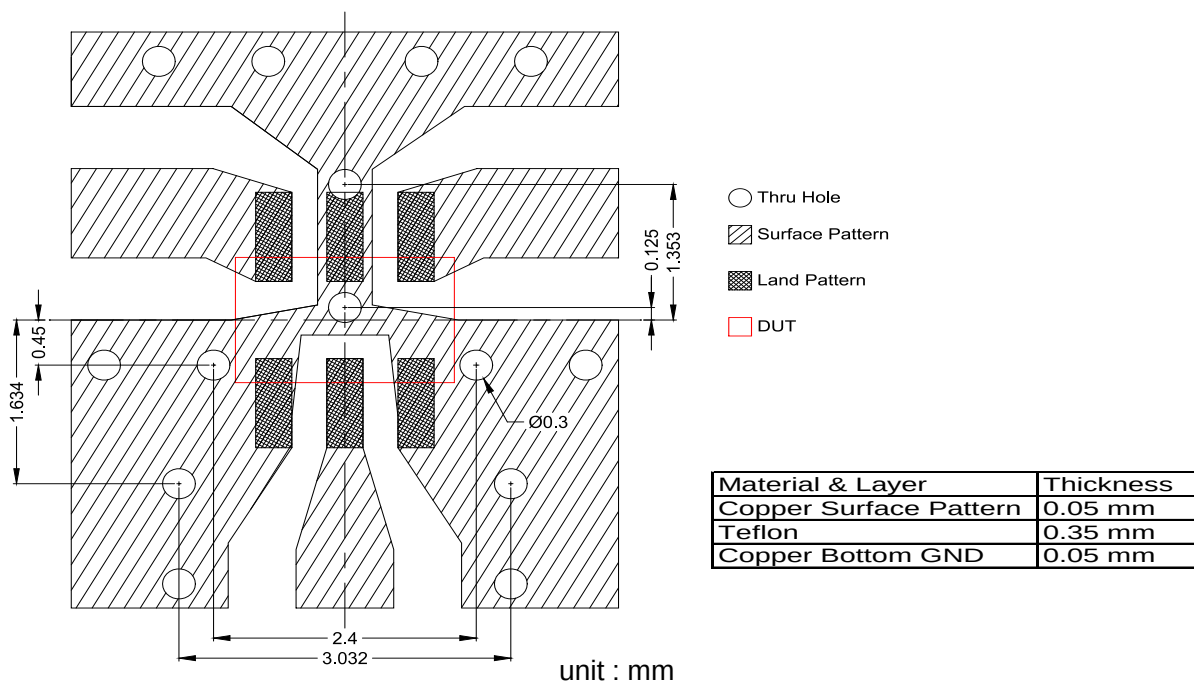
Jun. 2021 Ver.2.0
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RECOMMENDED LAND PATTERN



EVALUATION BOARD



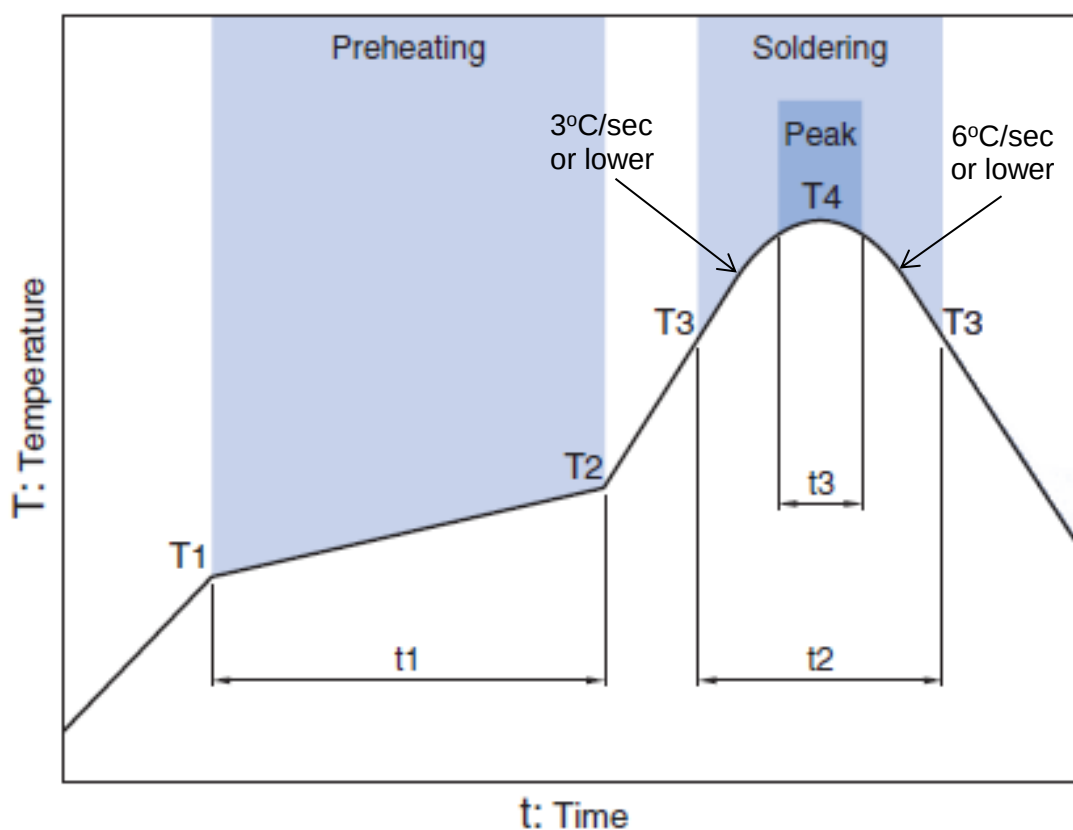
* Line width should be designed to match 50 ohm characteristic impedance depending on PCB material and thickness.

** The position of the through hole which have possibility of influence to the performance are indicated by dimension line.

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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DPX201880DT-4061A2**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.

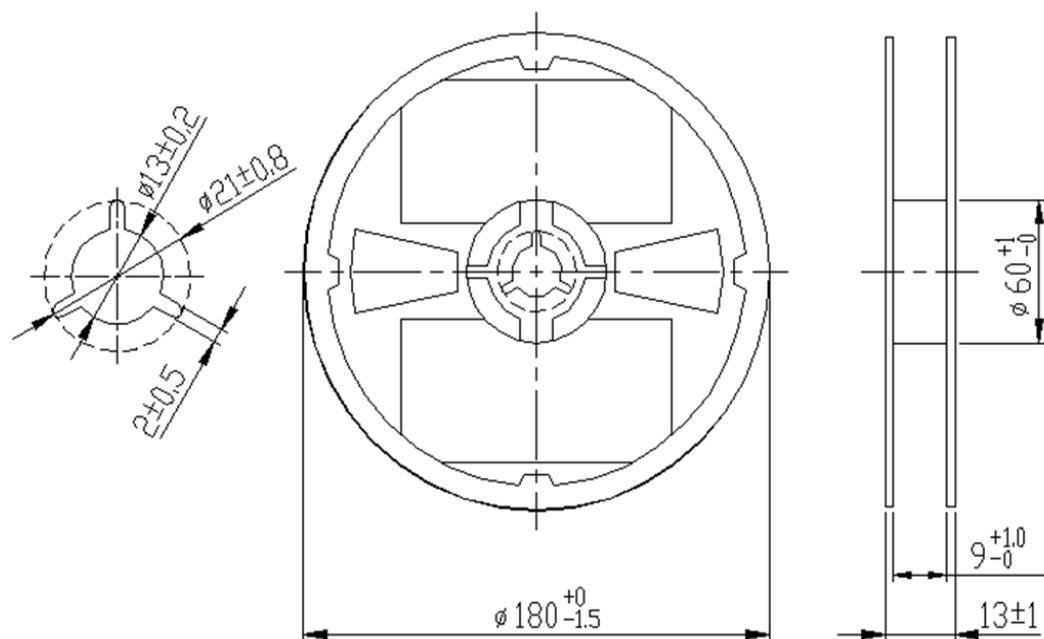
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

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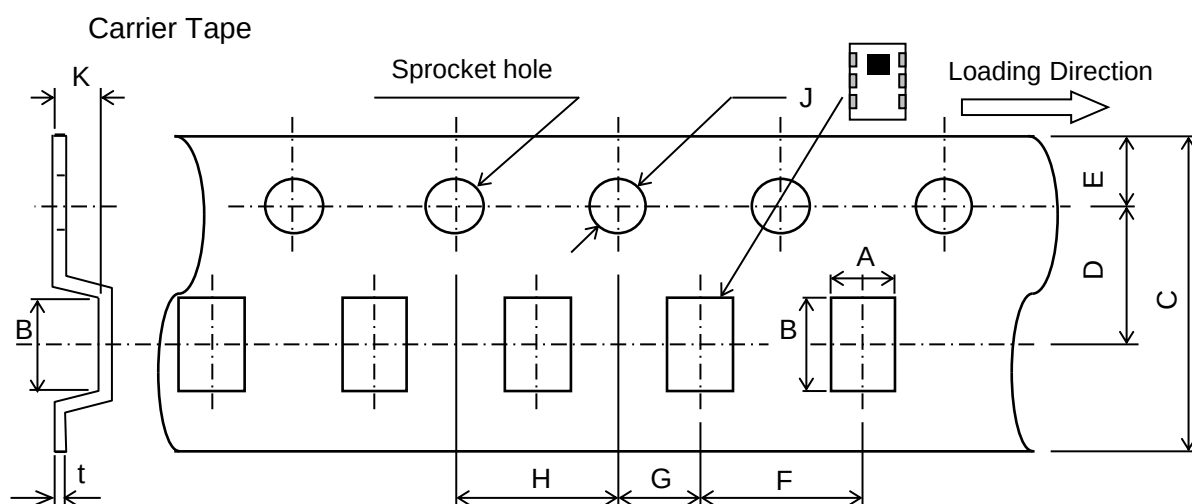
DPX201880DT-4061A2

PACKAGING STYLE

Reel Dimensions



Dimensions in mm



Dimensions (mm)

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

STANDARD PACKAGE QUANTITY
(pieces/reel)

2,000

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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.