

Datasheet of SAW Device

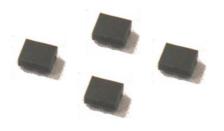
SAW Duplexer

for Band26 / Unbalanced / LR /1814

Murata PN: SAYEY831MBA0B0A

Feature

- > For 5GNR
- > TC-SAW
- High Isolation



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.





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

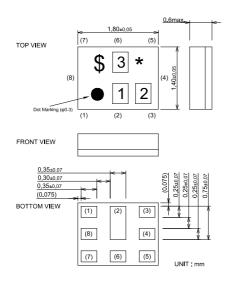
The input power shall be applied to Tx-port within own Tx passband frequency range.



Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions



Marking: Laser Printing

*: Month code

\$: Date code

1:6

2 : L

3:A

Terminal Number

(6): Ant

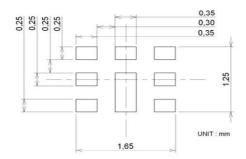
(3):TX

(1): RX

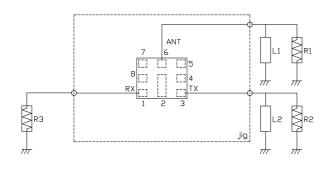
Others: GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1:50 ohm	L1 :8.2nH(Ideal inductor)
	:9.1nH(LQP03TN9N1)
	<reference></reference>
R2:50 ohm	L2 :24nH(Ideal inductor)
R3:50 ohm	



Electrical Characteristic < TX→ANT. >

TX→ANT.					Cha (-20	racteri to +85 d	stics eg.C)	Unit	Note
					min.	typ.*	max.		
Center Frequency						831.5		MHz	
Insertion Loss		to	848.75	MHz		2.1	3.0	dB	B26
		to	846.5	MHz		1.7	2.3	dB _{INT}	B26, Any 4.5MHz
		to	830.	MHz		1.4	2.1	dB	B18
		to	849.	MHz		2.2	3.0	dB	B5
Dipple Deviction	830. 814.25	<u>to</u>	845. 848.75	MHz MHz		1.5 0.8	2.0 1.5	dB dB	B19 Any 5MHz
Ripple Deviation VSWR	814.25	10 to	848.75	MHz		1.6	2.0	uБ	TX
IVOVIN		to	848.75	MHz		1.5	2.0		IANT.
Absolute Attenuation		to	420.	MHz	30	47	2.0	dB	AIVI.
/ tooolate / ttollaation		to	494.	MHz	38	43		dB	450MHz RX Rejection
		to	701.	MHz	30	38		dB	Toolin iz Tarriojootion
		to	728.	MHz	32	38		dB	
		to	764.	MHz	33	38		dB	700MHz RX Rejection
		to	804.	MHz	5.0	20.0		dB	,
	859.	to	894.	MHz	44	51		dB	RX
	1475.9	to	1510.9	MHz	30	39		dB	B11 / B21 RX
	1559.	to	1563.	MHz	38	44		dB	COMPASS
	1565.42	to	1573.37	MHz	39	44		dB	Lower GPS
	1573.37	to	1577.46	MHz	39	45		dB	Regular GPS
	1577.46	to	1585.42	MHz	39	45		dB	Upper GPS
		to	1605.89	MHz	40	45		dB	GLONASS
		to	1698.	MHz	35	46		dB	2f
		to	1879.9	MHz	30	49		dB	
		to	1919.6	MHz	30	47		dB	
		to	1995.	MHz	36	44		dB	
		to	2170.	MHz	38	47		dB	B1 RX
		to	2690.	MHz	33	40		dB	ISM2.4, B7 RX, 3f
		<u>to</u>	3396.	MHz	20	35 34		dB	4f
		to	3800.	MHz	20			dB	B42 / B43
		to	4245. 5950.	MHz MHz	20 20	34 31		dB dB	5f ISM 5G, 6f, 7f
		to	6792.	MHz	9.0	17.0		dB	8f
		to to	7641.	MHz	9.0	14.0		dB	9f
		to	8490.	MHz	2.0	11.0		dB	10f
		to	9339.	MHz	2.0	12.0		dB	11f
		to	10188.	MHz	2.0	9.0		dB	12f
			11037.	MHz	2.0	7.0		dB	13f
			11886.	MHz	2.0	7.0		dB	14f
	10010		12735.	MHz	2.0	9.0		dB	15f
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT.→RX >

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ANT.→RX					Characteristics (-20 to +85 deg.C)			Unit	Note
ANI.→⊓∧						Uriit			
Center Frequency	<u> </u>				1111111.	876.5	max.	MHz	1
Insertion Loss	859.25	to	893.75	MHz		2.4	3.5	dB	B26
Inscrion 2033		to	891.5	MHz		1.9	2.7	dB _{INT}	B26, Any 4.5MHz
		to to	875.	MHz		2.1	3.2	dB	B18
		to to	894.	MHz		2.0	3.0	dB	B5
		to	890.	MHz		1.5	2.5	dB	B19
Ripple Deviation	859.25	to.	893.75	MHz		0.7	2.1	dB	Any 5MHz
VŚWR	859.25	to	893.75	MHz		1.8	2.1		ANT.
	859.25	to	893.75	MHz		1.8	2.1		RX
Absolute Attenuation		to	447.	MHz	40	71		dB	
			45.	MHz	50	102		dB	RX - TX
		to	849.	MHz	45	58		dB	TX
		to	854.	MHz	3.0	27.0		dB	
		to	979.	MHz	15	26		dB	
			1447.	MHz	40	73		dB	B11 TX
		• •	1785.	MHz	50	66		dB	B3 TX
			1915.	MHz	50	65 65		dB	B25 TX
			1980. 2500.	MHz	40 40	65 61		dB dB	B1 TX ISM2.4
		• •	2500. 2494.	MHz MHz	50	61		dB dB	WLAN co-ex
		-	2494. 2682.	MHz	40	61		dB	3f
			5950.	MHz	40	58		dB	ISM 5G
			6258.	MHz	20	57		dB	IOW 3G
			2750.	MHz	15	23		dB	
	0200.	10	2700.	1411 12	10			QD.	
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX→RX. >

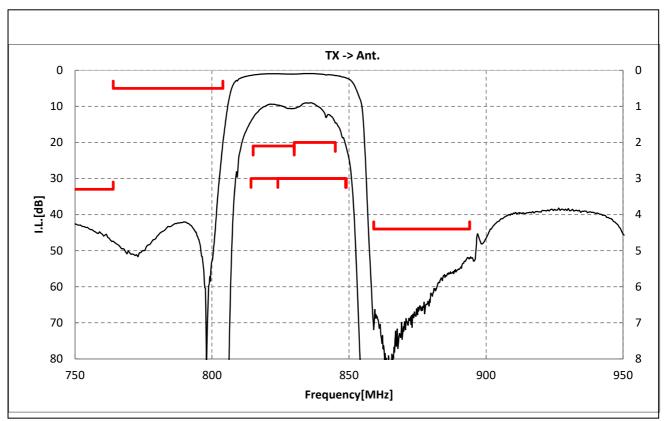
				Cha	racteri	stics		
TX→RX.					(-20 to +85 deg.C) min. typ.* max.		Unit	Note
	1			1111111.	ιyρ.	шах.		
Isolation	814.25 to	848.75	MHz	55	60		dB	B26 TX
	816.5 to	846.5	MHz	55	63			B26 TX, Any 4.5MHz
	815. to	830.	MHz	55	64		dB	B18 TX
	824. to	849.	MHz	53	60		dB	B5 TX
	830. to	845.	MHz	55	61		dB	B19 TX
	859.25 to 861.5 to	893.75	MHz	51	55 56		dB	B26 RX
		891.5 875.	MHz MHz	53 55	66		dB _{INT} dB	B26 RX, Any 4.5MHz B18 RX
	860. to	894.	MHz	52	55		dB	B5 RX
	875. to	890.	MHz	52	57		dB	B19 RX
	1574. to	1577.	MHz	40	65		dB	GPS
	1628. to	1698.	MHz	20	62		dB	2f
	2442. to	2547.	MHz	20	56		dB	3f
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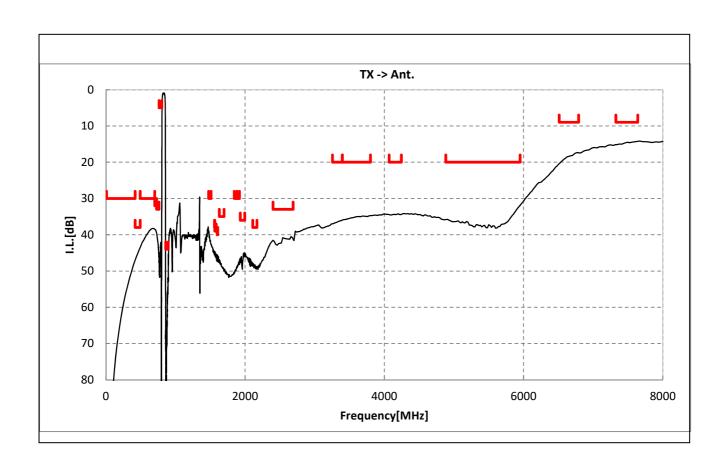
^{*} Typical value at 25±2deg.C



Electrical Characteristic

< TX→ANT. >

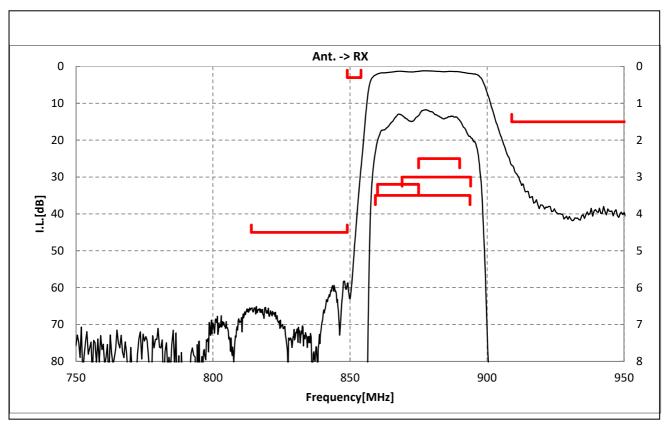


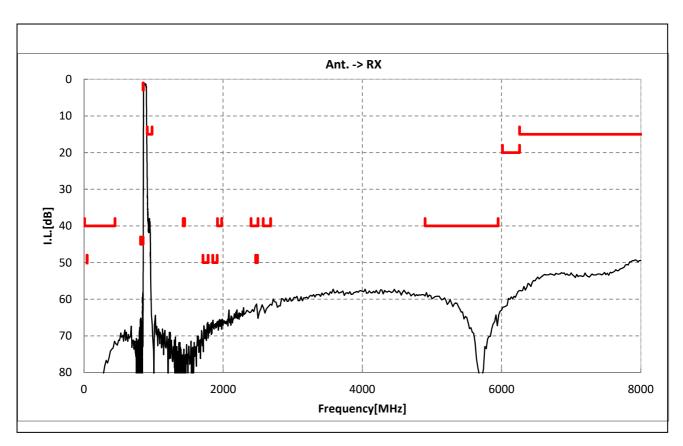




Electrical Characteristic

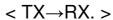
< ANT.→RX >

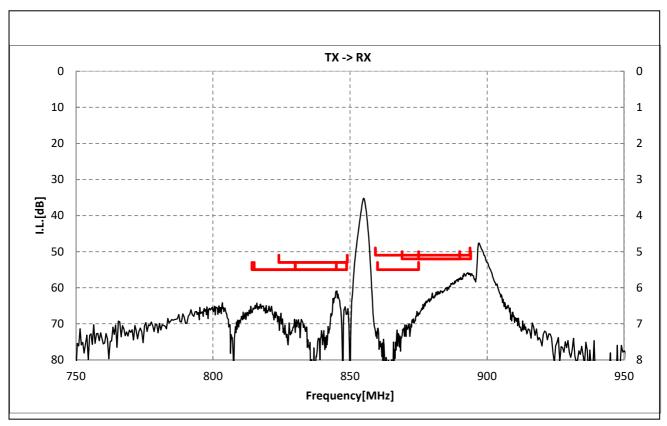


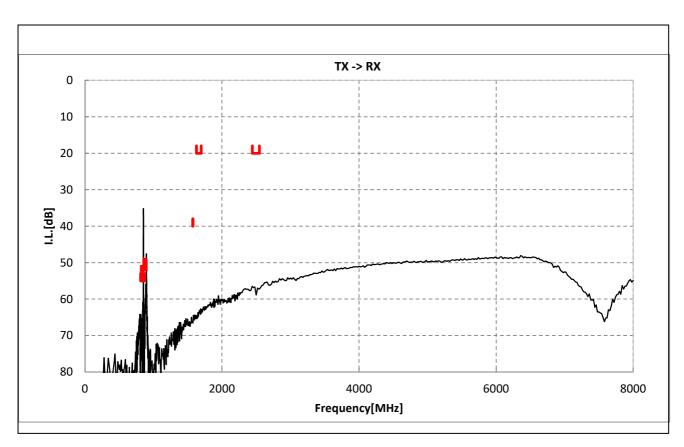




Electrical Characteristic



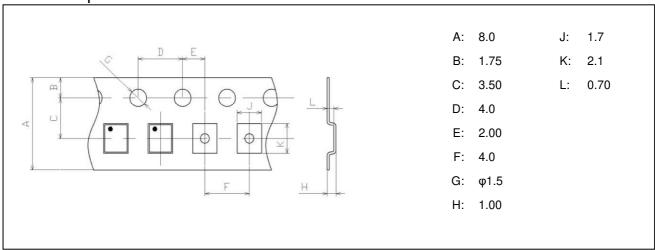




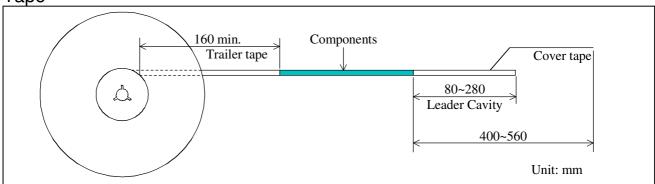


Dimensions of Tape & Reel unit: mm

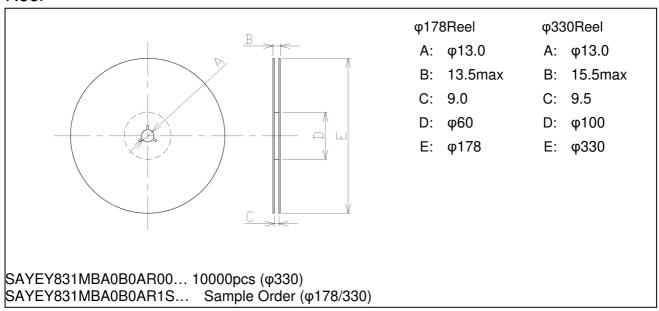
Carrier Tape



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 serge 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.

We disclaim any liability for consequential and incidental damages.

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