

Datasheet of SAW Device

SAW Duplexer

for Band28B / Unbalanced / LR /1814

Murata PN: SAYEY733MBC0F0A

Feature

- > for 5GNR
- > 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 H



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

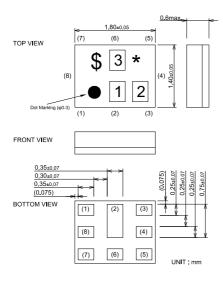
- ESD (ElectroStatic Discharge) sensitive device

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

1:7

2 : E

3 : A

Terminal Number

(6): Ant

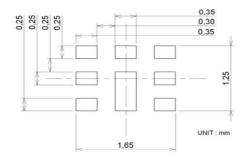
(3):TX

(1): RX

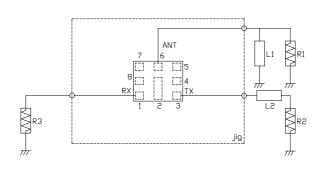
Others: GND

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></reference>
R2 : 50 ohm	L2 :10.4nH (Ideal inductor)
R3 : 50 ohm	



Electrical Characteristic < TX → ANT. >

$TX \rightarrow ANT.$					Characteristics (-20 to +85 deg.C)			Unit	Note
					min.	typ.*	max.		
Center Frequency						733		MHz	
Insertion Loss	718.25		747.75	MHz		2.3	2.7	dB	
		to	745.5	MHz		1.7	2.3	dB _{INT}	Any 4.5MHz
Ripple Deviation		to	748.	MHz		0.9	1.5	dB	Any 5MHz
VSWR		to	748.	MHz		1.8	2.0		TX
Alexander Attanzentian		to	748.	MHz	20	1.6	2.0	-ID	ANT.
Absolute Attenuation		to	698. 710.	MHz MHz	30 19	35 35		dB dB	DT/ Dejection
		to	710.	MHz	30	35		dB	DTV Rejection +23 to +27deg.C
		to to	710.	MHz	30	40		dB	Average
		to	773.	MHz	15	32		dB	Average
		to	803.	MHz	44	49		dB	RX
		to	894.	MHz	30	37		dB	
		to	1250.	MHz	35	39		dB	GPS L2
		to	1510.	MHz	32	38		dB	2f / B21 RX
	1559.	to	1563.	MHz	32	38		dB	Compass
	1565.42	to	1573.37	MHz	32	38		dB	Wideband GPS lower side
	1573.37	to	1577.47	MHz	32	38		dB	Regular GPS
	1577.47	to	1585.42	MHz	32	38		dB	Wideband GPS upper side
	1597.55	to	1605.89	MHz	32	38		dB	GLONASS
		to	1880.	MHz	31	40		dB	DCS
		to	1995.	MHz	31	41		dB	B2 / B25
		to	2025.	MHz	31	42		dB	B34
		to	2244.	MHz	28	35		dB	3f
		to	2484.	MHz	21	27		dB	ISM 2.4
		to	2620.	MHz	17	23		dB	B38
		to	2992.	MHz	15	18		dB	4f ISM 5G
	4900.	to	5950.	MHz	20	29		dB	ISIVI 5G
									* Typical value at 25+2deg C

^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT. → RX >

Electrical Cha	racter	เรน	$C \rightarrow F$	-\ I V I	. —	R	_		
ANT. o RX								Unit	Note
					min.	typ.*	max.		
Center Frequency						788		MHz	
Insertion Loss	773.25		802.75			2.0	2.4	dB	
	775.5	to	800.5	MHz		1.8	2.1	dB _{INT}	Any 4.5MHz
Ripple Deviation	773.	to	803.	MHz		0.3	1.5	dB	Any 5MHz
VSWR	773.	to	803.	MHz		1.8	2.1		RX
Absolute Attenuation	773. 10.	to	803. 699.	MHz MHz	38	1.7 60	2.0	dB	ANT.
Absolute Attenuation	45.	to to	65.	MHz	48	100		dB	DTV Rejection RX- TX
	703.	to	718.	MHz	48	56		dB	Block-A TX
	718.	to	748.	MHz	50	58		dB	TX
	814.	to	6000.	MHz	12	20		dB	OoB Rejection
	6957.	to	7227.	MHz	24	39		dB	9f
	7730.	to	8030.	MHz	20	35		dB	10f
	8503.	to	8883.	MHz	16	29		dB	11f
	9267.	to	9636.	MHz	11	16		dB	12f
	10049.	to	10439.	MHz	8.0	13.0		dB	13f
	10822.	to	11242.	MHz	10	19		dB	14f
	11595.		12045.	MHz	9.0	21.0		dB	15f
	12368.	to	12750.	MHz	1.0	15.0		dB	16f
	-								
								_	

^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX → RX >

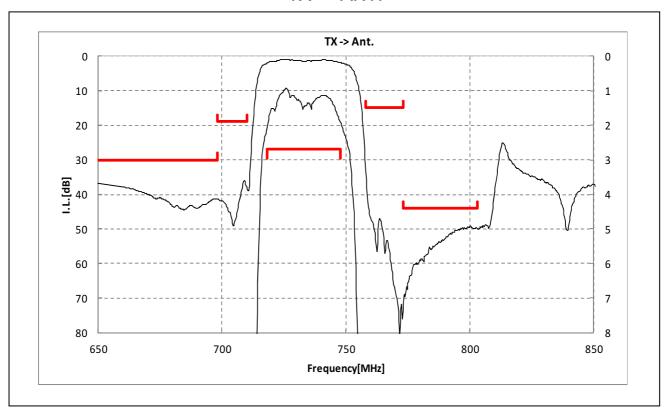
Liectifical Offai	actorioti		. , \	<u> </u>			1	
$TX \rightarrow RX$					racteri o +85 d	eg.C)	Unit	Note
				min.	typ.*	max.		
Isolation								
	718.25 to	747.75	MHz	58	61		dB	TX
	720.5 to	745.5	MHz	60	62		dB _{INT}	Any 4.5MHz, TX
	773.25 to	802.75	MHz	55	60		dB	RX
	775.5 to	800.5	MHz	55	61		dB _{INT}	Any 4.5MHz, RX
	1436. to	1496.	MHz	30	64		dB	2f TX
	2154. to	2244.	MHz	30	63		dB	3f TX
	2872. to	2992.	MHz	30	59		dB	4f TX
						ļ		
								* Typical value at 25+2deg C

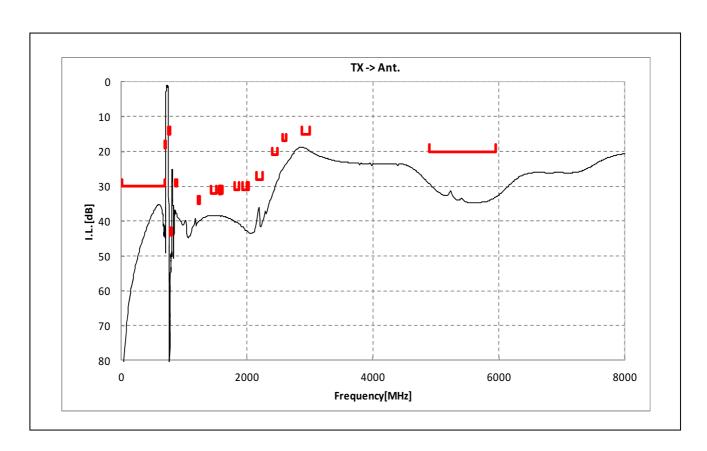
^{*} Typical value at 25±2deg.C



Electrical Characteristic

 $< TX \rightarrow ANT. >$

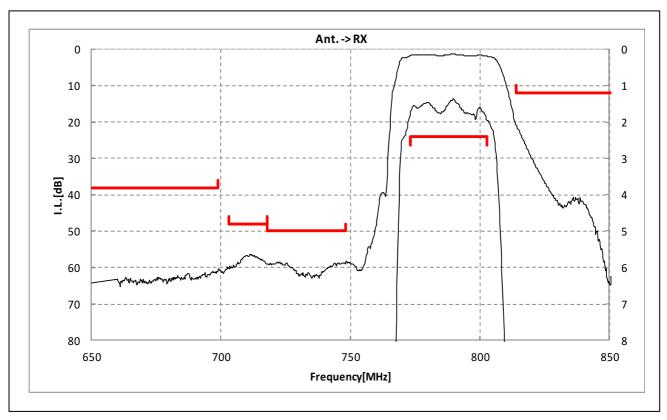


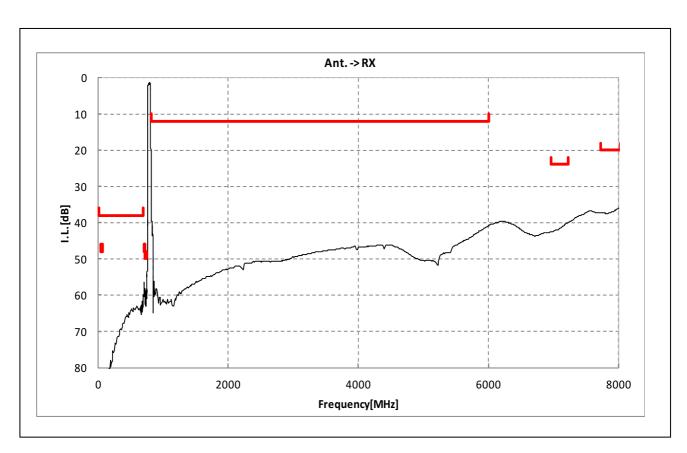




Electrical Characteristic

 $< ANT. \rightarrow RX >$

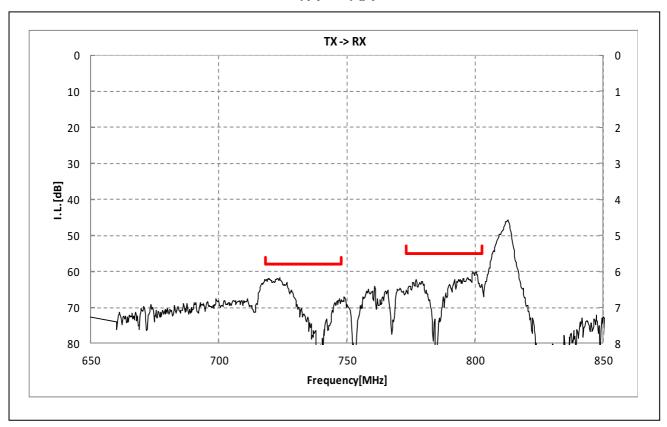


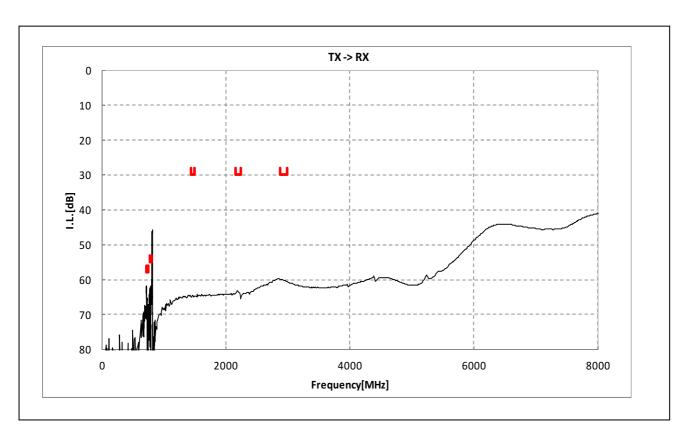




Electrical Characteristic

$$< TX \rightarrow RX >$$

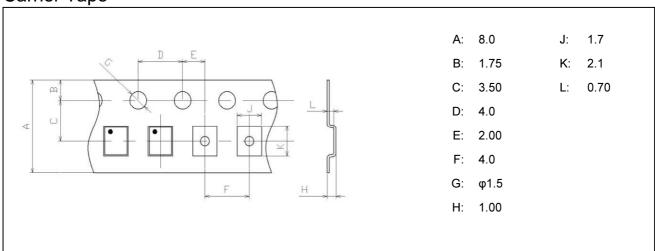




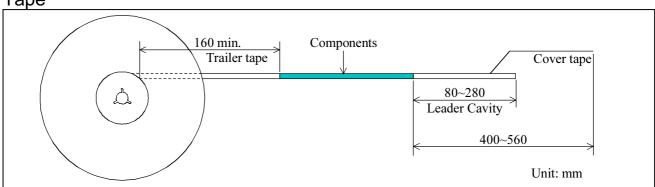


Dimensions of Tape & Reel unit: mm

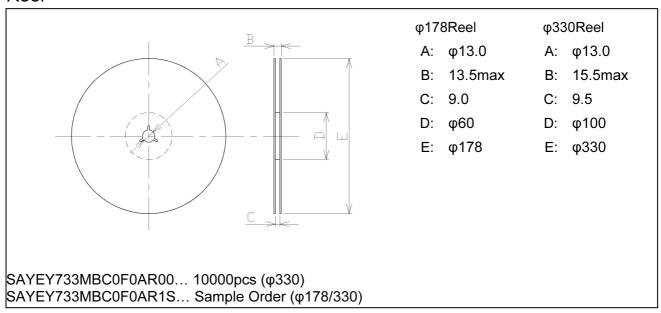
Carrier Tape



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.

If you can't agree the above contents, you should inquire our sales.