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Multilayer Diplexer

For LTE

DPX Series 2.5x2.0mm [EIA 1008] TYPE

P/N: **DPX252690DT-5031G1**

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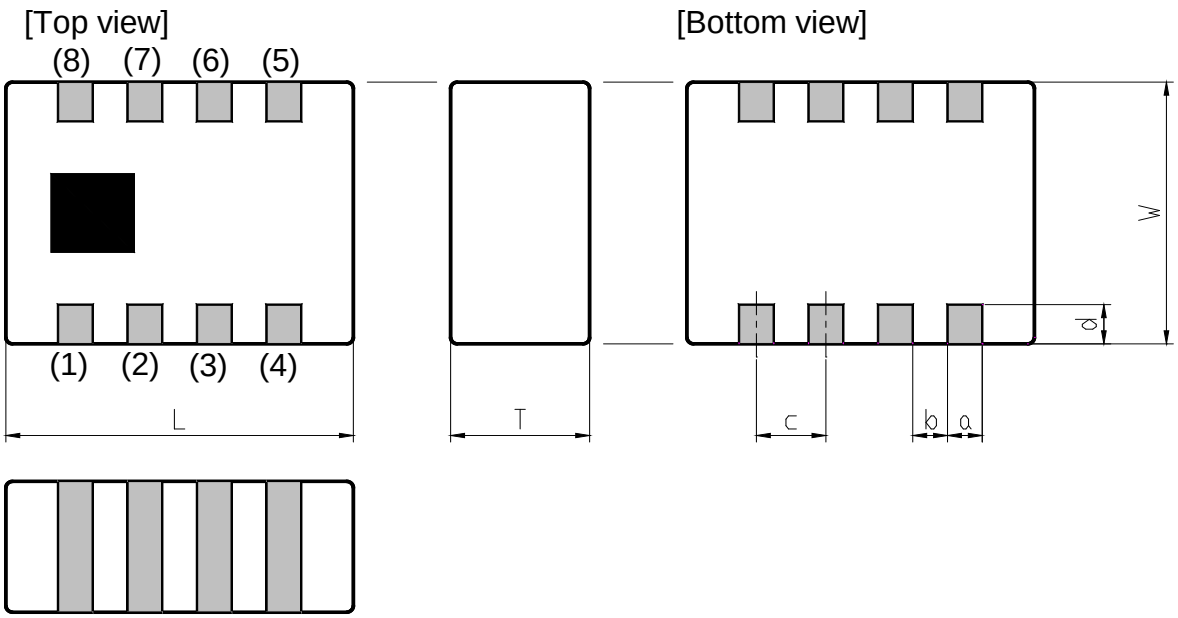
DPX252690DT-5031G1

SHAPES AND DIMENSIONS



Dimensions (mm)

L	W	T	a	b	c	d
2.50 +/-0.15	2.00 +/-0.15	0.65 Max	0.25 +/-0.15	0.25 +/-0.15	0.50 +/-0.15	0.20 +/-0.15

Terminal functions

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

(6)	GND
(7)	GND
(8)	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)	617 to 960	-	0.30	0.35
	to	-		
	to	-		
Insertion Loss (dB) (–40 to +85 °C)	617 to 960	-	-	0.40
	to	-		
	to	-		
Return Loss (dB) (Low-Band Port)	617 to 960	18	20	-
	to			-
	to			-
Attenuation (dB)	1427 to 1463	9	12	-
	1463 to 1496	10	15	-
	1496 to 1511	10	19	-
	1554 to 1605	10	25	-
	1695 to 1710	25	29	-
	1710 to 1850	25	27	-
	1760 to 1850	25	27	-
	1850 to 2108	25	27	-
	2109 to 2200	25	29	-
	2300 to 2400	25	31	-
	2401 to 2496	25	31	-
	2496 to 2586	25	32	-
	2620 to 2745	25	32	-
	3400 to 3800	30	40	-
	5150 to 5925	30	32	-
	5926 to 12750	10	13	-
Characteristic Impedance (ohm)		50 (Nominal)		

Ta = +25+/-5°C

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■ ELECTRICAL CHARACTERISTICS

(Measurement)

High-Band

Parameter	Frequency (MHz)			TDK Spec		
				Min.	Typ.	Max.
Insertion Loss (dB)	1710	to	1995	-	0.45	0.60
	2010	to	2690	-	0.54	0.70
		to		-		
Insertion Loss (dB) (–40 to +85 °C)	1710	to	1995	-	-	0.70
	2010	to	2690	-	-	0.80
		to		-		
Return Loss (dB) (High-Band Port)	1710	to	1995	15	21	-
	2010	to	2690	15	21	-
		to				-
Attenuation (dB)	617	to	915	25	26	-
	915	to	960	25	26	-
	3400	to	3600	20	30	-
	3600	to	3800	20	21	-
	3800	to	5130	15	21	-
	5130	to	5925	28	33	-
	5925	to	12750	12	15	-
Characteristic Impedance (ohm)				50 (Nominal)		

Ta = +25+/-5°C

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ELECTRICAL CHARACTERISTICS

(Measurement)

Common

Parameter	Frequency (MHz)	TDK Spec		
		Min.	Typ.	Max.
Isolation (dB)	617 to 960	24	25	-
	1710 to 2690	25	29	-
	to			-
	to			-
	to			-
Return Loss (dB) (Common Port)	617 to 960	18	20	-
	1710 to 1995	15	20	-
	2010 to 2690	15	21	-
	to			-
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	-	4	Duty 50%	at 617~960MHz
		-	2	CW	at 1710~2690MHz
	Low-Band Port	-	4	Duty 50%	at 617~960MHz
		-			
	High-Band Port	-	2	CW	at 1710~2690MHz
		-			
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	

Ambient temperature : +25+/-5°C

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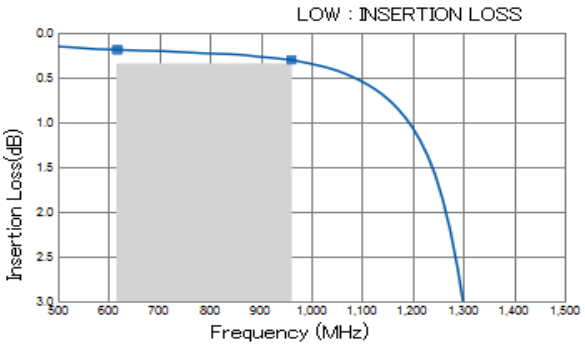
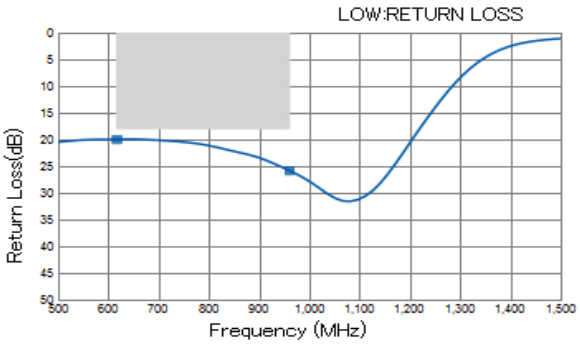
■ FREQUENCY CHARACTERISTICS

Insertion Loss (Low-Band)



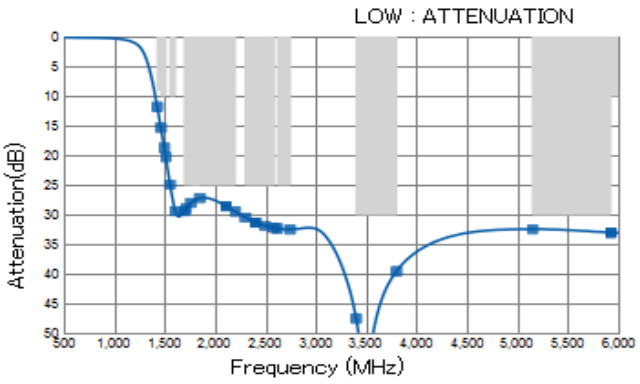
P/N Freq	DPX252690DT- 5031G1_Real_20170307
617	0.19
960	0.30

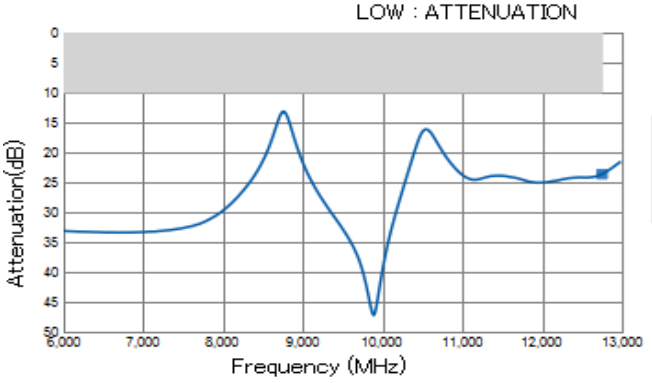
Return Loss (Low-Band)



P/N Freq	DPX252690DT- 5031G1_Real_20170307
617	20.00
960	25.84

Attenuation (Low-Band)





P/N Freq	DPX252690DT- 5031G1_Real_20170307
1427	11.86
1463	15.37
1496	18.75
1511	20.33
1554	24.94
1605	29.41
1695	29.41
1710	29.04
1760	28.03
1850	27.24
2108	28.58
2109	28.58
2200	29.52
2300	30.50
2400	31.33
2401	31.34
2496	31.92
2586	32.27
2620	32.38
2745	32.53
3400	47.57
3800	39.60
5150	32.49
5925	33.09
5926	33.09
12750	23.65

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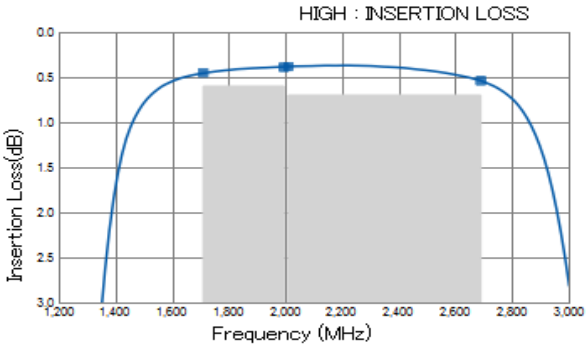
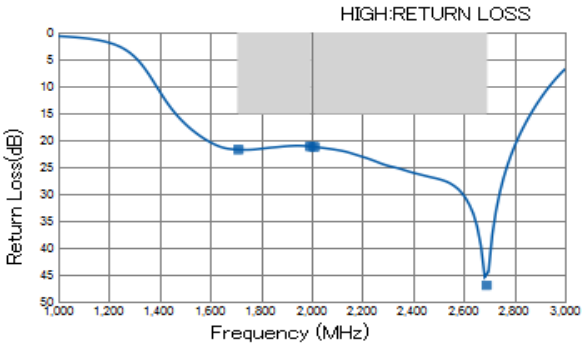
■ FREQUENCY CHARACTERISTICS

Insertion Loss (High-Band)



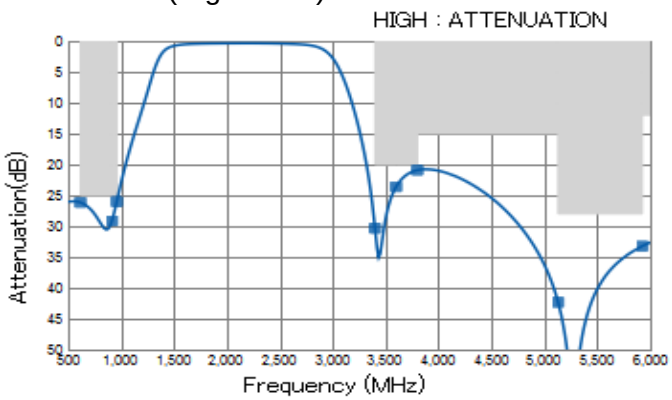
P/N Freq	DPX252690DT- 5031G1_Real_20170307
1710	0.45
1995	0.39
2010	0.38
2690	0.54

Return Loss (High-Band)

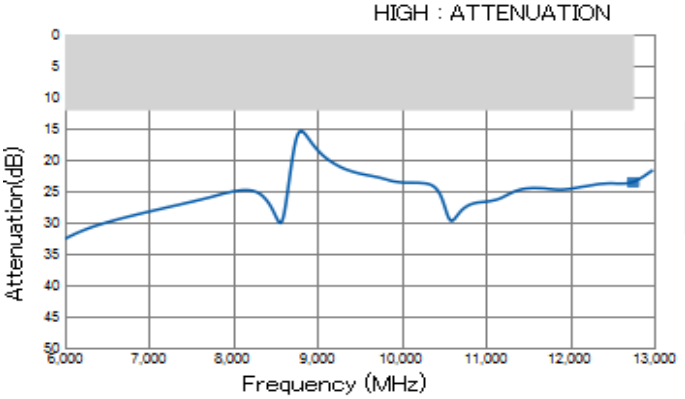


P/N Freq	DPX252690DT- 5031G1_Real_20170307
1710	21.77
1995	21.19
2010	21.26
2690	46.95

Attenuation (High-Band)



P/N Freq	DPX252690DT- 5031G1_Real_20170307
617	26.16
915	29.10
960	26.02
3400	30.34
3600	23.61
3800	20.93
5130	42.33
5925	33.23
12750	23.56



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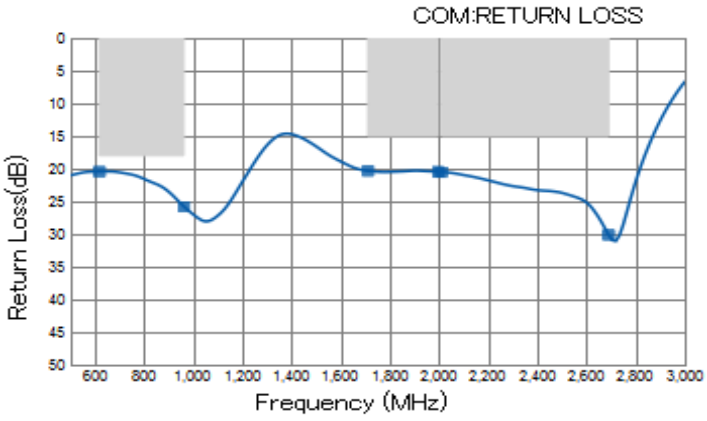
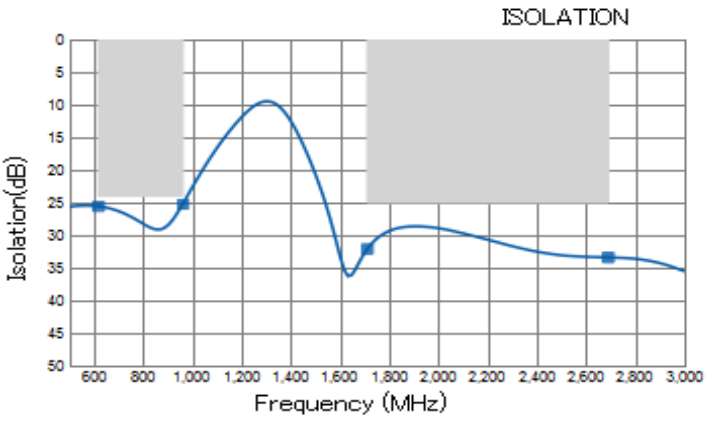
■ FREQUENCY CHARACTERISTICS

Return Loss(Common)



P/N Freq	DPX252690DT- 5031G1_Real_20170307
617	20.45
960	25.77
1710	20.34
1995	20.47
2010	20.50
2690	30.13

Isolation



P/N Freq	DPX252690DT- 5031G1_Real_20170307
617	25.58
960	25.22
1710	32.13
2690	33.42

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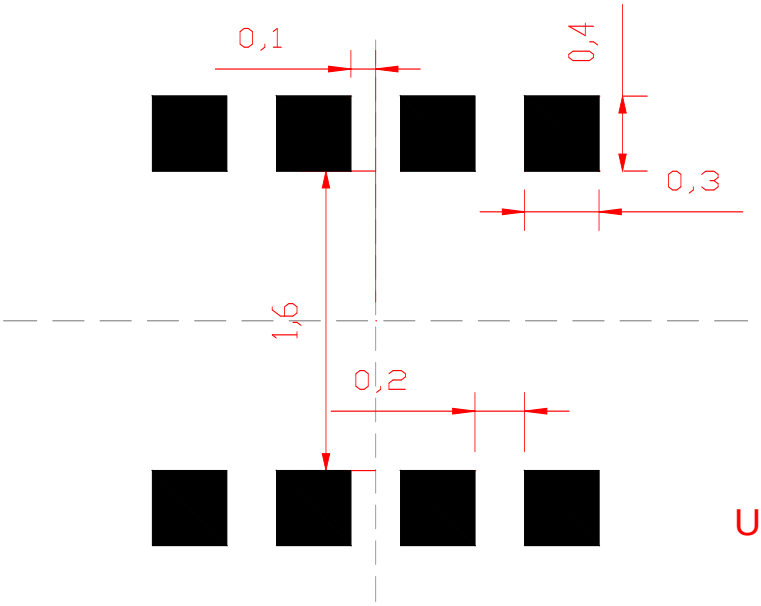
RECOMMENDED LAND PATTERN



Unit[mm]

ENVIRONMENT INFORMATION

RoHS Statement
RoHS Compliance

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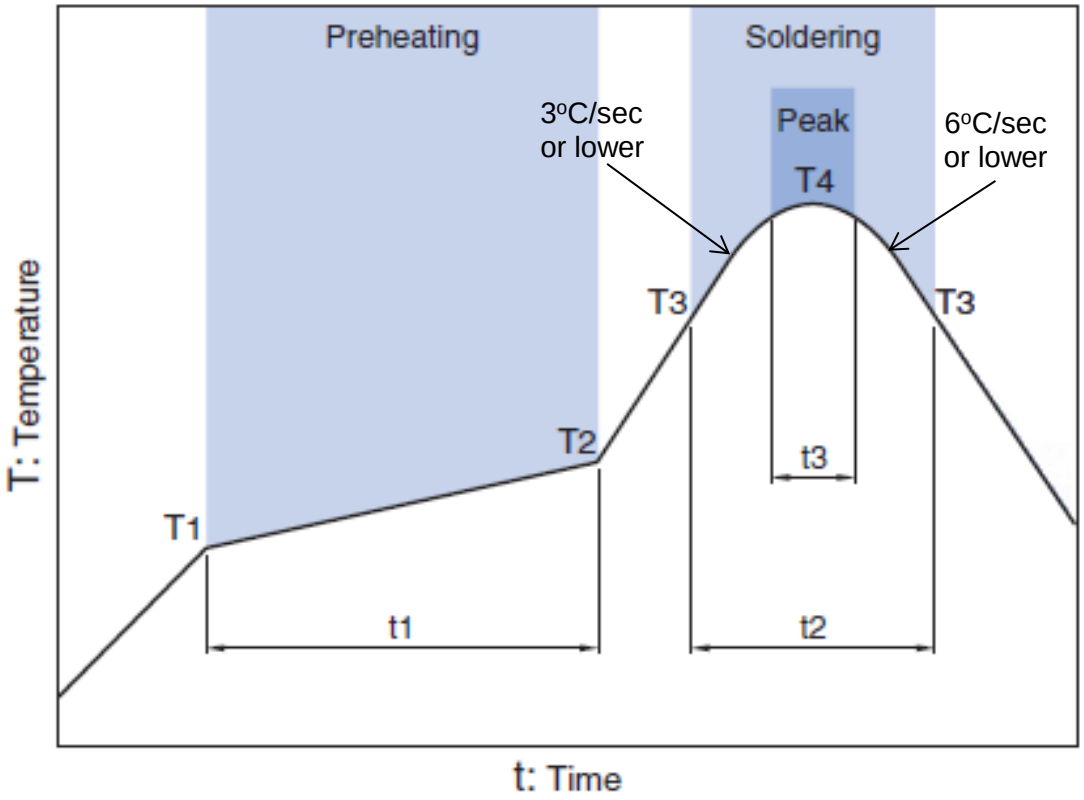
■ RECOMMENDED REFLOW PROFILE



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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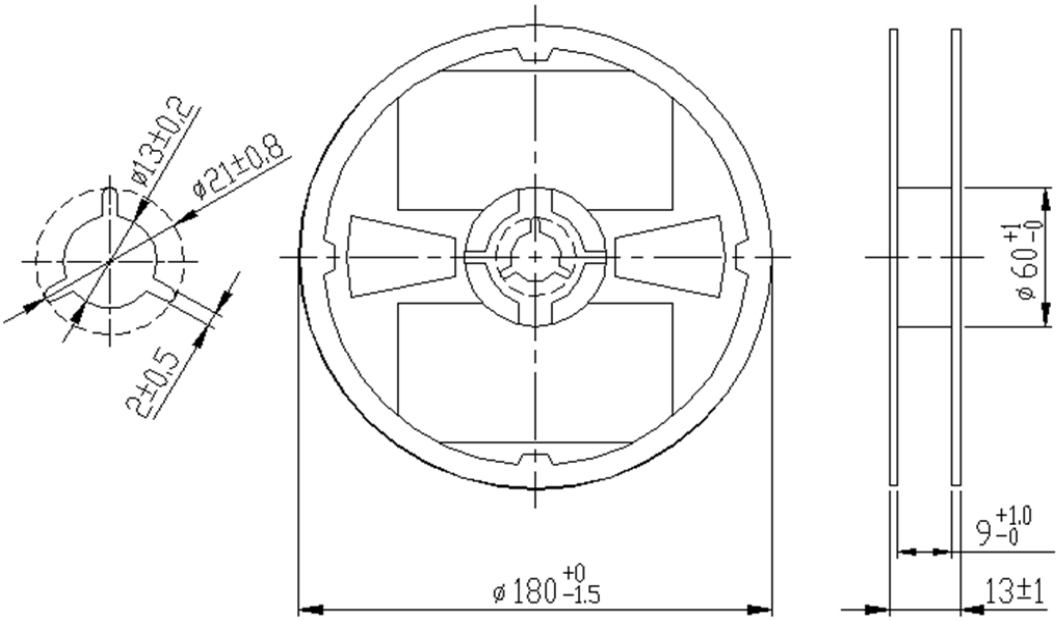
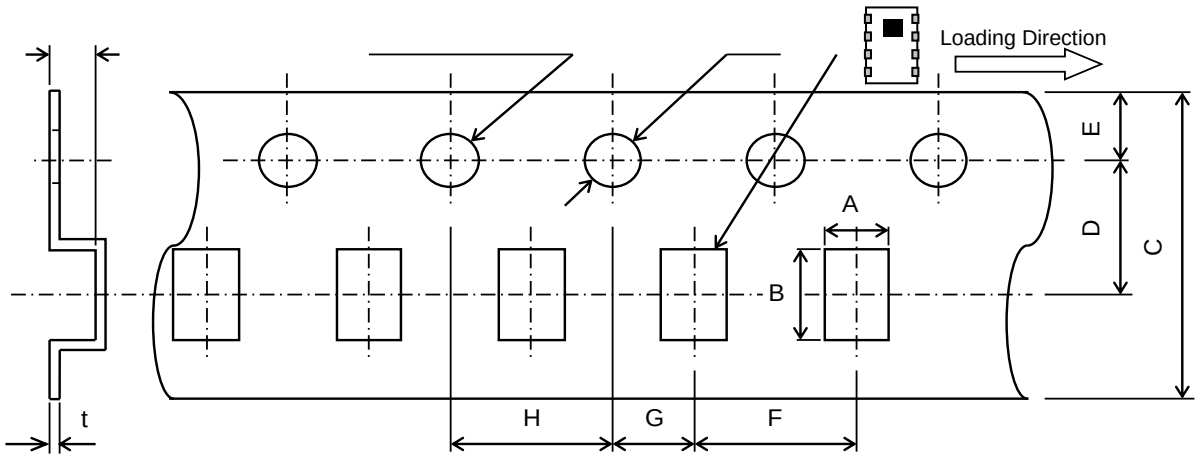
■ PACKAGING STYLE

Reel Dimensions



Dimensions in mm

Carrier Tape



Unit : mm

Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	t
2.2 +/-0.05	2.7 +/-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	0.85 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.