

Datasheet of SAW Device

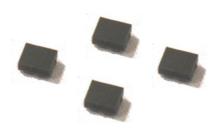
SAW Duplexer

for Band17 / Unbalanced / LR /1814

Murata PN: SAYEY710MBA0F0A

Feature

- > LTE-A
- > Tx Low Insertion Loss
- High Rx 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.

Revision H



- Operating temperature : -20 to +85 deg.C - Storage temperature : -40 to +85 deg.C

- Input Power : +29 dBm 5000 h 55 deg.C

- 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

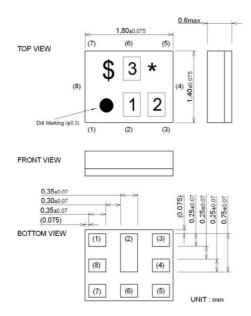
The input power shall be applied to Tx-port within own Tx passband frequency range.



Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions



Marking: Laser Printing

*: Month code

\$: Date code

1:6

2:A

3 : A

Terminal Number

(6): Ant

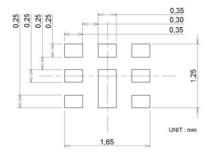
(3):TX

(1): RX

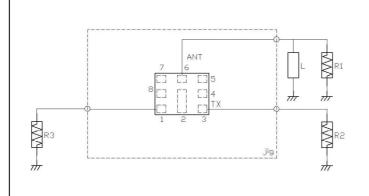
Others: GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L :9.5nH(Ideal inductor)
	:10nH(LQP03TN10N)
	<reference></reference>
R2 : 50 ohm	
R3 : 50 ohm	



Electrical Characteristic < TX→ANT. >

$TX \rightarrow ANT$.					Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.			
Center Frequency						710		MHz	
Insertion Loss		to	716.	MHz		1.2	1.7	dB	
		to	716.	MHz		1.2	1.6	dB	+23 to +27deg.C
Ripple Deviation		to	716.	MHz		0.2	1.0	dB	
VSWR		to	716.	MHz		1.3	2.0		TX
Absolute Attenuation		to	716. 698.	MHz MHz	0.5	1.2 2.1	2.0	dB	ANT.
Absolute Attenuation		to to	728.	MHz	2.5	6.3		dB	Average over ch56
		to to	734.	MHz	6.0	25.0		dB	Average over criso
		to	746.	MHz	42	62		dB	RX band Att.
		to	768.	MHz	30	41		dB	Totalia / tt.
		to	805.	MHz	25	37		dB	
		to	849.	MHz	30	35		dB	B5 TX CA
		to	894.	MHz	30	35		dB	
	1408.	to	1432.	MHz	30	40		dB	2f
	1559.	to	1563.	MHz	35	42		dB	Compass
	1565.42		1573.37	MHz	35	42		dB	Wideband GPS lower side
		to	1577.47	MHz	35	42		dB	Regular GPS, main lobe
		to	1585.42		35	42		dB	Wideband GPS upper side
		to	1605.89	MHz	35	42		dB	GLONASS
		to	1755.	MHz	30	46		dB	B4 TX CA
		to	1880.	MHz	30 30	47		dB	DCS 1800
		to	1910. 1990.	MHz		49 51		dB	DCS 1800 PCS
		to	2155.	MHz	30 45	53		dB dB	3f
		to to	2170.	MHz MHz	30	52		dB	IMT
		to to	2484.	MHz	35	44		dB	ISM2.4
		to	2864.	MHz	15	40		dB	4f
		to	5950.	MHz	15	26		dB	ISM 5G
	100.	to	680.	MHz	30	35		dB	I I I I I I I I I I I I I I I I I I I
						<u> </u>			
	<u> </u>					1	1		* Typical value at 25±2dea C

^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT.→RX >

Licetifical Office	i aotoi	10110	. ,	- 11 M I					
					Characteristics				
ANT. → RX						(-20 to +85 deg.C)			Note
						typ.	max.	Unit	1.000
Center Frequency	1				min.	740	IIIax.	MHz	1
Insertion Loss	734.	to	746.	MHz		1.4	2.3	dB	
Insertion Loss	734.	to	746.	MHz		1.4	2.0	dB	+23 to +27deg.C
Dinnle Deviation	734.	to	746.			0.3	1.5	dB	+23 to +27deg.C
Ripple Deviation VSWR	734.	to	746.	MHz		1.7	2.0	uБ	ANT.
VSWR		to		MHz					
Ab a ab da Adda a a a di a a	734.	to	746.	MHz	40	1.7	2.0	-ID	RX
Absolute Attenuation	1.	to	704.	MHz	40	59		dB	OoB rejection
	70.1		30.	MHz	50	110		dB	RX-TX
	704.	to	716.	MHz	50	61		dB	Lower 700MHz TX Att.
	716.	to	727.	MHz	7.0	17.0		dB	(Rx+Tx)/2
	727.	to	728.	MHz	3.0	16.0		dB	
	776.	to	793.	MHz	32	38		dB	Upper 700 MHz TX Att.
	793.		805.	MHz	35	42		dB	PS mobile transmitters
	814.		6000.	MHz	28	37		dB	
	1710.		1755.	MHz	40	54		dB	B4 TX CA
	1850.		1910.	MHz	40	52		dB	B2 TX CA
	2202.	to 2	2238.	MHz	40	51		dB	3f
	2400.		2500.	MHz	40	50		dB	ISM2.4
	4900.		5950.	MHz	28	37		dB	ISM 5G
	6606.		5714.	MHz	28	38		dB	9f
	7340.		7460.	MHz	25	39		dB	10f
	8074.		3206.	MHz	20	37		dB	11f
	8808.		3952.	MHz	20	37		dB	12f
	9542.		9698.	MHz	15	37		dB	13f
	10276.		0244.	MHz	15	37		dB	14f
	11010.		1190.	MHz	15	25		dB	15f
	11744.				15	25		dB	
			1936.	MHz					16f
	12478.	to 12	2682.	MHz	15	25		dB	17f
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX→RX. >

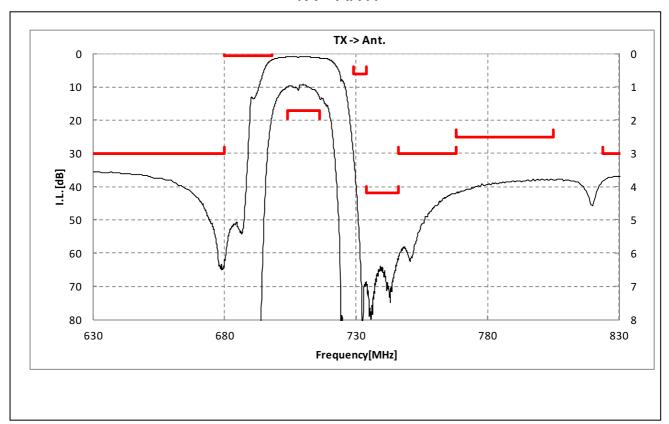
Electrical Orial	aotoi			1/\					T
					<u>Ch</u> a	racteri	stics		
$TX \rightarrow RX$						(-20 to +85 deg.C)			Note
177.7100						typ.		Unit	11010
					min.	ιyρ.	max.		
Isolation									
	704.	to	716.	MHz	60	62		dB	TX
	734.	to	738.	MHz	55	68		dB	RX1
	738.	to	742.	MHz	55	64		dB	RX2
	742.		746.	MHz	55	62		dB	RX3
	142.	to	140.	IVITIZ					INAS
	1408.	to	1432.	MHz	30	61		dB	2f
	2112.	to	2148.	MHz	30	53		dB	3f
	2816.	to	2864.	MHz	30	49		dB	4f
						<u> </u>			
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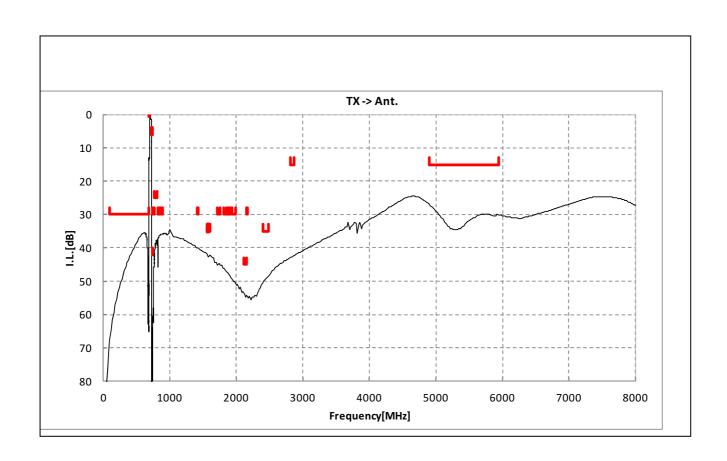
^{*} Typical value at 25±2deg.C



Electrical Characteristic

< TX→ANT. >

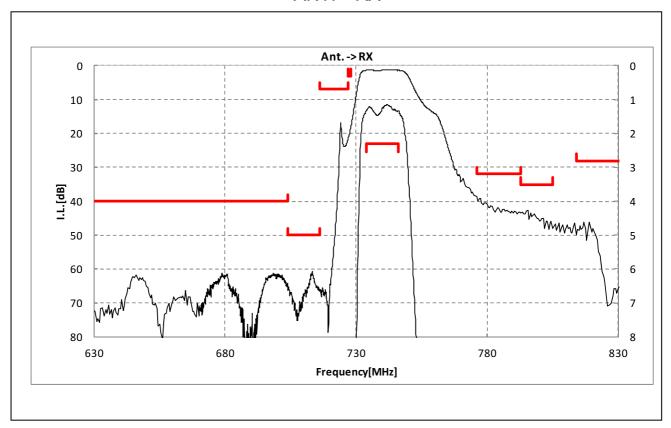


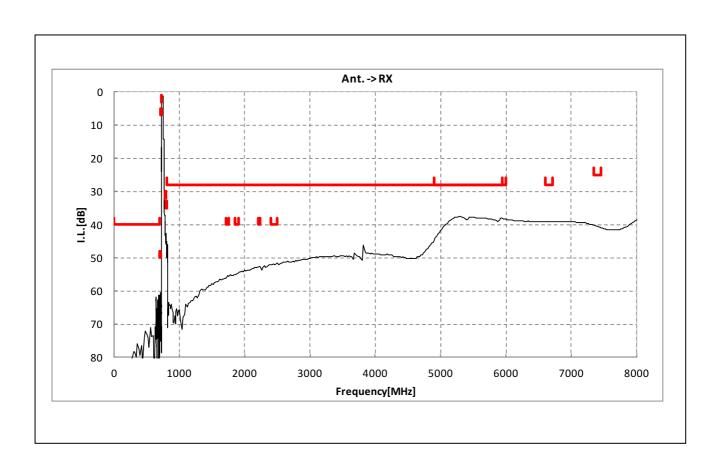




Electrical Characteristic

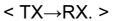
< ANT.→RX >

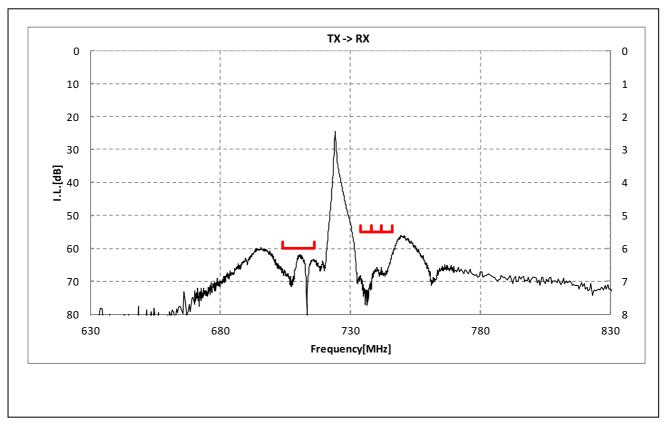


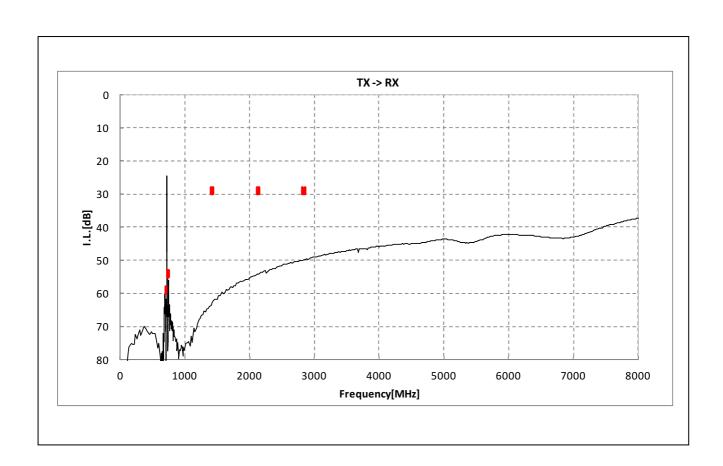




Electrical Characteristic



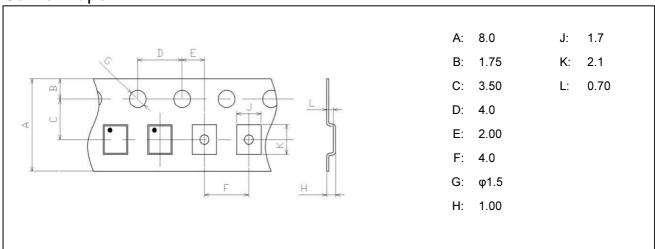




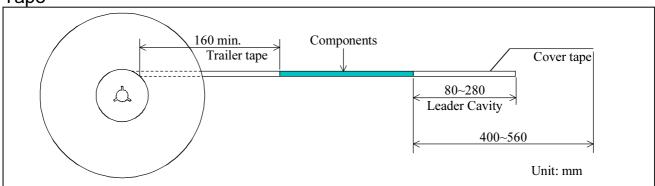


Dimensions of Tape & Reel unit: mm

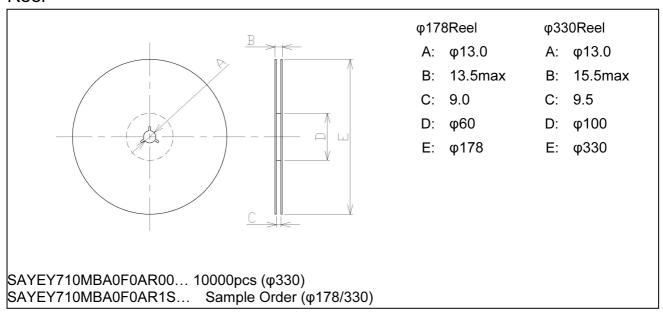
Carrier Tape



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.

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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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