



Jan. 2022 Ver.5.1a
TDK Corporation

Multilayer Diplexer

For 3300-3800MHz / 4400-5925MHz

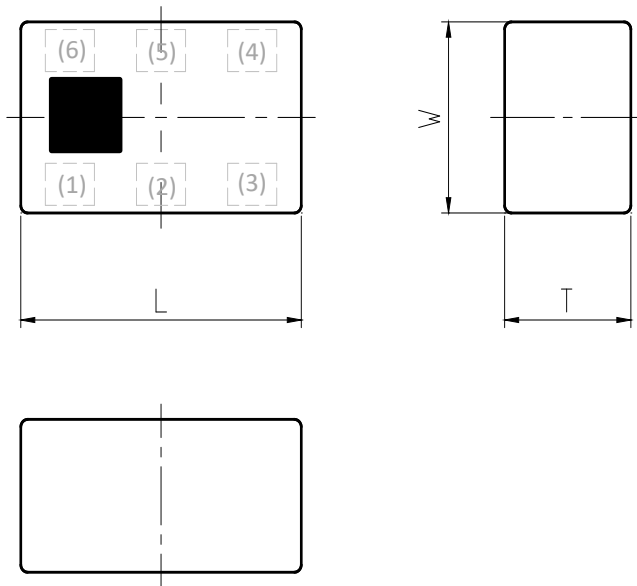
DPX Series 2.0x1.25mm [EIA 0805] TYPE

P/N: **DPX205925DT-4226A2**

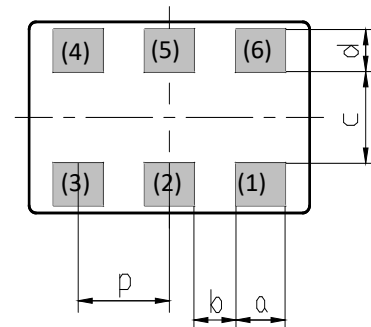
DPX205925DT-4226A2

■ SHAPES AND DIMENSIONS

[Top View]



[Bottom View]



Dimensions (mm)

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

■ TERMINATION FINISH

Material
Au plate

DPX205925DT-4226A2

■ ELECTRICAL CHARACTERISTICS

(Measurement)

Low-Band

Parameter	Frequency (MHz)	TDK Spec.		
		Min.	Typ.	Max.
Insertion Loss (dB)	3300 to 3800	-	0.72	0.95
	to	-	-	-
Insertion Loss (dB) (-40 to +85 °C)	3300 to 3800	-	-	1.15
	to	-	-	-
Return Loss (dB) (Low-Band Port)	3300 to 3800	10	24.8	-
	to	-	-	-
Attenuation (dB)	4400 to 4900	15	18.0	-
	4900 to 5000	15	17.9	-
	5150 to 5925	15	17.9	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

High-Band

Parameter	Frequency (MHz)	TDK Spec.		
		Min.	Typ.	Max.
Insertion Loss (dB)	4400 to 4900	-	0.70	0.95
	4900 to 5000	-	0.29	0.55
	5150 to 5925	-	0.30	0.55
Insertion Loss (dB) (-40 to +85 °C)	4400 to 4900	-	-	1.00
	4900 to 5150	-	-	0.65
	5150 to 5925	-	-	0.65
Return Loss (dB) (High-Band Port)	4400 to 4900	10	23.6	-
	4900 to 5000	10	23.2	-
	5150 to 5925	10	14.8	-
Attenuation (dB)	3300 to 3400	14	16.1	-
	3400 to 3800	15	17.7	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

DPX205925DT-4226A2

ELECTRICAL CHARACTERISTICS

(Measurement)

Common

Parameter	Frequency (MHz)	TDK Spec.		
		Min.	Typ.	Max.
Isolation (dB)	3300 to 3400	14	16.9	-
	3400 to 3800	15	18.4	-
	4400 to 4900	15	18.7	-
	4900 to 5000	15	18.6	-
	5150 to 5925	15	18.7	-
Return Loss (dB) (Common Port)	3300 to 3800	10	25.8	-
	4400 to 4900	10	17.6	-
	4900 to 5000	10	23.4	-
	5150 to 5925	10	16.7	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

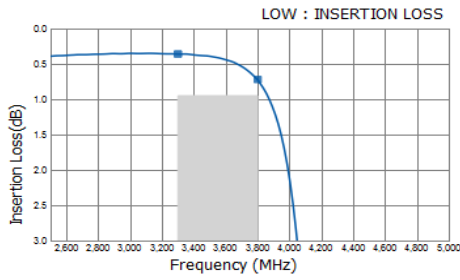
MAXIMUM RATINGS

Parameter		TDK Spec		Conditions
		Min.	Max.	
Operating temperature (°C)		-40 to +85 °C		
Storage temperature (°C)		-40 to +85 °C		
Power Handling (W)	Common Port	-	2	CW
	Low-Band Port	-	2	CW
	High-Band Port	-	2	CW
Human Body Model : HBM @Each Port (V)		-1000	1000	100pF / 1500ohm
Machine Model : MM @Each Port (V)		-150	150	200pF / 0ohm
Charged Device Model : CDM @Each Port (V)		-500	500	Relative humidity : 60%RH max

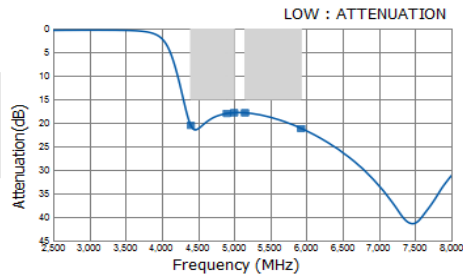
*1 : Refer to 3GPP TS 38.101-1 V15.2.0

DPX205925DT-4226A2

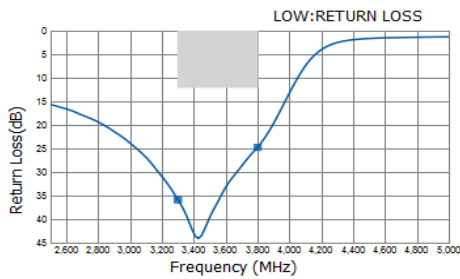
FREQUENCY CHARACTERISTICS



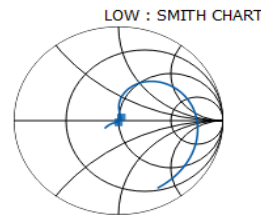
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
3300	0.36
3800	0.72



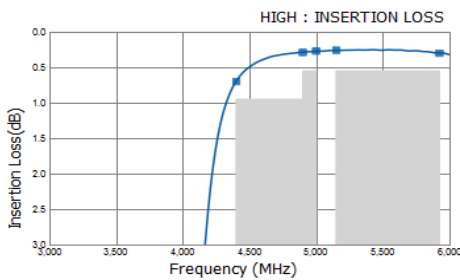
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
4400	20.53
4900	18.01
5000	17.87
5150	17.88
5925	21.20



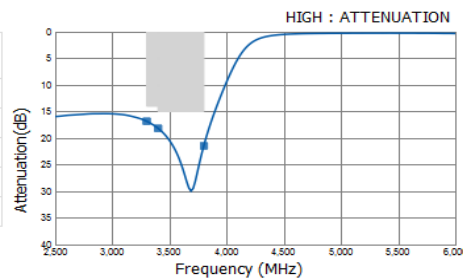
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
3300	35.89
3800	24.75



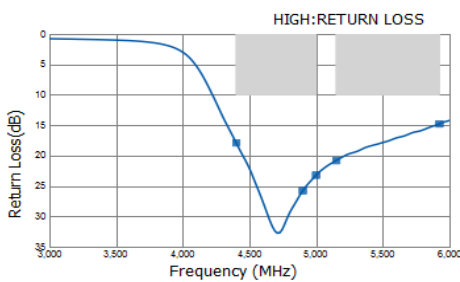
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
3300	49.13 / -1.33
3800	51.68 / 5.65



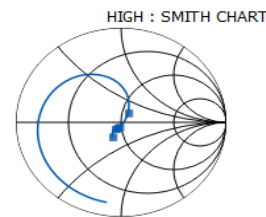
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
4400	0.70
4900	0.29
5000	0.27
5150	0.26
5925	0.30



P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
3300	16.81
3400	18.14
3800	21.45



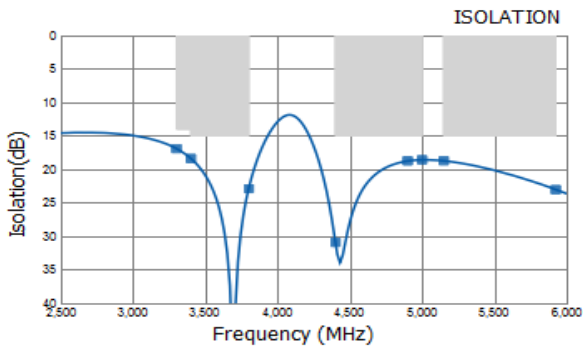
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
4400	17.89
4900	25.78
5000	23.22
5150	20.82
5925	14.77



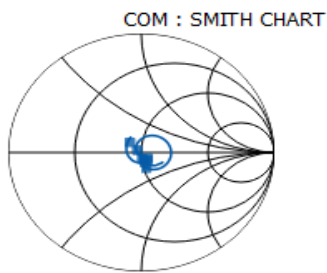
P/N	DPX205925DT-4226A2_ver1.0N_Dec172018
4400	55.85 / 12.27
4900	47.98 / -4.62
5000	46.23 / -5.48
5150	44.19 / -6.34
5925	39.87 / -13.13

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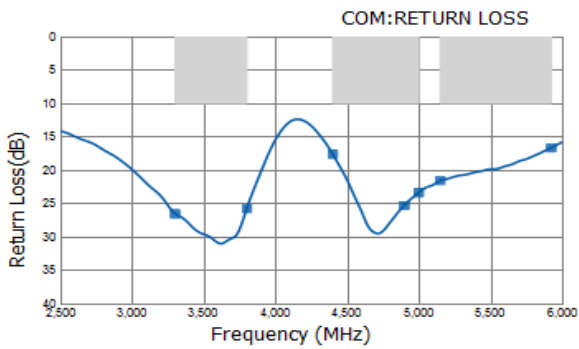
FREQUENCY CHARACTERISTICS



P/N	DPX205925DT-
Freq	4226A2_ver1.0N_Dec172018
3300	16.89
3400	18.37
3800	22.85
4400	30.90
4900	18.73
5000	18.57
5150	18.71
5925	23.03



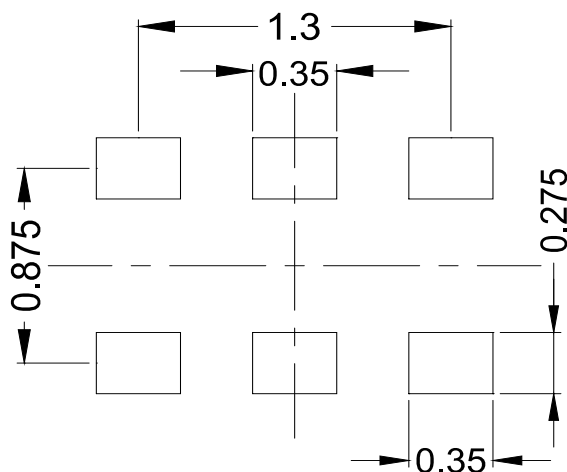
P/N	DPX205925DT-
Freq	4226A2_ver1.0N_Dec172018
3300	49.79 / -4.69
3800	45.9 / 2.75
4400	50.91 / -13.36
4900	53.68 / -4.27
5000	53.71 / -5.97
5150	51.48 / -8.37
5925	39.73 / 8.36



P/N	DPX205925DT-
Freq	4226A2_ver1.0N_Dec172018
3300	26.56
3800	25.77
4400	17.62
4900	25.29
5000	23.39
5150	21.57
5925	16.65

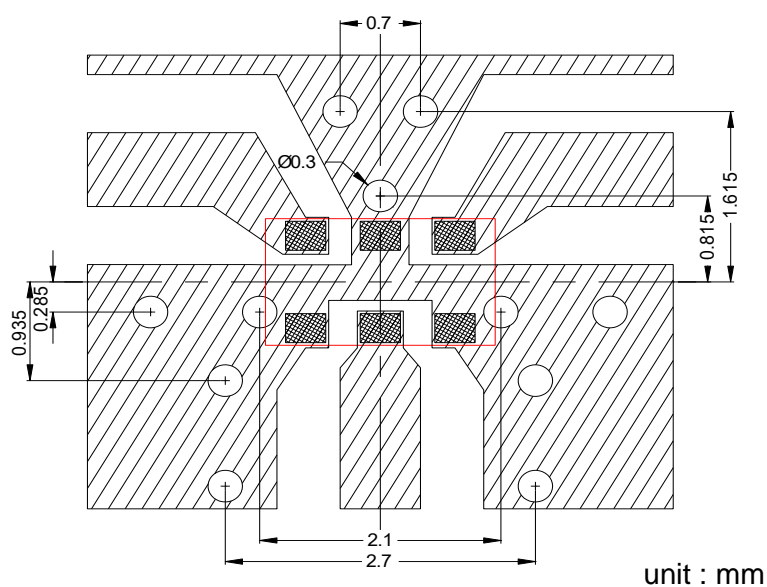
DPX205925DT-4226A2

RECOMMENDED LAND PATTERN



Unit: mm

EVALUATION BOARD



unit : mm

- Thru Hole
- Surface Pattern
- Land Pattern
- DUT

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

* 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.

*** Inner GND of under the signal lines are removed for keeping line impedance.

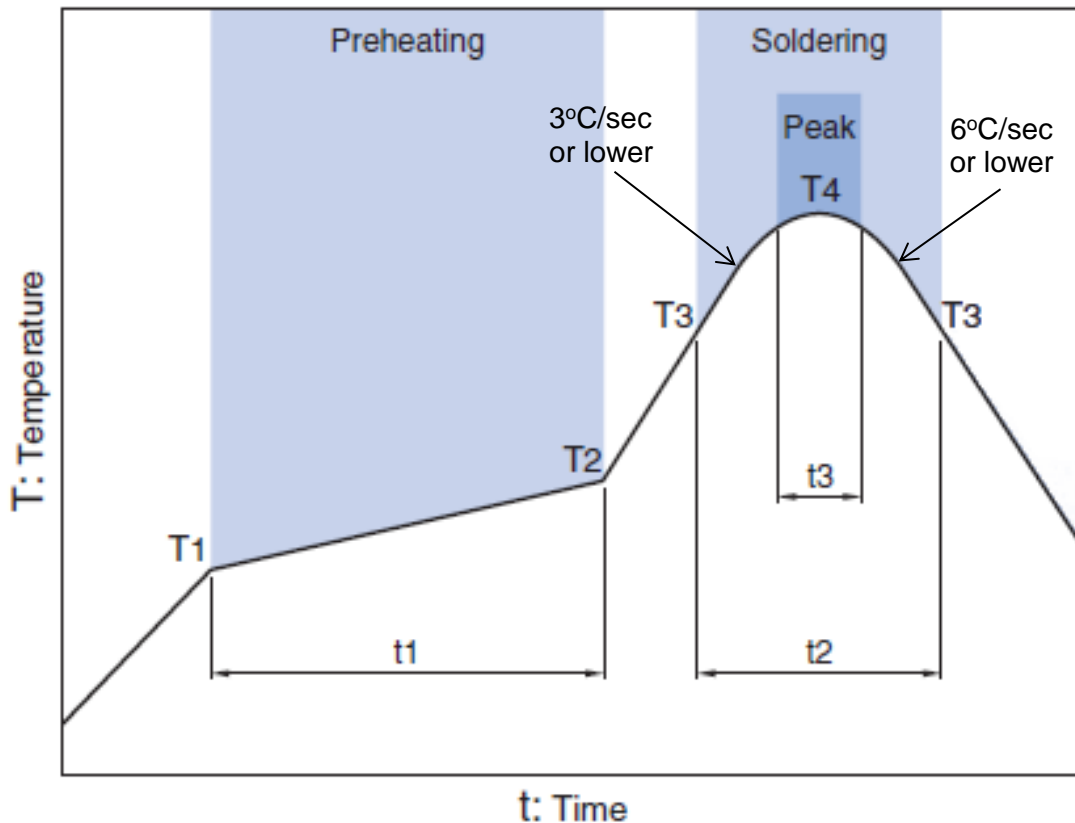
ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

All specifications are subject to change without notice.
Before using these products, be sure to request the delivery specifications.

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RECOMMENDED REFLOW PROFILE



Preheating			Soldering			
Temp.		Time	Critical zone (T3 to T4)		Peak	
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

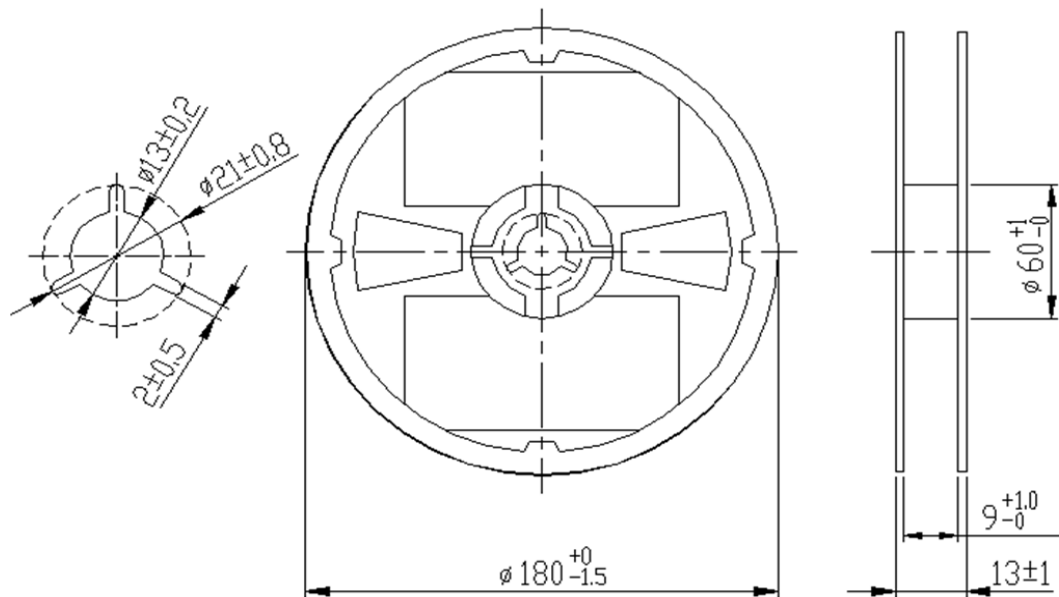
* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

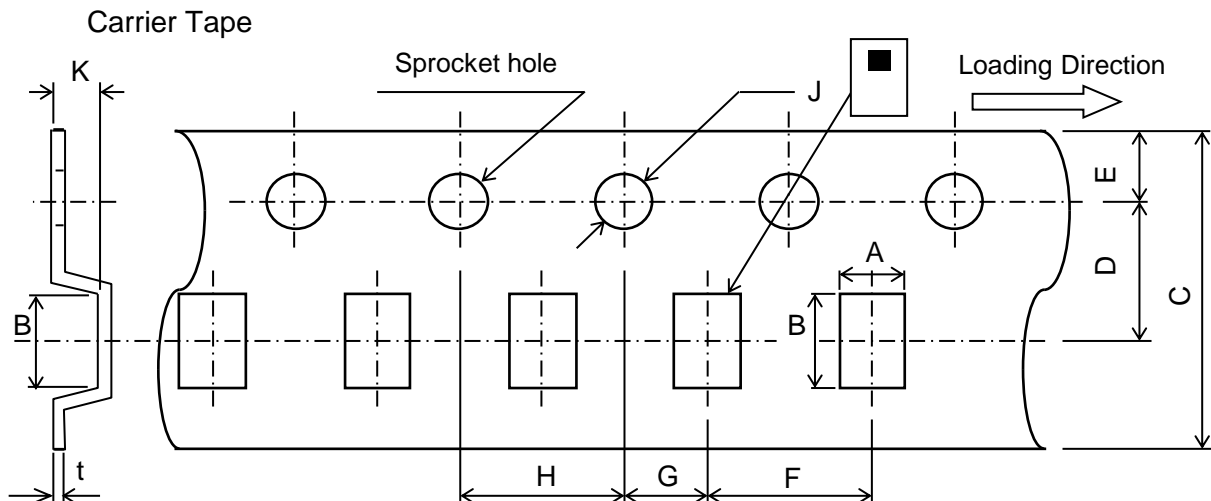
Note: Lead free solder is recommended.
Recommended solder is Sn-3.0Ag-0.5Cu. (M705 by Senju Metal Industry)

DPX205925DT-4226A2**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	0.8	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

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 catalog 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 catalog.

- | | |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| (1) Aerospace/Aviation equipment | (8) Public information-processing equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

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.