

# Datasheet of SAW Device

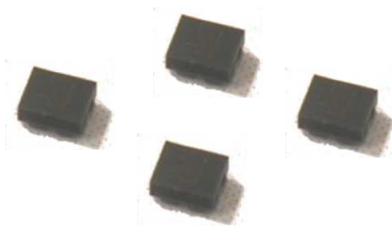
## SAW Duplexer

for Band28A / Unbalanced / LR /1814

Murata PN: SAYEY718MBC0F0A

### ■ Feature

- for 5G NR
- High Isolation
- For Envelope Tracking



Note : This Murata SAW Component is Consumer grade product and applicable for Cellular phone or similar end devices.

Please also read Important Notice at the end of this document.

Revision
J

SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

General Information

- Operating temperature	: -20 to +85 deg.C
- Storage temperature	: -40 to +85 deg.C
- Input Power	: +30.0dBm 5000h +50deg.C (1) +28.5dBm 5000h +50deg.C (2) (1) applicable for W-CDMA, SC-FDMA, DFT-s-OFDM (2) applicable for CP-OFDM
- D.C. Volatage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

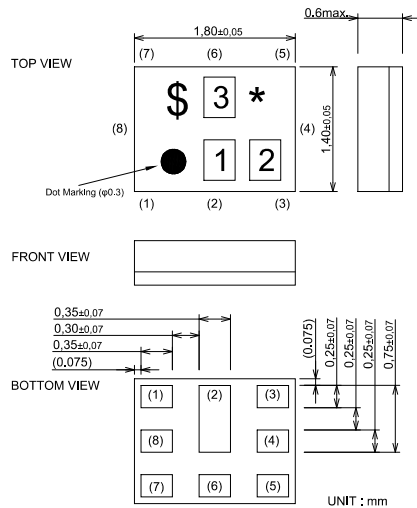
The input power shall be applied to Tx-port within own Tx passband frequency range.

SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions



Marking : Laser Printing

\* : Month code

\$ : Date code

1 : 7

2 : D

3 : A

Terminal Number

(6) : Ant

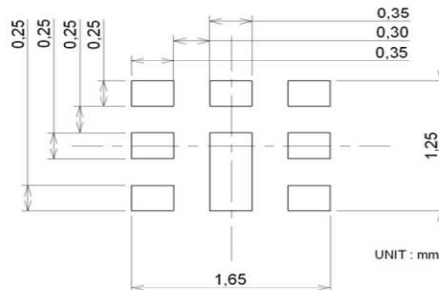
(3) : TX

(1) : RX

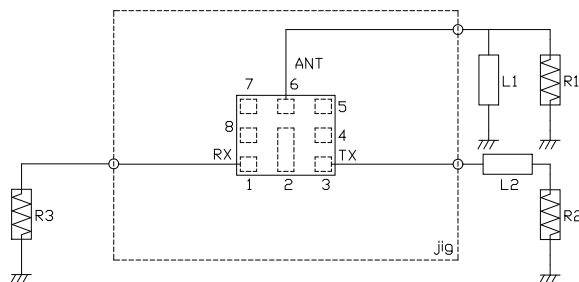
Others : GND

Notice) Please refer to Measurement Circuit for Port information in detail.

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 : 8nH (Ideal inductor)
	: 8.2nH (LQP03TN8N2)
	<Reference>
R2 : 50 ohm	L2 : 11.4nH (Ideal inductor)
R3 : 50 ohm	

SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

Electrical Characteristic < TX → ANT. >

TX → ANT.	Characteristics (-20 to +85 deg.C)			Unit	Note	
	min.	typ.*	max.			
	Center Frequency		718			
Insertion Loss	703.25 to 732.75 MHz	2.2	2.8	dB	Any 4.5MHz	
	705.5 to 730.5 MHz	1.9	2.3			dB <sub>INT</sub>
Ripple Deviation	703. to 733. MHz	0.7	1.7	dB	Any 5MHz	
VSWR	703. to 733. MHz	1.8	2.0			TX
Absolute Attenuation	703. to 733. MHz	1.5	2.0	dB	ANT.	
	10. to 670. MHz	30	34			
	670. to 694. MHz	30	36	dB	DTV rejection	
	694. to 695. MHz	25	36			
	695. to 698. MHz	5.0	11.0	dB	DTV rejection	
	695. to 698. MHz	8.0	11.0			
	695. to 698. MHz	7.0	11.0	dB	+23 to +27deg.C, DTV -15 to +70deg.C	
	758. to 788. MHz	43	48			
	788. to 803. MHz	20	25	dB	RX	
	859. to 894. MHz	30	36			
	1225. to 1250. MHz	35	39	dB	GPS L2	
	1406. to 1466. MHz	33	37			
	1559. to 1563. MHz	33	37	dB	Compass	
	1565.42 to 1573.37 MHz	33	37			
	1573.37 to 1577.47 MHz	33	37	dB	Wideband GPS lower side Regular GPS	
	1577.47 to 1585.42 MHz	33	37			
	1597.55 to 1605.89 MHz	33	38	dB	Wideband GPS upper side GLONASS	
	1805. to 1880. MHz	30	39			
	1930. to 1995. MHz	30	40	dB	DCS	
	2010. to 2025. MHz	30	41			
	2109. to 2199. MHz	28	35	dB	B2 / B25	
	2400. to 2484. MHz	23	30			
	2570. to 2620. MHz	19	26	dB	B34	
	2812. to 2932. MHz	15	19			
	4900. to 5950. MHz	20	32	dB	ISM 2.4 B38	

\* Typical value at 25±2deg.C

SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

**Electrical Characteristic < ANT. → RX >**

ANT. → RX				Characteristics			Unit	Note
				(-20 to +85 deg.C)				
				min.	typ.*	max.		
Center Frequency					773	MHz		
Insertion Loss	758.25 to 787.75	MHz			2.2	2.6	dB	
	760.5 to 785.5	MHz			1.9	2.4	dB <sub>INT</sub>	Any 4.5MHz
Ripple Deviation	758. to 788.	MHz			0.5	1.6	dB	Any 5MHz
VSWR	758. to 788.	MHz			1.8	2.1		RX
	758. to 788.	MHz			1.7	2.0		ANT.
Absolute Attenuation	10. to 699.	MHz	40	57			dB	DTV Rejection
	45. to 65.	MHz	50	78			dB	RX- TX
	703. to 733.	MHz	50	58			dB	TX
	733. to 748.	MHz	21	38			dB	Block-B TX
	814. to 6000.	MHz	33	38			dB	OoB Rejection
	2400. to 2483.	MHz	30	52			dB	ISM2.4
	6822. to 7092.	MHz	30	42			dB	9f
	7580. to 7880.	MHz	25	33			dB	10f
	8338. to 8668.	MHz	13	21			dB	11f
	9096. to 9456.	MHz	5.0	12.0			dB	12f
	9854. to 10244.	MHz	5.0	11.0			dB	13f
	10612. to 11032.	MHz	12	23			dB	14f
	11370. to 11820.	MHz	7.0	21.0			dB	15f
12128. to 12750.	MHz	3.0	11.0			dB	16f	

\* Typical value at 25±2deg.C

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Electrical Characteristic < TX → RX >

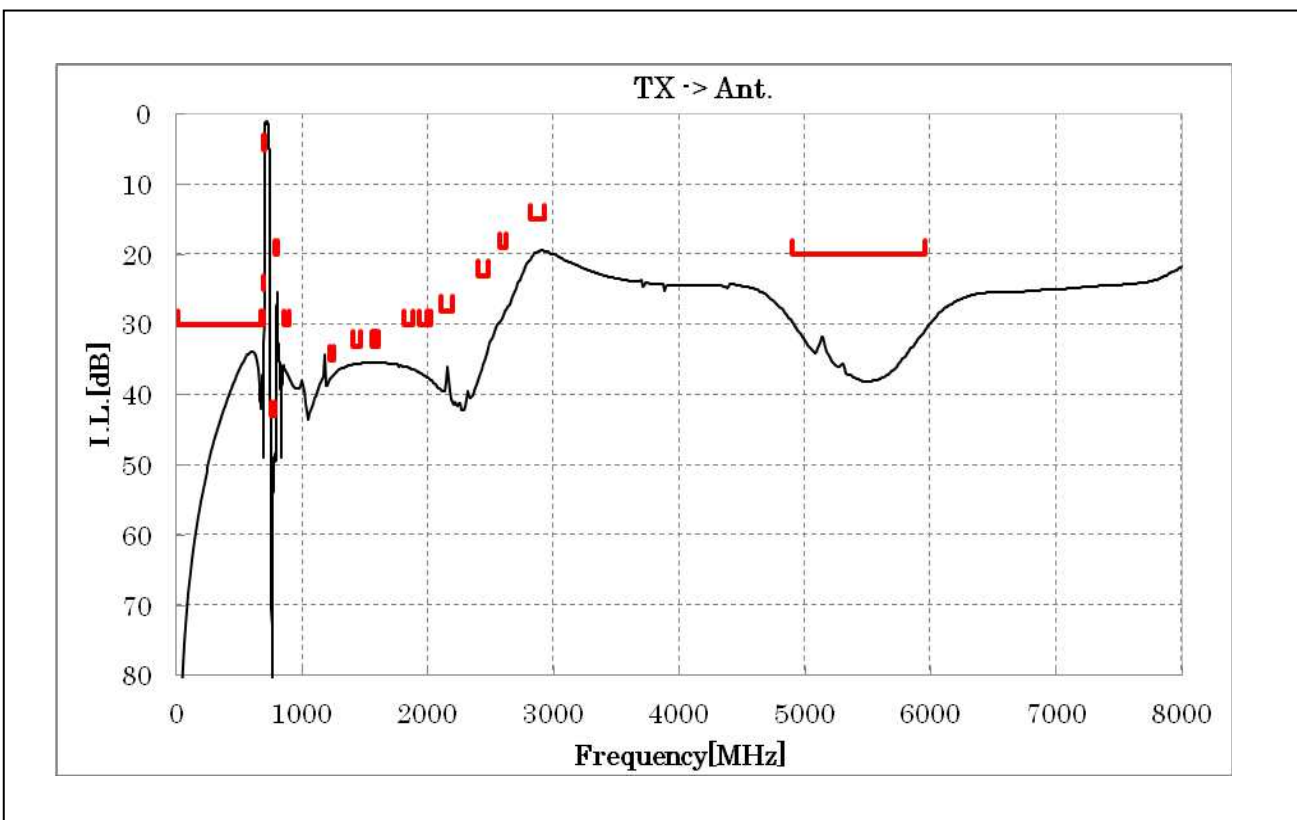
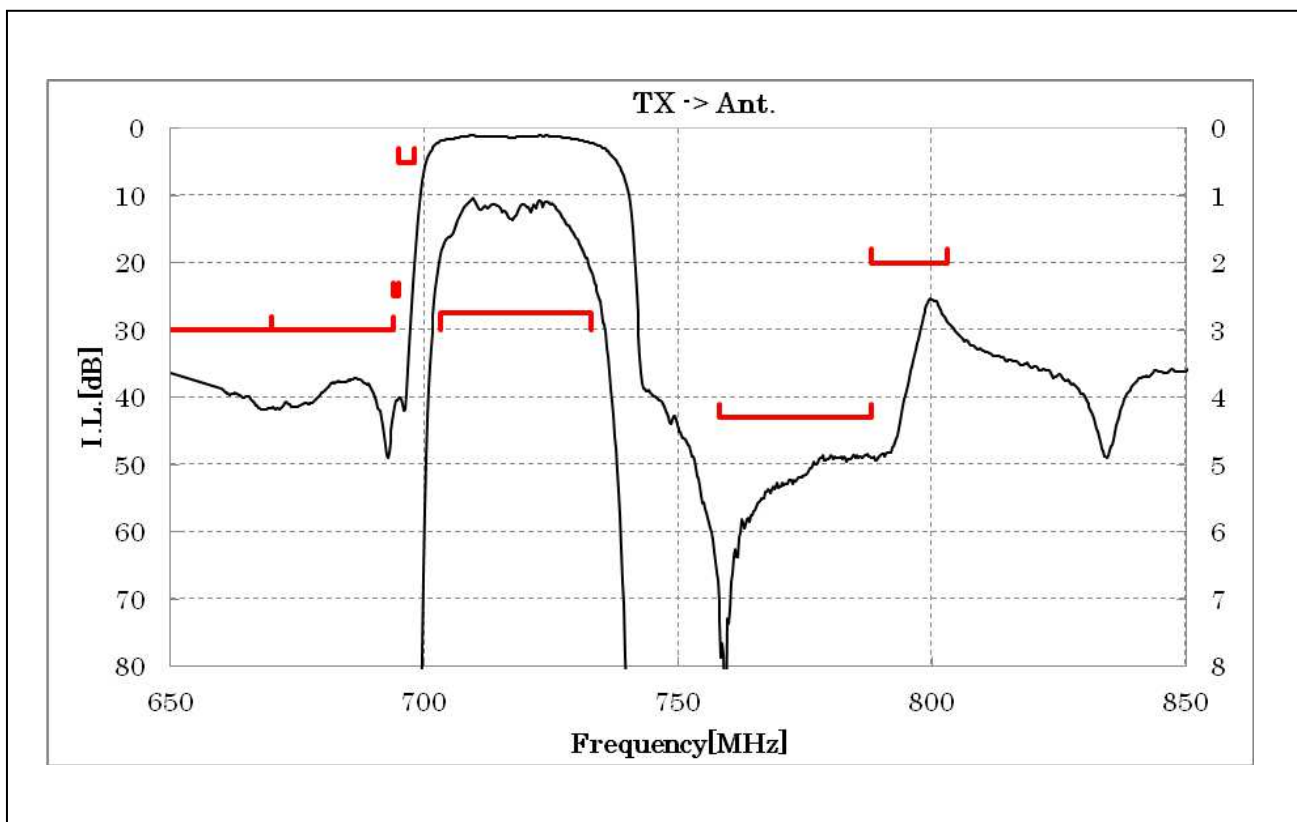
TX → RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
				Isolation				
	703.25 to 732.75 MHz	58	61			dB	TX	
	705.5 to 730.5 MHz	60	62			dB <sub>INT</sub>	Any 4.5MHz, TX	
	758.25 to 787.75 MHz	55	59			dB	RX	
	760.5 to 785.5 MHz	55	60			dB <sub>INT</sub>	Any 4.5MHz, RX	
	1406. to 1466. MHz	40	63			dB	2f TX	
	2109. to 2199. MHz	40	63			dB	3f TX	
	2812. to 2932. MHz	40	59			dB	4f TX	

\* Typical value at 25±2deg.C

SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

Electrical Characteristic

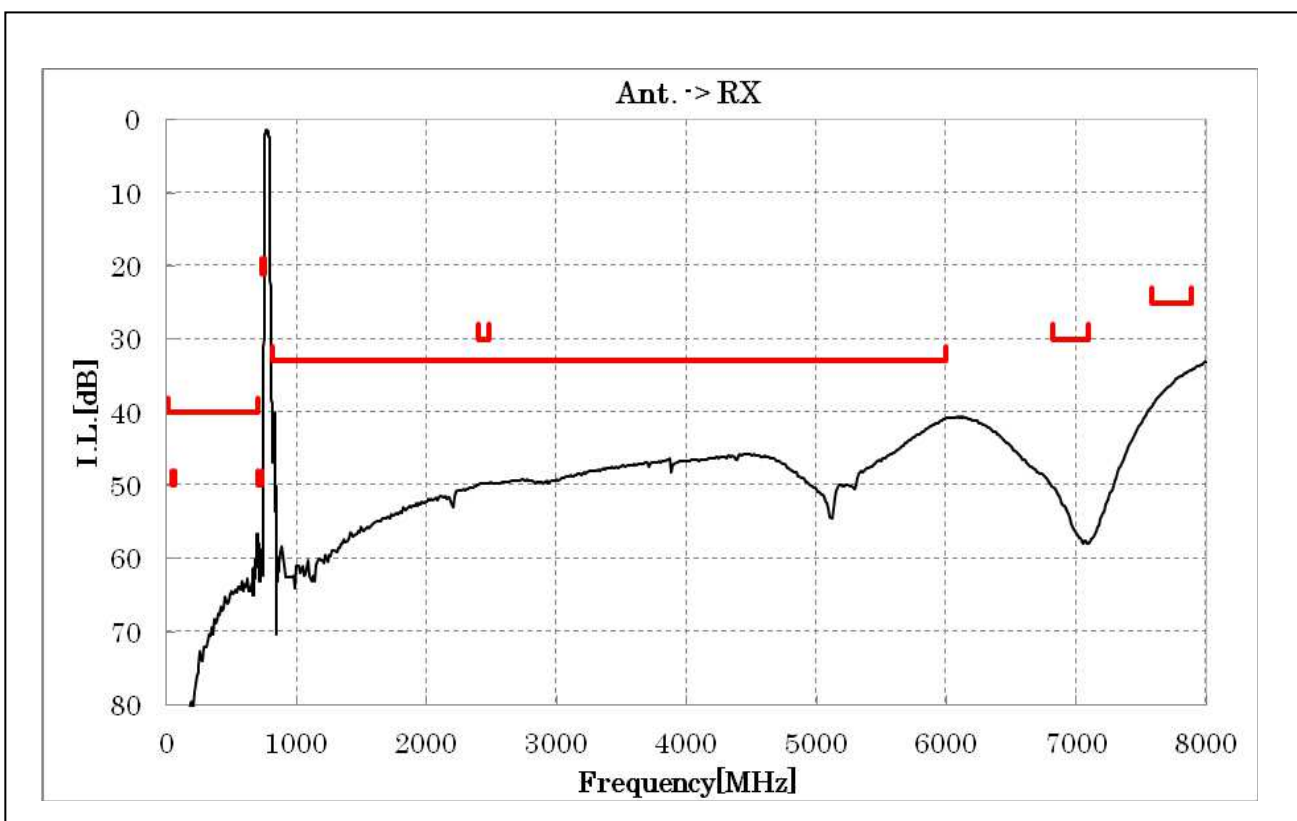
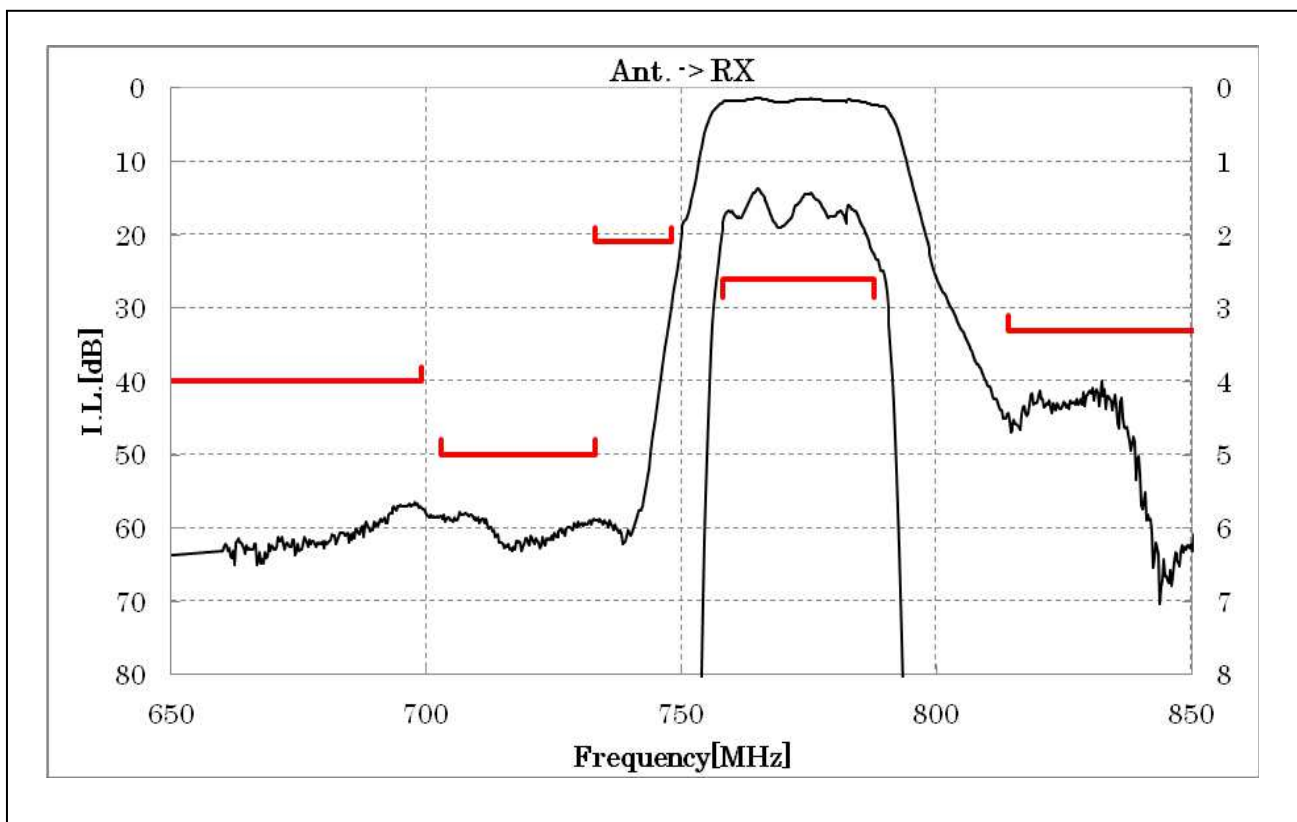
< TX → ANT. >



SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )

Electrical Characteristic

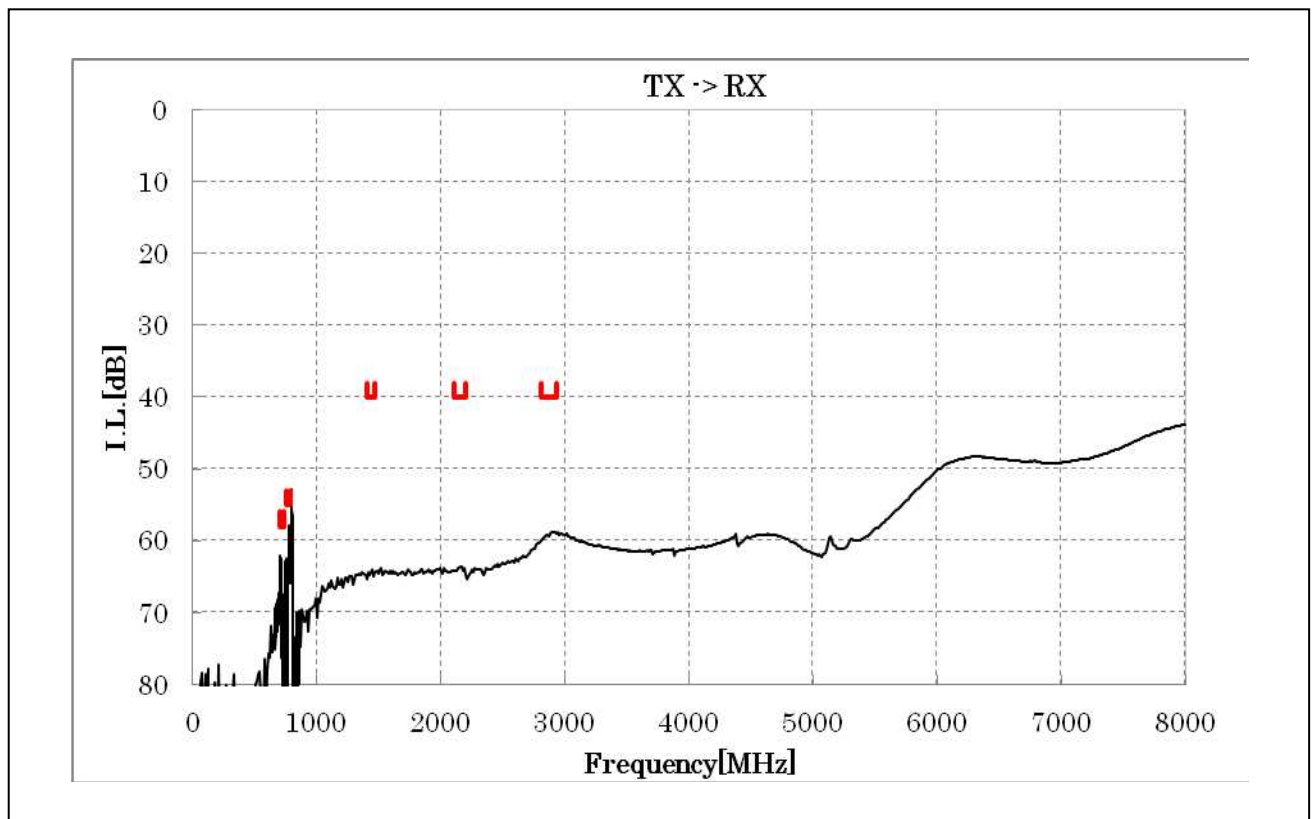
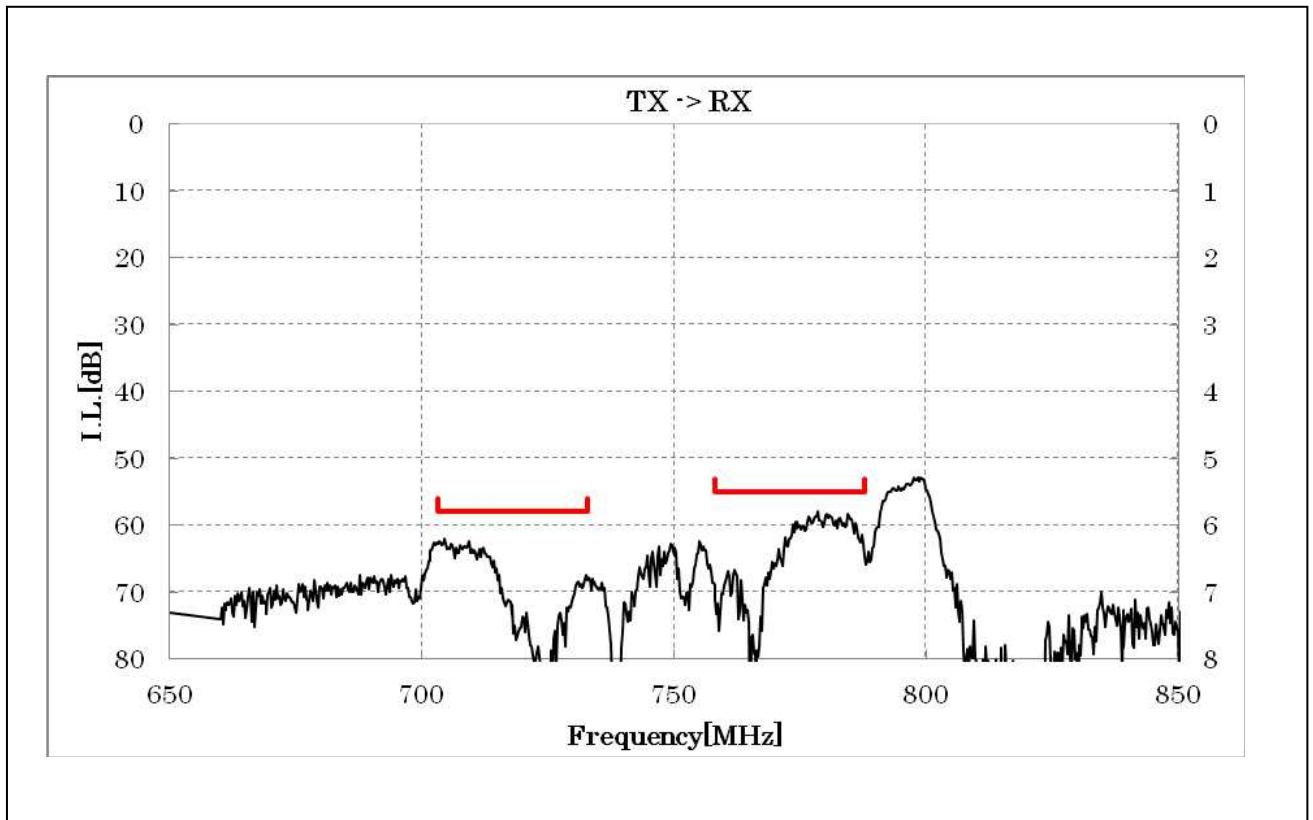
< ANT. → RX >





Electrical Characteristic

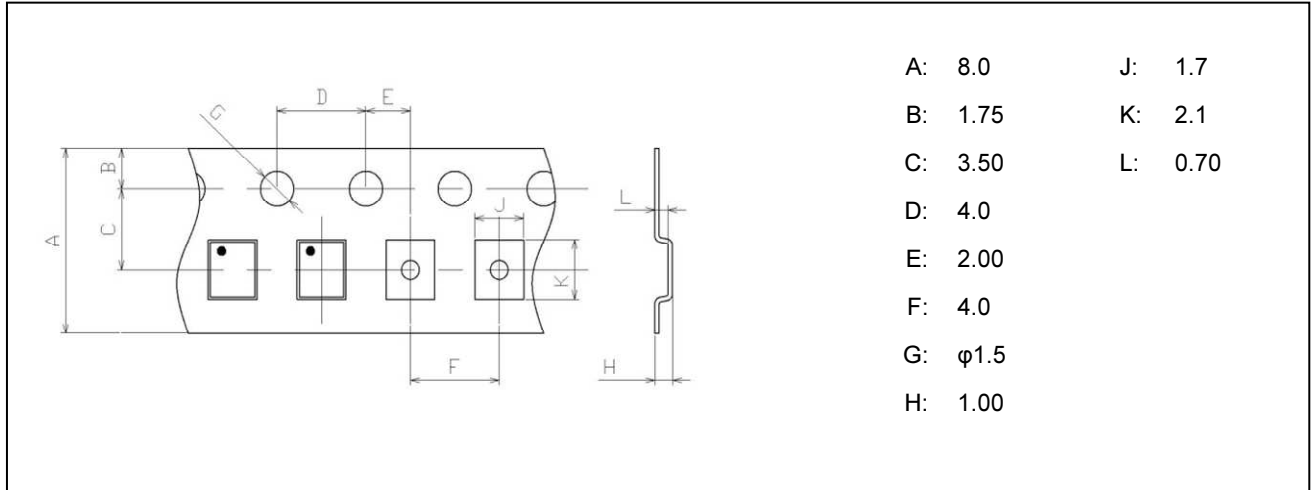
< TX → RX >



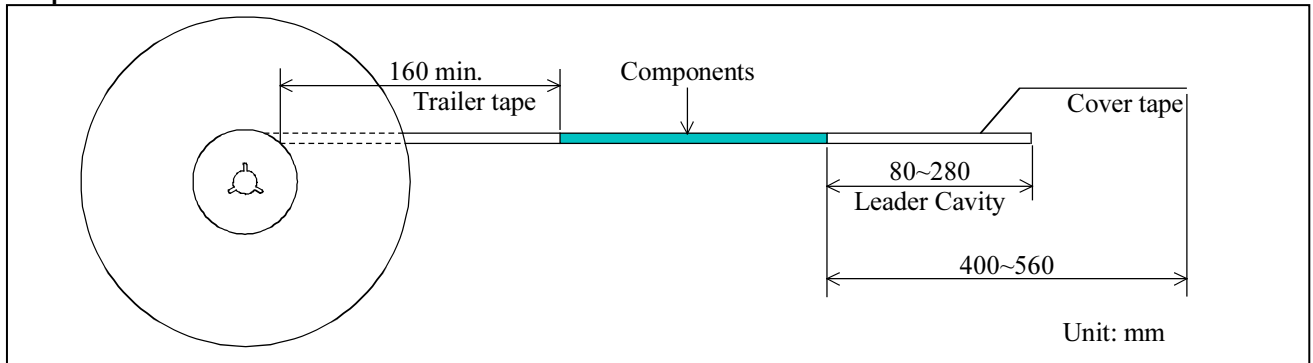
**SAYEY718MBC0F0A ( Band28A / Unbalanced / LR / 1814 )**

**Dimensions of Tape & Reel** unit: mm

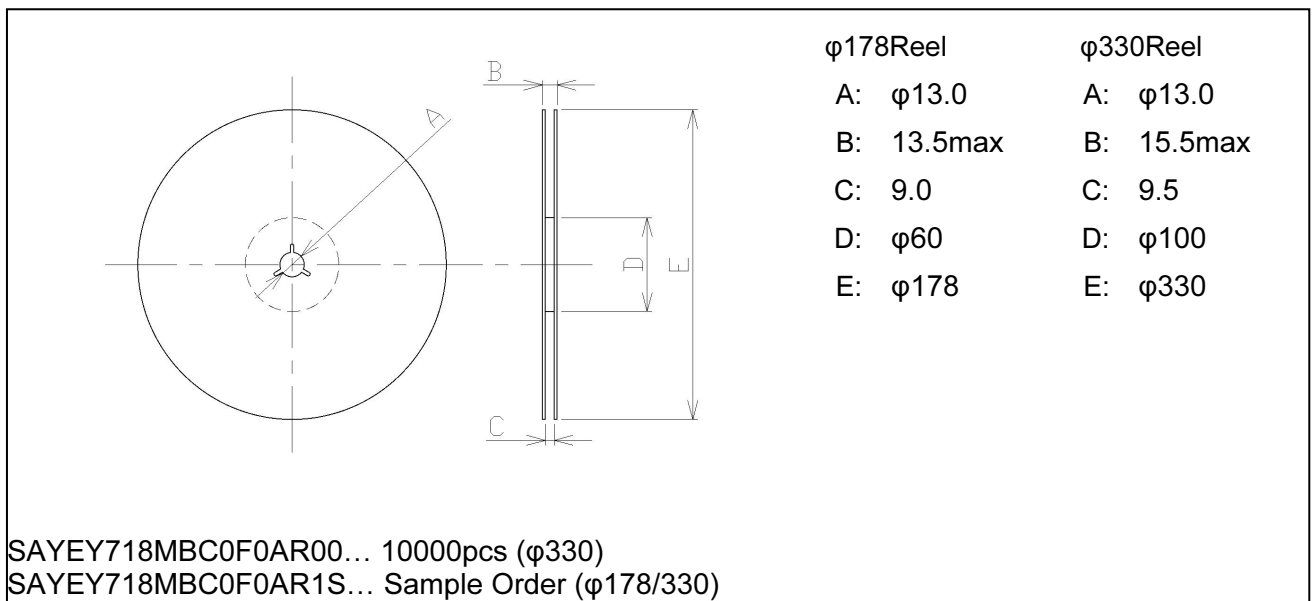
**Carrier Tape**



**Tape**



**Reel**



## Important Notice (1/2)

PLEASE READ THIS NOTICE BEFORE USING OUR PRODUCTS.

Please make sure that your product has been evaluated and confirmed from the aspect of the fitness for the specifications of our product specified in the front page of this product specifications (the "Product" or "Products") when our Product is mounted to your product. All the items and parameters in this product specification/datasheet/catalog have been prescribed on the premise that our Product is used for the purpose, under the condition and in the environment specified in this specification. You are requested not to use our Product deviating from the condition and the environment specified in this specification.

Please note that the only warranty that we provide regarding the Product is its conformance to the specifications provided herein. Accordingly, we shall not be responsible for any defects in products or equipment incorporating such Products, which are caused under the conditions other than those specified in this specification.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

The Product shall not be used for any application which requires especially high reliability or accuracy in order to prevent defect which incurs high possibility of damage to the third party's life, body or property such as the applications listed below as item (a) to (j) (the "Prohibited Application"). You acknowledge and agree that, if you use our Products in the Prohibited Applications, we will not be responsible for any damage caused by such use.

Furthermore, YOU AGREE TO INDEMNIFY AND DEFEND US AND OUR AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF OUR PRODUCTS IN THE PROHIBITED APPLICATIONS.

- (a) Aircraft equipment.
- (b) Aerospace equipment
- (c) Undersea equipment.
- (d) Power plant control equipment -
- (e) Medical equipment.
- (f) Transportation equipment (vehicles, automotive, trains, ships, etc.).
- (g) Traffic signal equipment.
- (h) Disaster prevention / crime prevention equipment.
- (i) Burning / explosion control equipment
- (j) Application of similar complexity and/ or reliability requirements to the applications listed in the above.

For the avoidance of doubt, the Product is not automotive grade, and will not support such requests for automotive as below, also not support other specific requests for automotive.

- AEC-Q200
- PPAP
- IATF16949, VDA6.3
- Zero Defect program
- Long product life cycle
- Automotive 8D failure analysis and report

## Important Notice (2/2)

We expressly prohibit you from analyzing, breaking, Reverse-Engineering, remodeling altering, and reproducing our product. Our product cannot be used for the product which is prohibited from being manufactured, used, and sold by the regulations and laws in the world.

Please do not use the Product in molding condition.

This product is ESD (ElectroStatic Discharge) sensitive device.

When you install or measure this, you should be careful not to add antistatic electricity or high voltage. Please be advised that you had better check anti surge voltage.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our Products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

Please do not use our Products, our technical information and other data provided by us for the purpose of developing of mass-destruction weapons and the purpose of military use.

Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

Please note that we may discontinue the manufacture of our products, due to reasons such as end of supply of materials and/or components from our suppliers.

Customer acknowledges that Murata will, if requested by you, conduct a failure analysis for defect or alleged defect of Products only at the level required for consumer grade Products, and thus such analysis may not always be available or be in accordance with your request (for example, in cases where the defect was caused by components in Products supplied to Murata from a third party).

The Product shall not be used in any other application/model than that of claimed to Murata.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.

We reject any liability or product warranty for engineering samples.

In particular we disclaim liability for damages caused by

- the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the Product to be sold by you,
- deviation or lapse in function of engineering sample,
- improper use of engineering samples.

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