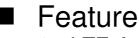


# **Datasheet of SAW Device**

# SAW Duplexer

for Band12 / Unbalanced / LR /1814

## Murata PN: SAYEY707MBA0F0A



- ≻ LTE-A
- ➤ 5GNR
- ➢ Good 3f Linearity



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
K



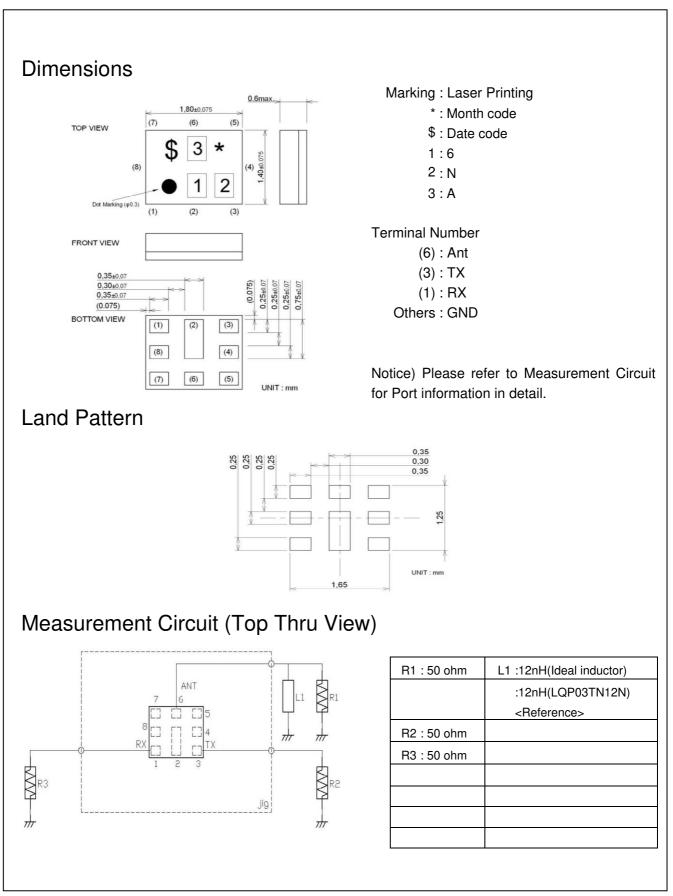
#### General Information

- 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 devi	ce

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



#### Package Dimensions & Recommended Land Pattern unit: mm





### Electrical Characteristic < TX→ANT. >

$TX \to ANT.$						to +85 d		Unit	Note
							max.		
Center Frequency						707.5		MHz	
Insertion Loss	699.25	to	715.75	MHz		1.9	2.4	dB	
	701.5	to	713.5	MHz		1.5	2.2	dB <sub>INT</sub>	Any 4.5MHz
Ripple Deviation	699.25	to	715.75	MHz		0.8	2.0	dB	
VŚWR	699.25	to	715.75	MHz		1.6	2.0		ANT.
	699.25	to	715.75	MHz		1.7	2.0		TX
Absolute Attenuation	10.	to	685.	MHz	30	40		dB	
	722.	to	729.	MHz	2.0	10.0		dB	Ch56
	729.25	to	745.75	MHz	45	57		dB	RX
		to	768.	MHz	30	42		dB	
		to	805.	MHz	25	41		dB	
		to	849.	MHz	30	41		dB	B5 TX
		to	894.	MHz	36	41		dB	
		to	1432.	MHz	30	41		dB	2f
	1559.	to	1563.	MHz	35	38		dB	COMPASS
	1565.42	to	1573.37	MHz	35	38		dB	Lower GPS
	1573.37		1577.47	MHz	35	38		dB	Regular GPS
	1577.47	to	1585.42	MHz	35	38		dB	Upper GPS
	1597.55		1605.89	MHz	35	38		dB	GLONASS
		<u>to</u>	1755.	MHz	30	36		dB	B4 TX
		<u>to</u>	1880.	MHz	30	35		dB	DCS RX
		<u>to</u>	1990. 2155.	MHz	29	34 34		dB	
		<u>to</u>	2155.	MHz	29			dB	3f, B1 RX
		<u>to</u>	2170.	MHz	29 25	34 35		dB dB	B1 RX
		to	2464.	MHz MHz	12	21		dB dB	ISM2.4 4f
	10.00	to	<u>2004.</u> 5950.	MHz	5.0	10.0		dB	ISM 5G
	4900.	to	J <del>J</del> JJ.		5.0	10.0		uв	
						1			

\* Typical value at 25±2deg.C



#### Electrical Characteristic $\langle ANT. \rightarrow RX \rangle$

Characteristic < AINT. / TA >								1
ANT. $\rightarrow$ RX				Characteristics (-20 to +85 deg.C)			Unit	Nete
$A$ INI. $\rightarrow \Box A$			min.	typ.*	max.	Unit	Note	
Center Frequency					737.5	max.	MHz	
Insertion Loss	729.25 to	745.75	MHz		1.8	2.4	dB	
	731.5 to	743.5	MHz		1.7	2.2	dB <sub>INT</sub>	Any 4.5MHz
Ripple Deviation	729.25 to	745.75	MHz		0.5	2.0	dB	
VŚWR	729.25 to	745.75	MHz		1.7	2.0		ANT.
	729.25 to	745.75			1.7	2.0		RX
Absolute Attenuation	10. to	699.	MHz	40	55		dB	Out-of-band rejection
	30. to	30.	MHz	50	106		dB	RX-TX
	699.25 to 716. to	715.75 722.	MHz MHz	45 0.5	56 16.0		dB dB	TX Average attenuation
	716. to 776. to	793.	MHz	24	29		dB	Average attenuation Upper 700 MHz Tx jammer
	793. to	805.	MHz	35	55		dB	PS mobile transmitters
	824. to	849.	MHz	40	56		dB	BC0 TX jammer
	1710. to	1755.	MHz	40	50		dB	B4 TX
	1850. to	1920.	MHz	40	49		dB	B2 TX
	2187. to	2238.	MHz	40	47		dB	3f
	2400. to	2500.	MHz	40	45		dB	ISM2.4
	4900. to	5950.	MHz	36	41		dB	ISM 5G
	6561. to 7290. to	6714.	MHz	30	49 37		dB	9f
	7290. to 8019. to	7460. 8206.	MHz MHz	25 15	37 28		dB dB	10f 11f
	8748. to	8952.	MHz	10	25		dB	12f
	9477. to	9698.	MHz	5.0	22.0		dB	13f
		10444.	MHz	5.0	15.0		dB	14f
		11190.	MHz	5.0	11.0		dB	15f
		11936.	MHz	5.0	12.0		dB	16f
	12393. to	12682.	MHz	5.0	15.0		dB	17f
	L							
								* Typical value at 25+2deg.C

\* Typical value at 25±2deg.C



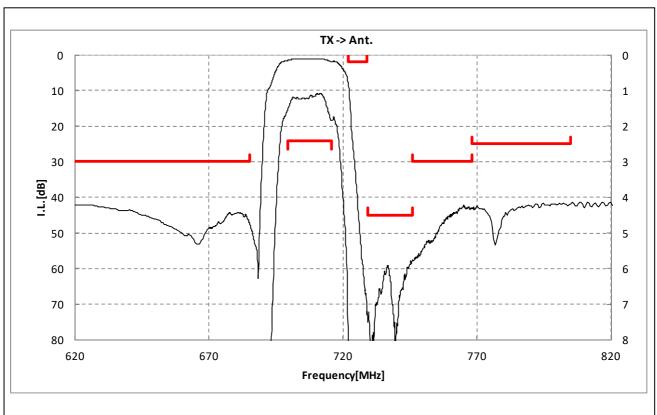
#### Electrical Characteristic $< TX \rightarrow RX. >$

	$TX \rightarrow RX$					stics	Lincit	Nieto
· · · ·	$IX \rightarrow HX$	·					Unit	Note
Isolation	699.25 to	715.75		min. 57	60		dB	
	701.5 to	713.5	MHz	58	62		dB <sub>INT</sub>	Any 4.5MHz
	729.25 to	745.75	MHz	55	61		dB	
	731.5 to		MHz	56	65	ļ	dB <sub>INT</sub>	Any 4.5MHz
	1398. to 2097. to		MHz MHz	30 30	62 55		dB dB	2f 3f
	2097. to 2792. to		MHz	30	52		dB	4f
	2752. ((	, 2004.		00	02		0.0	
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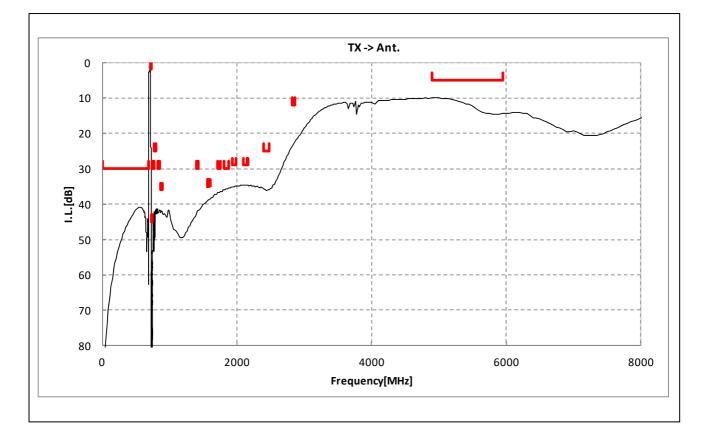
\* Typical value at 25±2deg.C



#### **Electrical Characteristic**

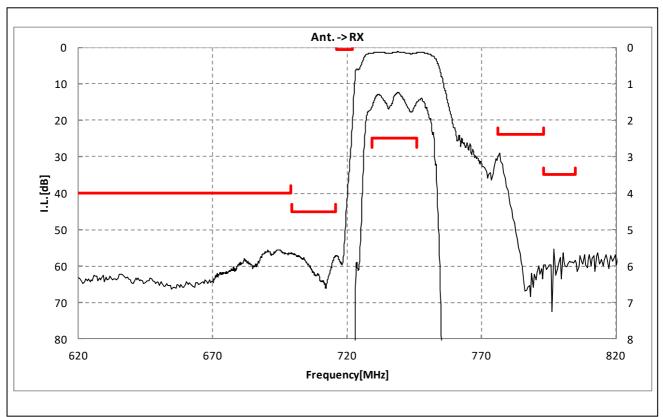


 $< TX \rightarrow ANT. >$ 

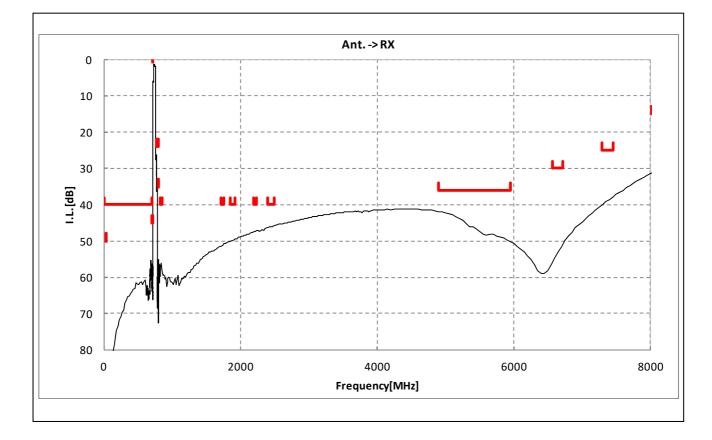




#### **Electrical Characteristic**

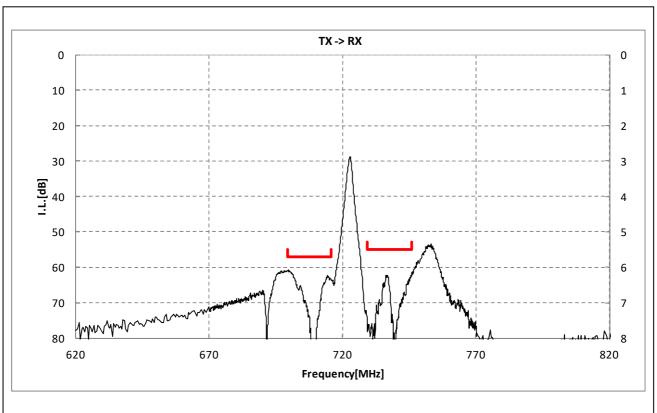


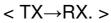
 $< ANT. \rightarrow RX >$ 

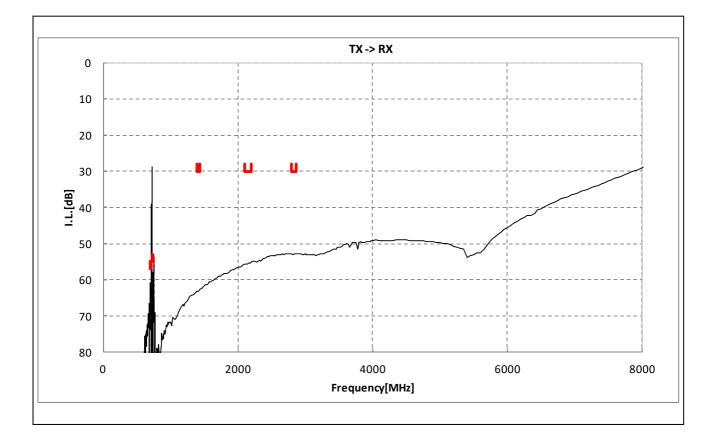




#### **Electrical Characteristic**



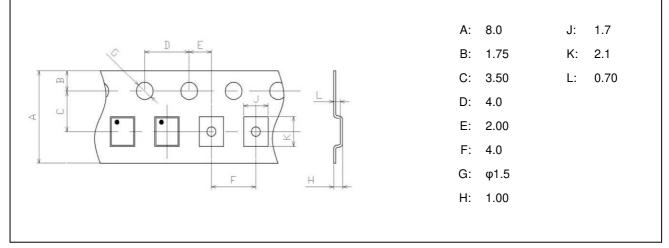




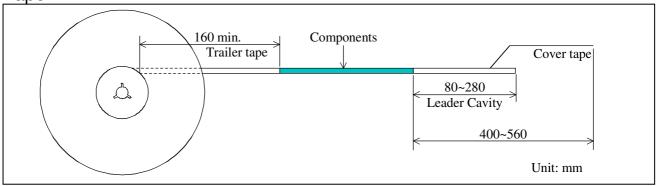


Dimensions of Tape & Reel unit: mm

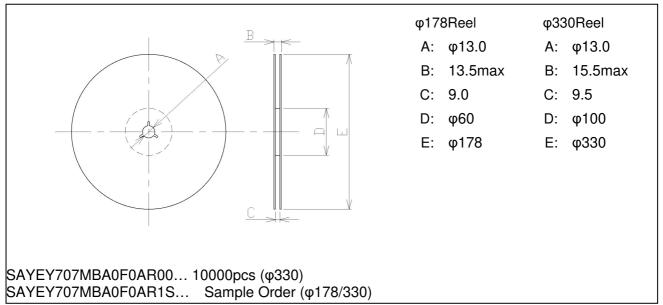
#### Carrier Tape



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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·deviation or lapse in function of engineering sample,

•improper use of engineering samples.

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