May.2019 Ver.1.5a
TDK Corporation

Multilayer Diplexer

For LTE

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

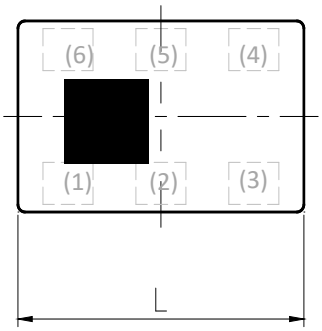
P/N: **DPX205925DT-4213A2**

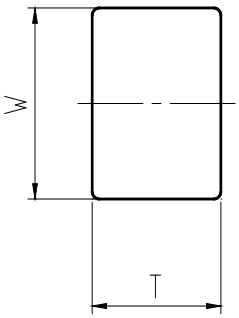
May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

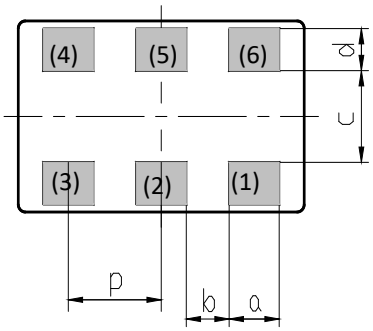
SHAPES AND DIMENSIONS

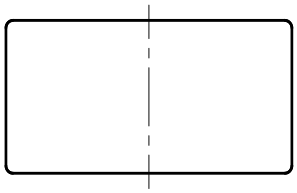
[Top View]





[Bottom View]





Dimensions (mm)

L	W	T	a	b	c	d	p
2.00 +/-0.10	1.25 +/-0.10	0.60 Max	0.35 +/-0.10	0.30 +/-0.15	0.60 +/-0.10	0.275 +/-0.10	0.65 +/-0.10

Terminal functions

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

(6)	Low-Band Port

TERMINATION FINISH

Material
Ag

May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Spec.		
		Min.	Typ.	Max.
Insertion Loss (dB)	617 to 960	-	0.17	0.35
	1427 to 1511	-	0.23	0.45
	1710 to 2170	-	0.40	0.55
	2300 to 2496	-	0.58	0.75
	2496 to 2690	-	0.73	0.90
VSWR (Common Port)	617 to 960	-	1.15	1.50
	1427 to 1710	-	1.17	1.50
	1710 to 2170	-	1.31	1.67
	2170 to 2690	-	1.40	1.67
VSWR (Low-Band Port)	617 to 960	-	1.19	1.50
	1427 to 1710	-	1.23	1.50
	1710 to 2170	-	1.30	1.67
	2170 to 2690	-	1.37	1.67
Attenuation (dB)	3300 to 3400	18	26.8	-
	3400 to 3800	23	26.7	-
	5150 to 5925	30	39.9	-

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Insertion Loss (dB)	3300 to 3400	-	0.85	1.30
	3400 to 3800	-	0.73	1.00
	5150 to 5925	-	0.20	0.50
VSWR (Common Port)	3300 to 3400	-	1.23	1.67
	3400 to 3800	-	1.42	1.67
	5150 to 5925	-	1.24	1.50
VSWR (High-Band Port)	3300 to 3400	-	1.27	1.67
	3400 to 3800	-	1.41	1.67
	5150 to 5925	-	1.24	1.50
Attenuation (dB)	617 to 960	30	37.1	-
	1427 to 1511	30	43.1	-
	1710 to 2170	25	29.9	-
	2170 to 2690	22	25.7	-
	10300 to 11850	25	42.5	-
	15450 to 17775	5	13.1	-

Ta = +25+/-5°C

May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

ELECTRICAL CHARACTERISTICS

(Measurement)

Isolation

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Isolation (dB)	617 to 960	30.0	36.6	-
	1427 to 1511	30.0	42.6	-
	1710 to 2170	23.0	31.5	-
	2170 to 2690	23.0	28.6	-
	3300 to 3400	20.0	26.4	-
	3400 to 3800	23.0	27.6	-
	5150 to 5925	28.0	39.3	-

Ta = +25+/-5°C

MAXIMUM RATINGS

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	617 to 960	4	GSM signal Duty 50%
		1427 to 2690	1	CW
		to		CW
	High-Band	3300 to 5925	1	CW
		to		CW
		to		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

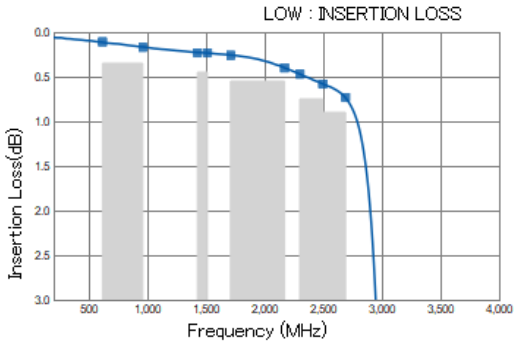
*1 : Refer to 3GPP TS 38.101-1 V15.2.0

May.2019 Ver.1.5a
TDK Corporation

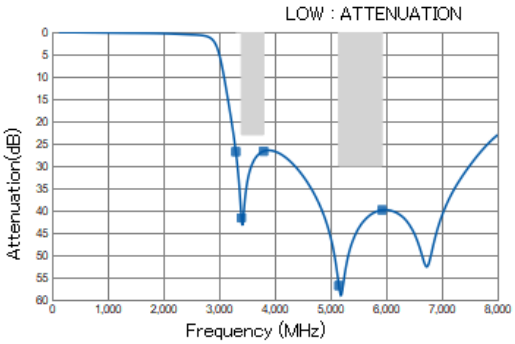
DPX205925DT-4213A2

FREQUENCY CHARACTERISTICS

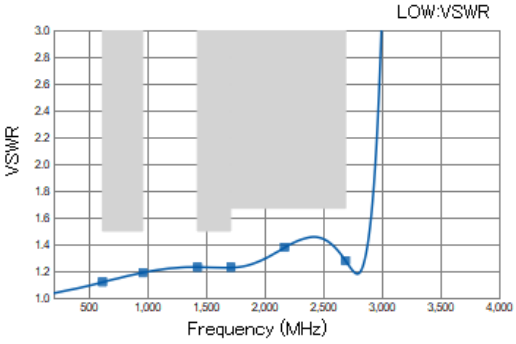
ANT - LOW



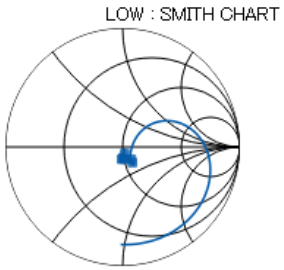
617	0.11
960	0.17
1427	0.23
1511	0.23
1710	0.26
2170	0.40
2300	0.47
2496	0.58
2690	0.73



3300	26.81
3400	41.60
3800	26.70
5150	56.82
5925	39.87



617	1.12
960	1.19
1427	1.23
1710	1.23
2170	1.38
2690	1.28



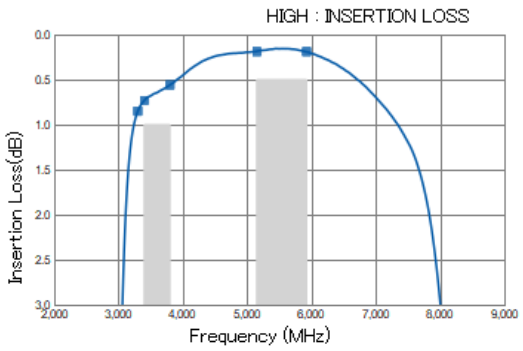
617	0.01 / -0.05
960	-0.01 / -0.09
1427	-0.02 / -0.1
1710	0.01 / -0.1
2170	0.08 / -0.13
2690	0.07 / -0.1

May.2019 Ver.1.5a
TDK Corporation

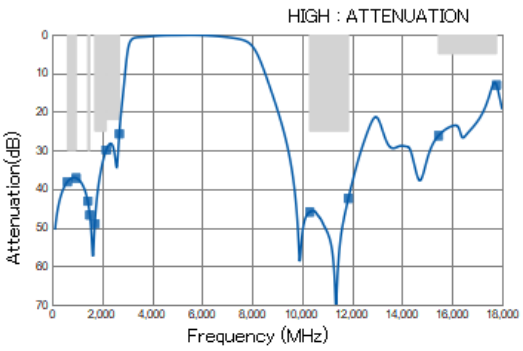
DPX205925DT-4213A2

FREQUENCY CHARACTERISTICS

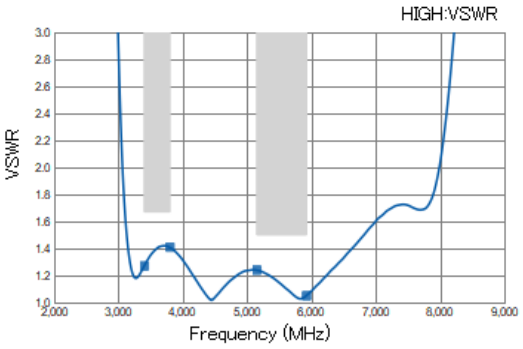
ANT - HIGH



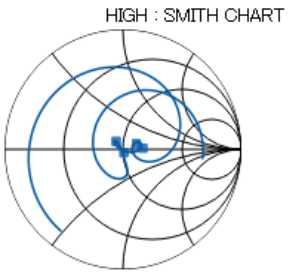
3300	0.85
3400	0.73
3800	0.56
5150	0.19
5925	0.19



617	38.11
960	37.18
1427	43.13
1511	46.75
1710	48.98
2170	29.87
2690	25.70
10300	46.00
11850	42.45
15450	26.22
17775	13.10



3400	1.27
3800	1.41
5150	1.24
5925	1.05



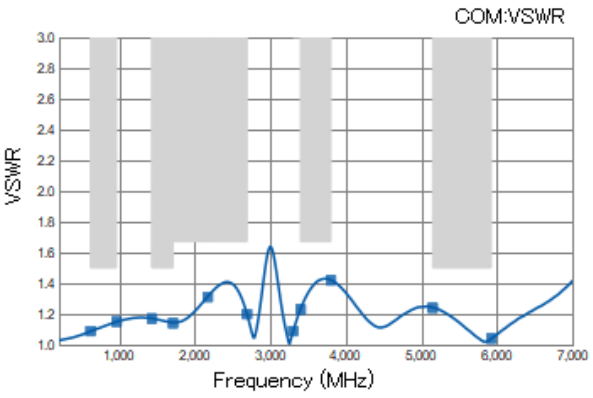
3400	0.11 / 0.06
3800	0.17 / 0.02
5150	-0.07 / 0.08
5925	0 / -0.02

May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

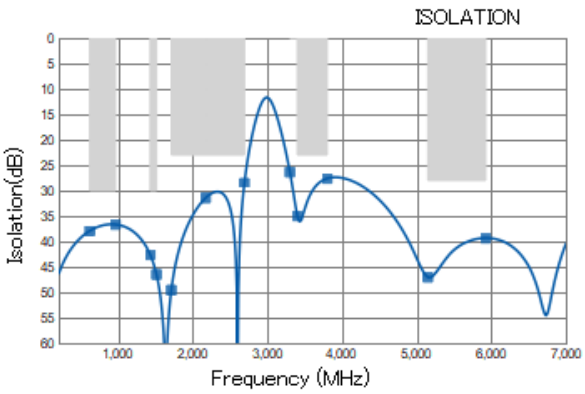
■ FREQUENCY CHARACTERISTICS

COMMON



617	1.09
960	1.15
1427	1.17
1710	1.14
2170	1.31
2690	1.20
3300	1.09
3400	1.23
3800	1.42
5150	1.24
5925	1.04

ISOLATION

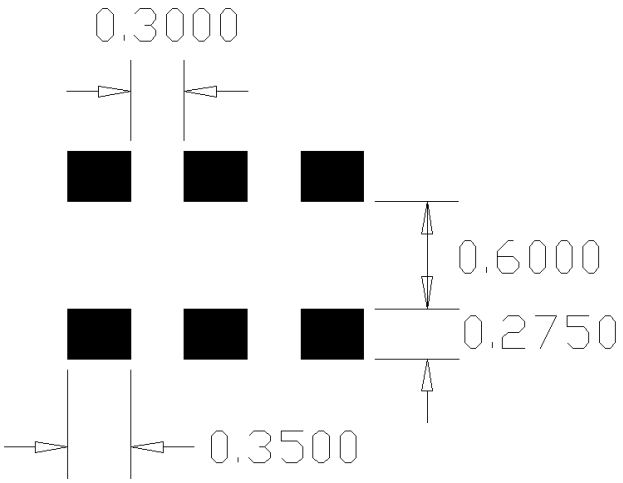


617	37.92
960	36.68
1427	42.61
1511	46.50
1710	49.58
2170	31.45
2690	28.58
3300	26.38
3400	34.97
3800	27.63
5150	47.05
5925	39.34

May.2019 Ver.1.5a
TDK Corporation

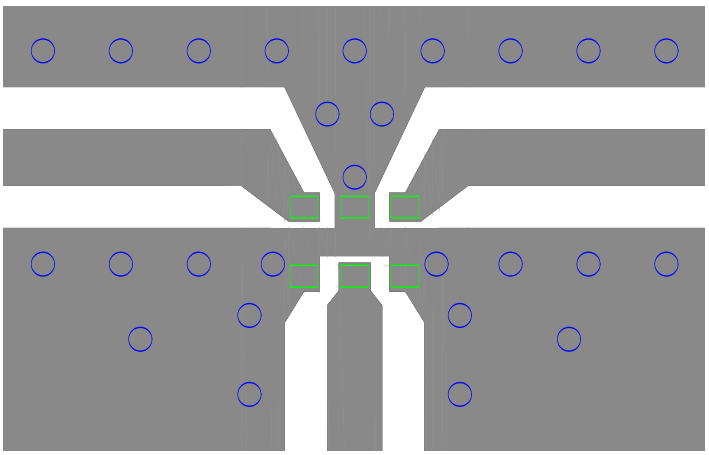
DPX205925DT-4213A2

RECOMMENDED LAND PATTERN



Unit[mm]

EVALUATION BOARD



Thru Hole
Resist
Surface Pattern

Materal & Layer	Thickness
Top Resist	-
Copper Surface Pattern	0.035mm
FR-4	0.10mm
Inner GND	0.018mm
FR-4	0.30mm
Copper Bottom GND	0.035mm

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

ENVIRONMENT INFORMATION

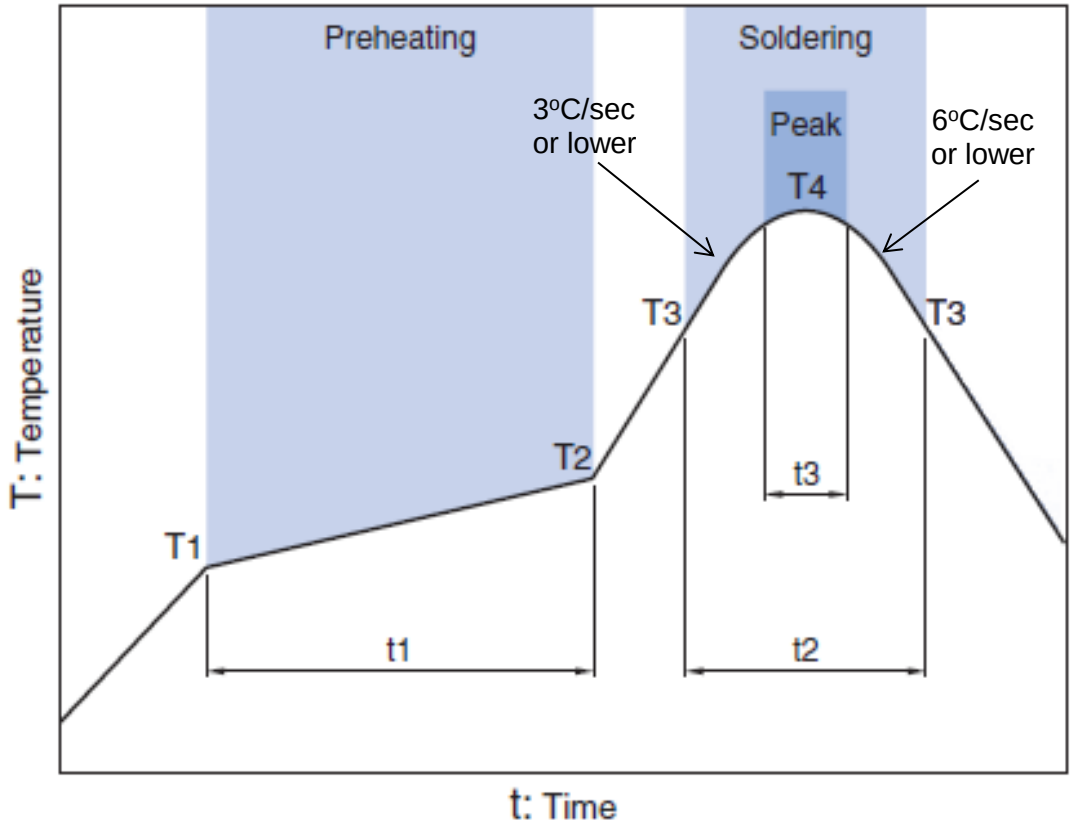
RoHS Statement
RoHS Compliance

May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

RECOMMENDED REFLOW PROFILE

Pb free solder



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.

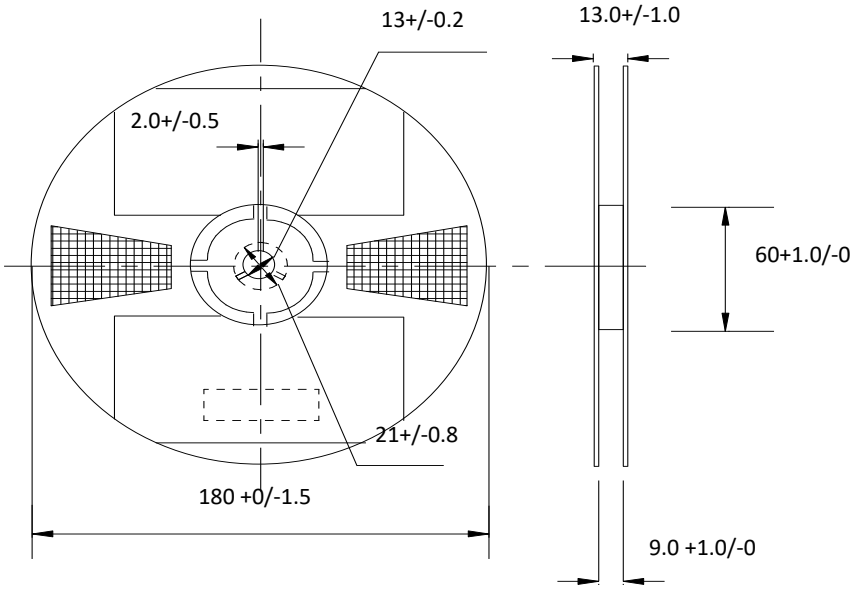
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

May.2019 Ver.1.5a
TDK Corporation

DPX205925DT-4213A2

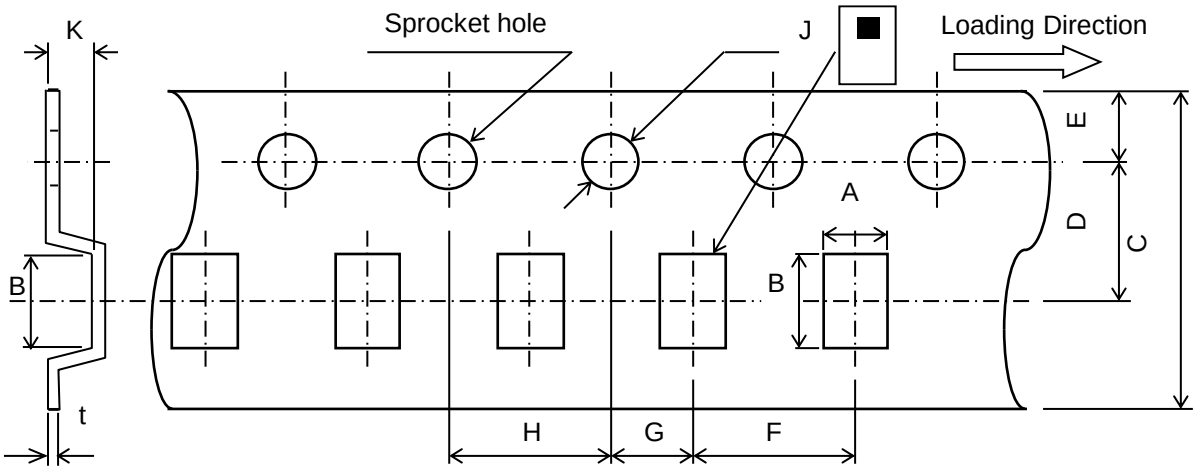
■ PACKAGING STYLE

Reel Dimensions



Unit : mm

Carrier Tape



Unit : mm

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	0.8 MAX	0.25 +/-0.05

STANDARD PACKAGE QUANTITY (pieces/reel)
2,000

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.

⚠ 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.