

# Datasheet of SAW Duplexer 1612 Band28B Unbalanced

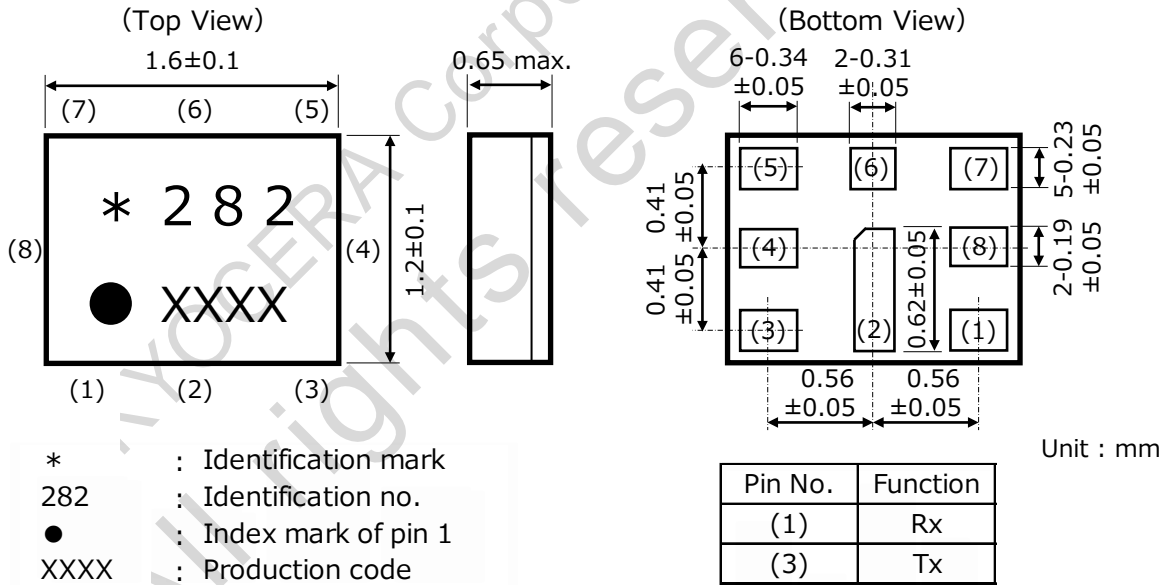
KYOCERA Part No. : SD16-0733R8UUA1

KYOCERA Corporation  
All rights reserved

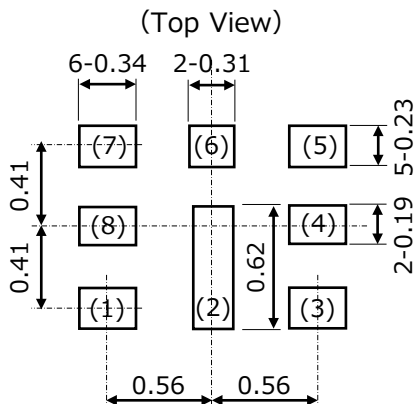
### Rating

Items		Rating	Unit	Note
Operating Temperature Range		-30 to +85	deg.C	
Storage Temperature Range		-40 to +85	deg.C	
Max Input Power	Tx Band	31	dBm	5,000Hours,CW,Ta=50deg.C
		31	dBm	5,000Hours,QPSK,LTE,Ta=50deg.C
		31	dBm	5,000Hours,DFT-s-OFDM-QPSK,Ta=50deg.C
		29.5	dBm	5,000Hours,CP-OFDM-QPSK,Ta=50deg.C
ESD Level	Machine Model	50	Volt	Complied to JESD22-A115
Moisture Sensitivity Level		3		Complied to J-STD-033B.1
Tx Port Nominal Impedance		50+15nH(series)	ohm	Unbalance
Ant. Port Nominal Impedance		50//10nH(shunt)	ohm	Unbalance
Rx Port Nominal Impedance		50+3.6nH(series)	ohm	Unbalance

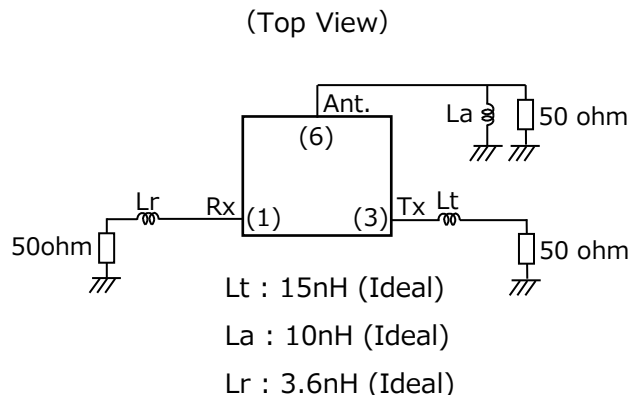
### Dimensions



### Recommendable Land Pattern



### Measurement Circuit

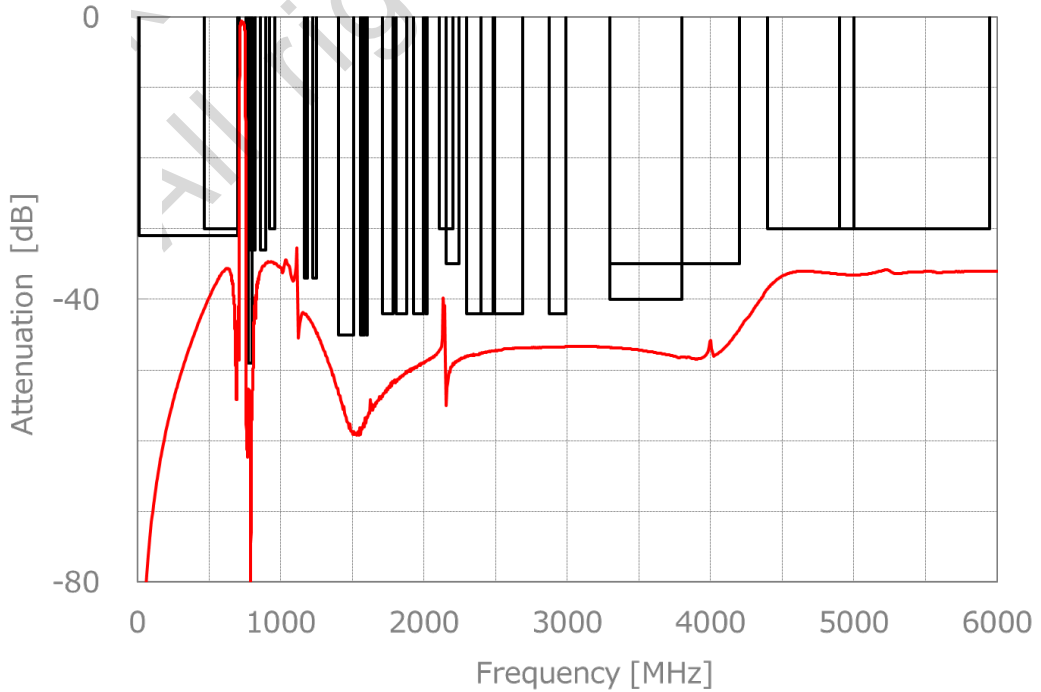
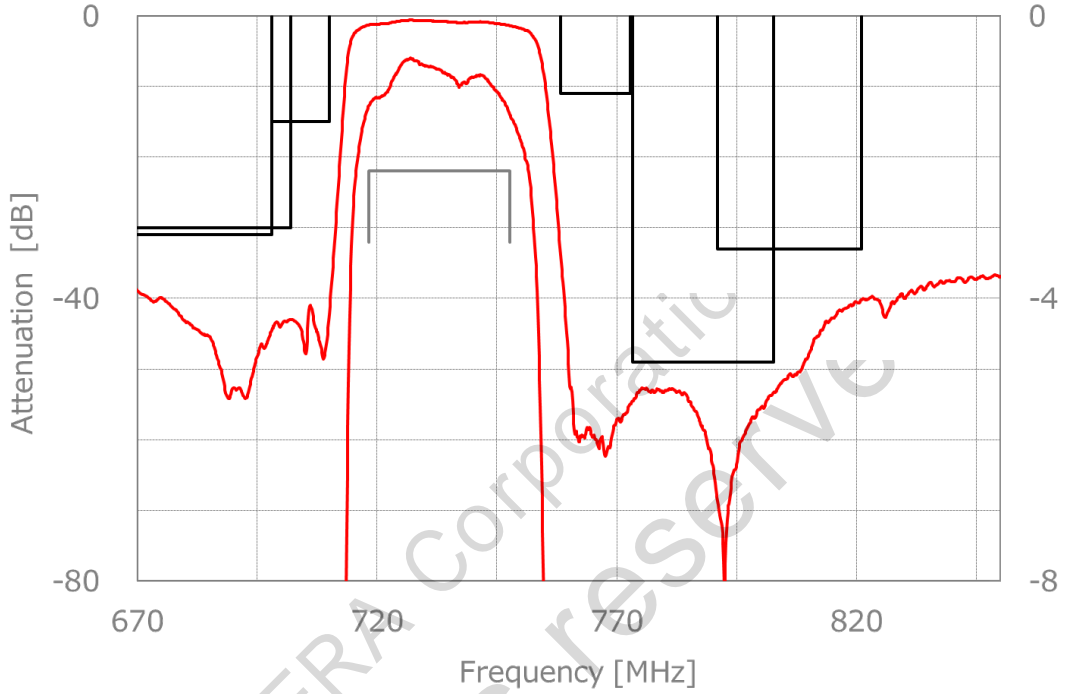


## Electrical Characteristics

Items		Frequency Range (MHz)	Unit	Spec. min.	typ.	max.	Notes	
TX to ANT	Insertion Loss	718.24 - 747.76	dB	-	1.4	2.2		
	Ripple	718.24 - 747.76	dB	-	0.8	1.8		
	VSWR	Tx	718 - 748	-	-	1.7	2.2	
		Ant	718 - 748	-	-	1.7	2.2	
	Attenuation		470 - 702	dB	30	36	-	Average over any 6MHz
			10 - 698	dB	31	36	-	
			698 - 710	dB	15	41	-	
			758.24 - 772.76	dB	11	33	-	
			773.24 - 802.76	dB	49	53	-	
			791 - 821	dB	33	40	-	
			859 - 894	dB	33	35	-	
			925 - 960	dB	30	35	-	
			1166 - 1187	dB	37	42	-	
			1226 - 1250	dB	37	43	-	
			1406 - 1510.9	dB	45	53	-	
			1559 - 1563	dB	45	58	-	
			1565.42 - 1573.37	dB	45	58	-	
			1573.37 - 1577.47	dB	45	57	-	
			1577.47 - 1585.42	dB	45	57	-	
			1597.55 - 1605.89	dB	45	56	-	
			1710 - 1785	dB	42	51	-	
			1805 - 1880	dB	42	50	-	
			1930 - 1995	dB	42	49	-	
			2010 - 2025	dB	42	48	-	
			2110 - 2200	dB	30	41	-	
			2154 - 2244	dB	35	48	-	
			2300 - 2400	dB	42	48	-	
			2400 - 2484	dB	42	47	-	
			2496 - 2690	dB	42	47	-	
			2872 - 2991	dB	42	47	-	
		3300 - 3800	dB	40	47	-		
		3300 - 4200	dB	35	45	-		
	4400 - 5000	dB	30	36	-			
	4900 - 5950	dB	30	36	-			
ANT to RX	Insertion Loss	773.24 - 802.76	dB	-	1.7	2.2		
	Ripple	773.24 - 802.76	dB	-	0.5	1.5		
	VSWR	Ant	773 - 803	-	-	1.6	2.0	
		Rx	773 - 803	-	-	1.6	2.0	
	Attenuation		10 - 699	dB	45	50	-	
			45 - 65	dB	60	87	-	
			703.24 - 732.76	dB	50	57	-	
			718.24 - 747.76	dB	35	57	-	
			814 - 835	dB	7	12	-	
			835 - 870	dB	30	41	-	
			870 - 2400	dB	40	45	-	
		2400 - 2483	dB	40	47	-		
		2496 - 2690	dB	40	47	-		
		3300 - 3800	dB	38	46	-		
	3300 - 4200	dB	38	46	-			
	4400 - 5000	dB	38	45	-			
	4900 - 5950	dB	38	44	-			
TX to RX	Isolation	718.24 - 747.76	dB	56	60	-		
		773 - 803	dB	54	56	-	Integrated calculation, 4.5MHz of LTE5MHz	

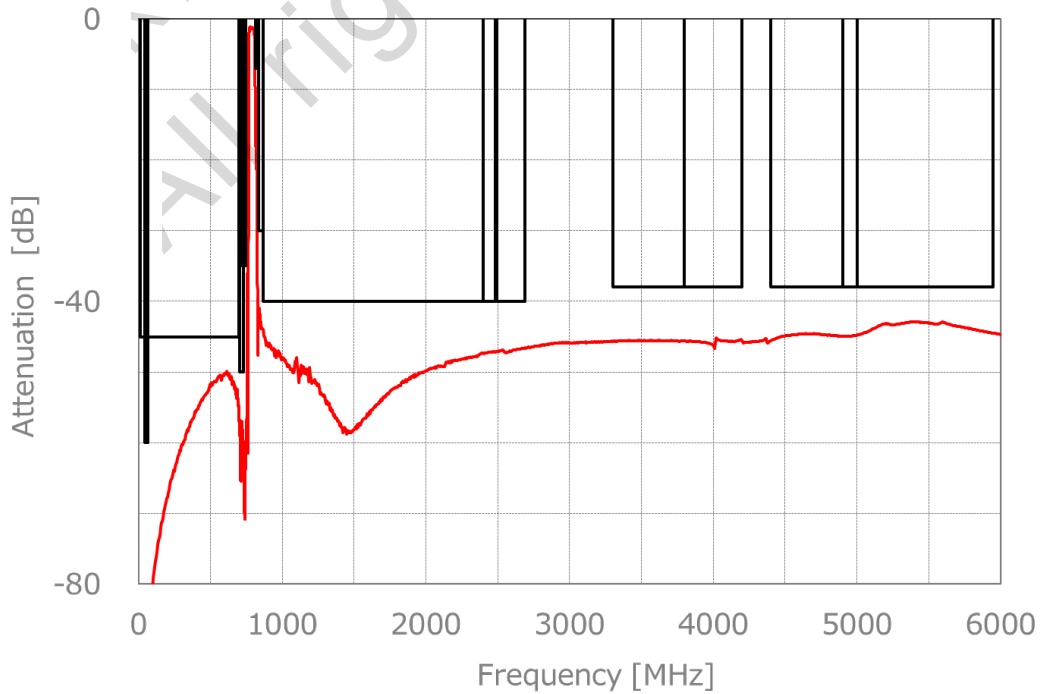
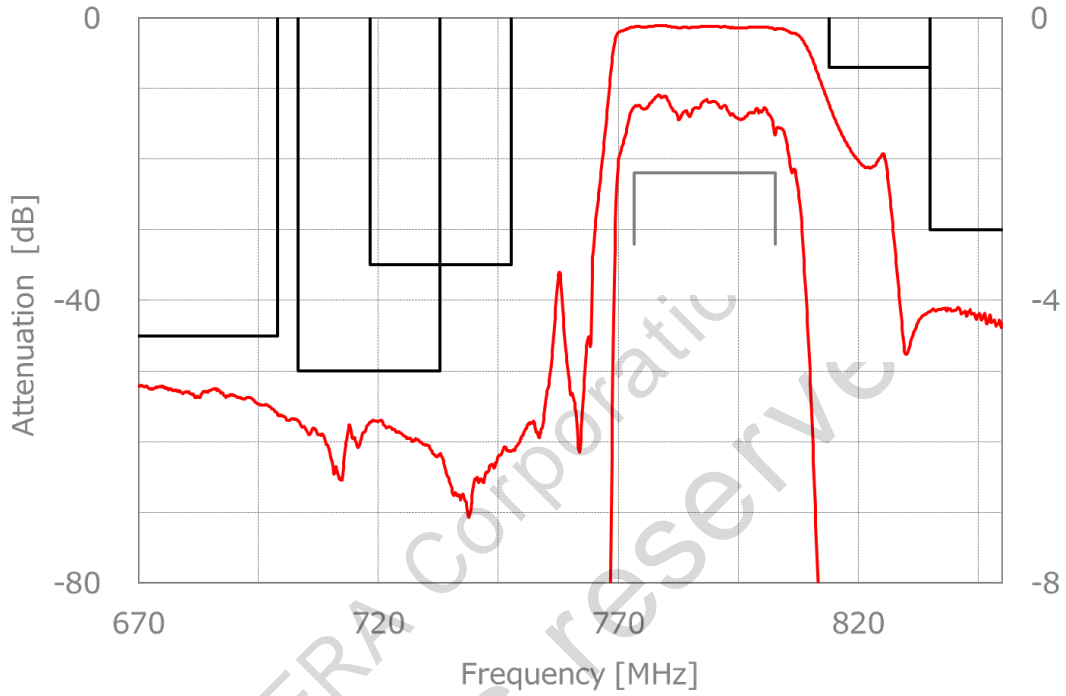
### Electrical Characteristics

[Tx to Ant]



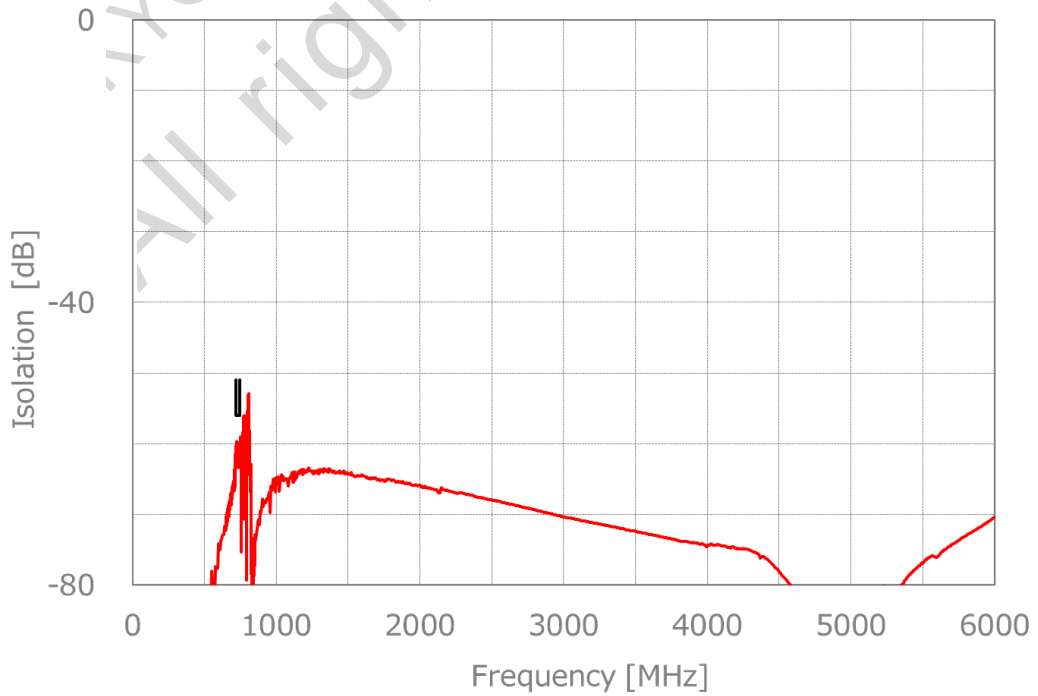
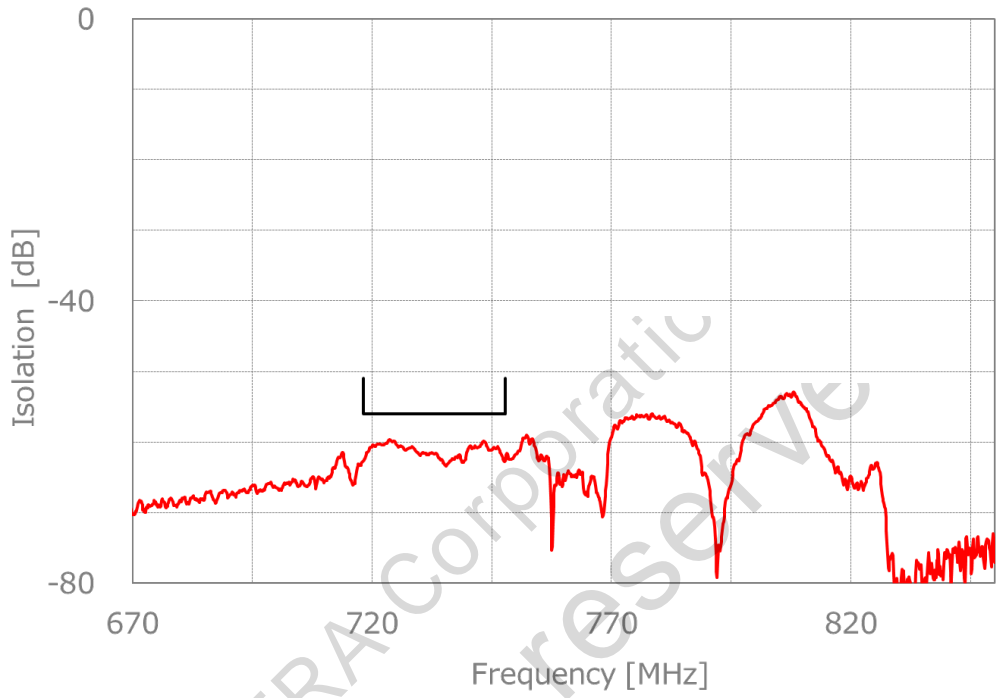
### Electrical Characteristics

[Ant to Rx]

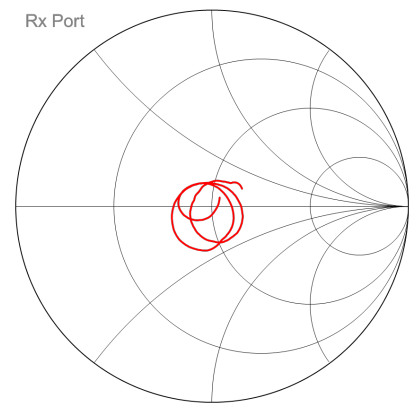
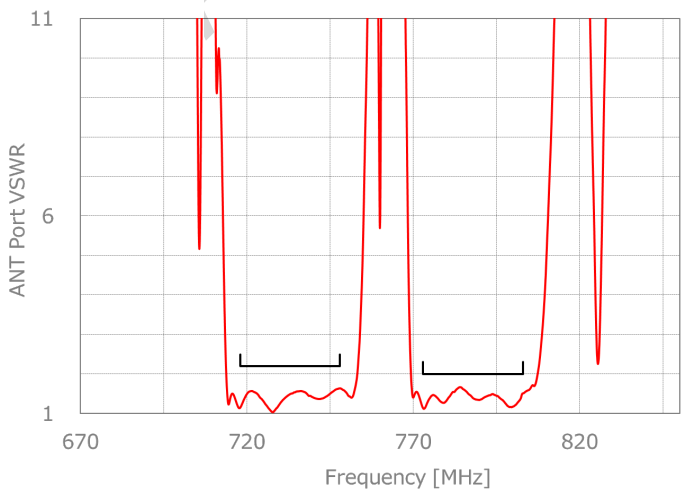
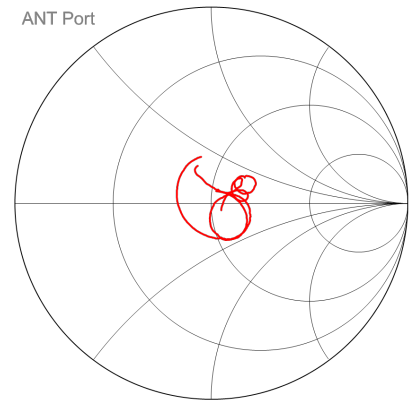
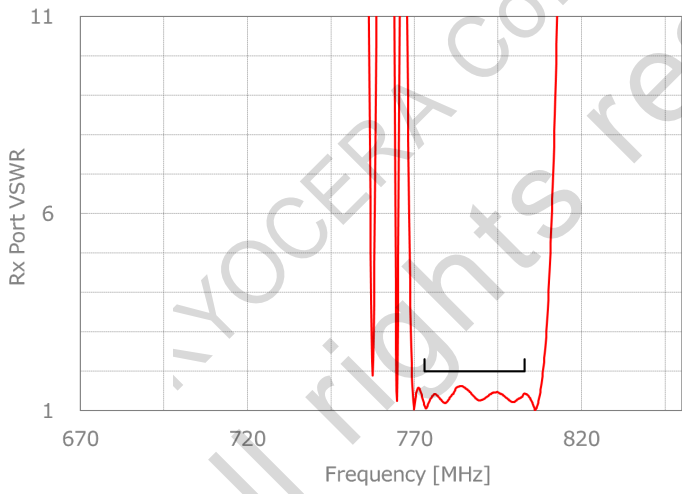
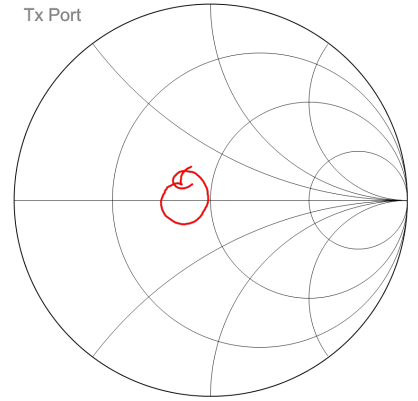
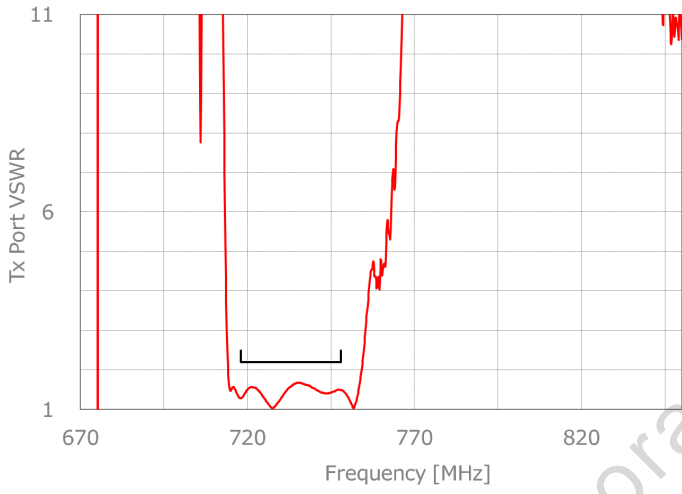


**Electrical Characteristics**

[Tx to Rx]

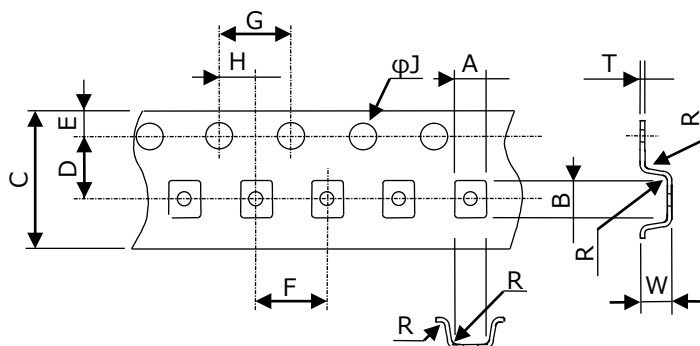


### Electrical Characteristics



### Tape & Reel Specification

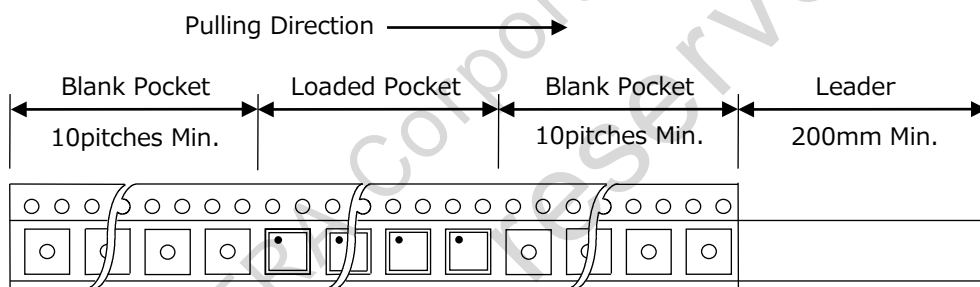
#### [Tape]



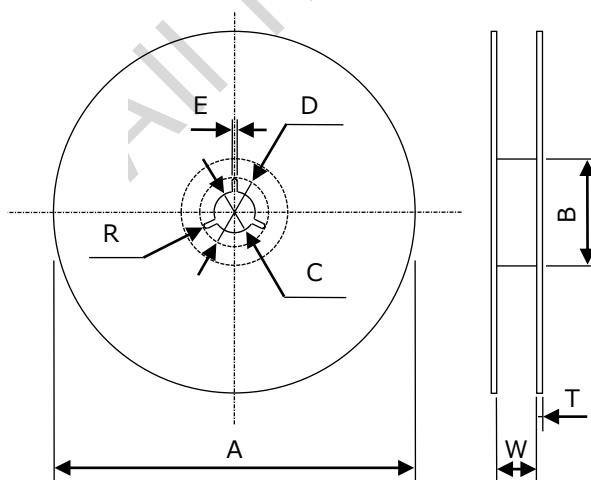
Unit : mm

Part	Dimension
A	1.35±0.10
B	1.80±0.10
C	8.0±0.2
D	3.50±0.05
E	1.75±0.10
F	4.0±0.1
G	4.0±0.1
H	2.00±0.05
φJ	1.5+0.1/-0
R	0.2 Max
W	0.8±0.2
T	0.20±0.05

W : Dimension is depth of pockets.



#### [Reel]



Unit : mm

Part	Dimension
A	330 ± 2
B	100 ± 2
C	13.0 ± 0.2
D	21.0 ± 0.8
E	2.0 ± 0.5
R	1
W	9.5 ± 1.0
T	2.0 ± 0.2



## Notice

1. Characteristics described in this datasheet are for references specifications shall be based on written documents agreed by each party.
2. Contents in this datasheet are subject to change without notice. It is recommended to confirm the latest information at the time of usage. Also, this datasheet is revised once a year. We may not be able to accept requests based on old datasheets.
3. Products in this datasheet are intended to be used in general electronic equipment such as office equipment, audio and visual equipment, communication equipment, measurement instrument and home appliances. It is absolutely recommended to consult with our sales representatives in advance upon planning to use our products in applications which require extremely high quality and reliability such as aircraft and aerospace equipment, traffic systems, safety systems, power plant and medical equipment including life maintenance systems.
4. Even though we strive for improvements of quality and reliability of products, it is requested to design with enough safety margin in equipment or systems in order not to threaten human lives directly or damage human bodies or properties by an accidental result of products.
5. It is requested to design based on guaranteed specifications for such as maximum ratings, operating voltage and operating temperature. It is not the scope of our guarantee for unsatisfactory results due to misuse or inadequate usage of products in the datasheet.
6. Operation summaries and circuit examples in this datasheet are intended to explain typical operation and usage of the product. It is recommended to perform circuit and assembly design considering surrounding conditions upon using products in this datasheet.
7. Technical information described in this datasheet is meant to explain typical operations and applications of products, and it is not intended to guarantee or license intellectual properties or other industrial rights of the third party or Kyocera.
8. Trademarks, logos and brand names used in this datasheet are owned by Kyocera or the corresponding third party.
9. Certain products in this datasheet are subject to the Foreign Exchange and Foreign Trade Control Act of Japan, and require the license from Japanese Government upon exporting the restricted products and technical information under the law. Besides, it is requested not to use products and technical information in the datasheet for the development and/or manufacture of weapons of mass destruction or other conventional weapons, nor to provide them to any third party with the possibility of having such purposes.
10. It is prohibited to reprint and reproduce a part or whole of this datasheet without permission.