

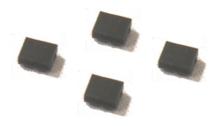
# **Datasheet of SAW Device**

SAW Duplexer

for Band20 / Unbalanced / LR /1814

Murata PN: SAYEY806MBA0F0A

■ Feature
> LTE-A



Note: Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.

Please also read caution at the end of this document.



Revision Number	Date	Description
SAYEY806MBA0F0A_rev. A	Nov-08-2013	■ Initial Release / for MP
SAYEY806MBA0F0A_rev. B	Jan-30-2014	■ Updated Electrical Characteristics
SAYEY806MBA0F0A_rev. C	Sep-02-2015	■ Updated Feature
SAYEY806MBA0F0A_rev. D	Aug-30-2016	■ Updated General Information
SAYEY806MBA0F0A_rev. E	Aug-03-2017	■ Updated General Information

Operating temperature
 Storage temperature
 Maximum Input Power Level for short term(\*)
 +29.0dBm at CW tone

: +28.7dBm at LTE modulation(\*\*)

- Power Capacity : +29.0dBm +50deg.C 5000h at CW tone

- D.C. Volatage between the terminals : 3V (25+/-2 deg.C)

- Minimum Resistance betweem the terminals : 10M ohm - RoHS compliance : Yes

(\*) -30 to 85 deg.C

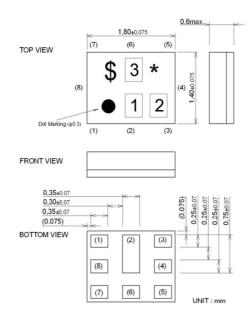
(\*\*) CBW 5MHz, RB(24, 1), QPSK



### Package Dimensions & Recommended Land Pattern

unit: mm

#### **Dimensions**



Marking: Laser Printing

\* : Month code(Refer to the table A)

\$: Date code(Refer to the table B)

1:6

2:H

3 : A

#### **Terminal Number**

(6): Ant

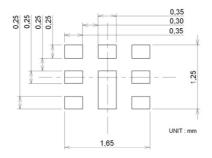
(3):TX

(1): RX

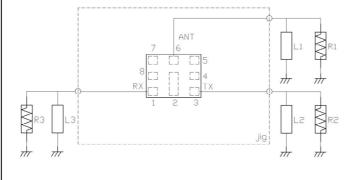
Others: GND

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

#### Land Pattern



# Measurement Circuit (Top Thru View)



R1:50 ohm	L1 :9nH(Ideal inductor)
	:9.1nH(LQP03TN9N1)
	<reference></reference>
R2 : 50 ohm	L2 :25nH(Ideal inductor)
R3 : 50 ohm	L3 :7nH(Ideal inductor)



# Electrical Characteristic < TX→ANT. >

TX → ANT.						Characteristics (-20 to +85 deg.C) Unit			Note	
					min.	typ.*	max.			
Center Frequency						847		MHz		
Insertion Loss	832.25		861.75			1.8	2.5	dB		
D: 1 D : 1:		to	859.5	MHz		1.5	2.0	dB <sub>INT</sub>	Any 4.5MHz	
Ripple Deviation VSWR		to	862. 862.	MHz		0.7 1.7	1.8 2.0	dB	IANIT	
VSWK		to	862.	MHz MHz		1.7	2.0		ANT.	
Absolute Attenuation		to to	771.	MHz	35	39	2.0	dB	17	
/ toolate / ttoriaation		to	791.	MHz	40	43		dB		
		to	820.75	MHz	45	54		dB	RX	
		to	818.5	MHz	45	54		dB		
	821.	to	827.	MHz	2.4	7.2		dB		
		to	960.	MHz	38	41		dB	B8 RX	
	1559.	to	1563.	MHz	43	46		dB	COMPASS	
	1565.42	to	1573.37	MHz	40	46		dB	Lower GPS	
	1573.37 1577.47		1577.47 1585.42	MHz MHz	43 40	46 46		dB dB	Regular GPS Upper GPS	
		to to	1605.89	MHz	43	46		dB	GLONASS	
		to	1724.	MHz	25	46		dВ	2f	
		to	1880.	MHz	30	50		dB	B3 TX	
		to	1919.6	MHz	30	51		dB		
	<b></b>	to	2170.	MHz	30	56		dB	B1 TX	
		to	2500.	MHz	45	56		dB	ISM2.4	
	2496.	to	2586.	MHz	40	48		dB	3f	
	2570.	to	2620.	MHz	40	48		dB	B38	
		to	2690.	MHz	30	51		dB	B7 TX	
		to	3448.	MHz	20	47		dB	4f	
		to	4310.	MHz	20	43		dB	5f	
	4900.	to	5950.	MHz	20	40		dB	ISM 5G, 6f	
						<u></u>				
									* Typical value at 25±2dag C	

<sup>\*</sup> Typical value at 25±2deg.C



### Electrical Characteristic < ANT.→RX >

Licetifical Offaractoristic 17tivi. 10t/											
				Cha	racteri	stics					
l Ar	NT.  o RX			(-20	to +85 d	eg.C)	Unit	Note			
				min.	typ.*	max.					
Center Frequency					806		MHz				
Insertion Loss	791.25	to 820.75	MHz		2.5	3.6	dB				
		to 818.5	MHz		1.9	2.5	dB <sub>INT</sub>	Any 4.5MHz			
Ripple Deviation		to 821.	MHz		1.5	3.0	dB				
VŚWR		to 821.	MHz		1.7	2.0		ANT.			
		to 821.	MHz		1.7	2.0		RX			
Absolute Attenuation		to 760.	MHz	35	42		dB				
		41.	MHz	50	125		dB	TX - RX			
	760.	to 770.	MHz	10	43		dB				
	832.25		MHz	45	57		dB	TX			
		to 915.	MHz	40	50		dB	B8 TX			
		to 1785.	MHz	40	56		dB	B3 TX			
		to 2463.	MHz	40	62		dB	3f			
	2400.	to 2500.	MHz	40	62		dB	ISM2.4			
	2500. <sub>1</sub>	to 2570.	MHz	40	65		dB	B7 TX			
		to 5950.	MHz	40	48		dB	ISM 5G			
		to 6568.	MHz	25	54		dB	8f			
		to 7389.	MHz	30	48		dB	9f			
		to 8210.	MHz	20	43		dB	10f			
		to 9031.	MHz	15	43		dB	11f			
		to 9852.	MHz	15	43		dB	12f			
		to 10673.	MHz	15	43		dB	13f			
		to 11494.	MHz	15	43		dB	14f			
		to 12315.	MHz	10	43		dB	15f			
	12656.	to 12750.	MHz	10	43		dB	16f			
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L	1			l	L	I		* T at 25, 23, 25, 25			

<sup>\*</sup> Typical value at 25±2deg.C



### Electrical Characteristic < TX→RX. >

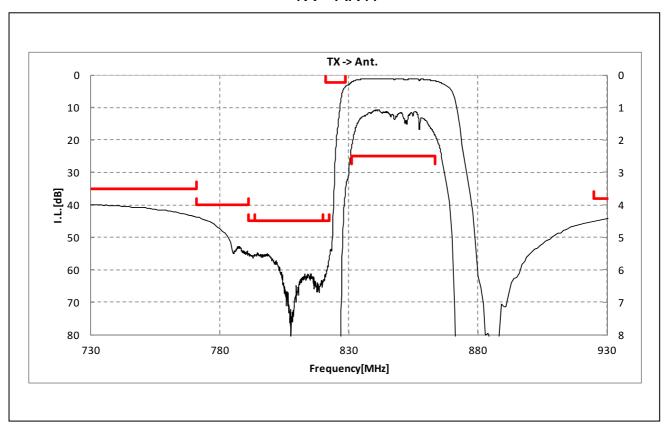
		Cha	racteri	stics					
Т	$X \to RX$			Characteristics (-20 to +85 deg.C) min. typ.* max.			Unit	Note	
				min.	ιyp.	max.			
Isolation	832.25 tc	861.75	MHz	53	57		dB	TX	
	834.5 tc	859.5	MHz	57	58		dB <sub>INT</sub>	TX, Any 4.5MHz	
	791.25 tc	820.75		53	56		dB	RX	
	793.5 to	818.5	MHz	53	56		dB <sub>INT</sub>	RX, Any 4.5MHz	
	1574. to		MHz MHz	40 20	58 57		dB dB		
	1664. to		MHz	20	54		dB		
					-				
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	<u> </u>							* Timinal value at OF LOdes C	

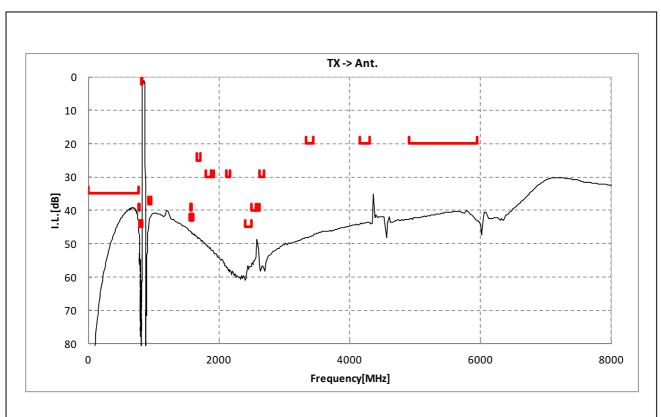
<sup>\*</sup> Typical value at 25±2deg.C



#### **Electrical Characteristic**

#### < TX→ANT. >

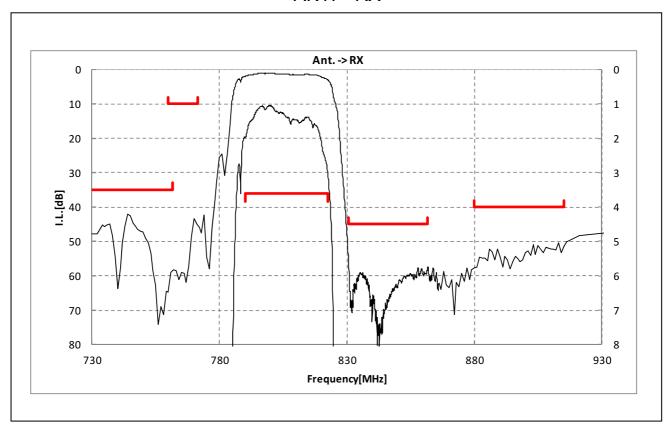


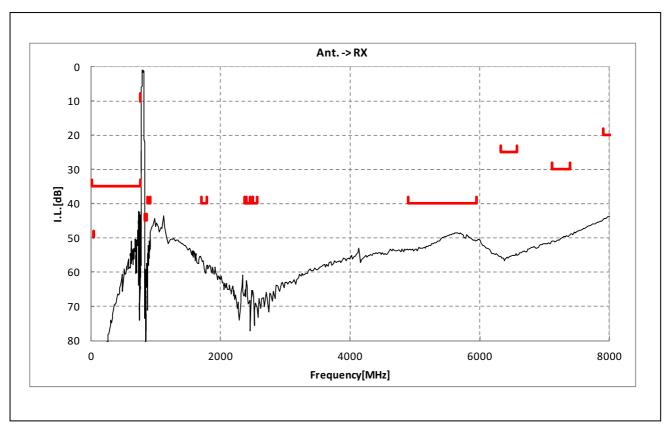




#### **Electrical Characteristic**

#### < ANT.→RX >

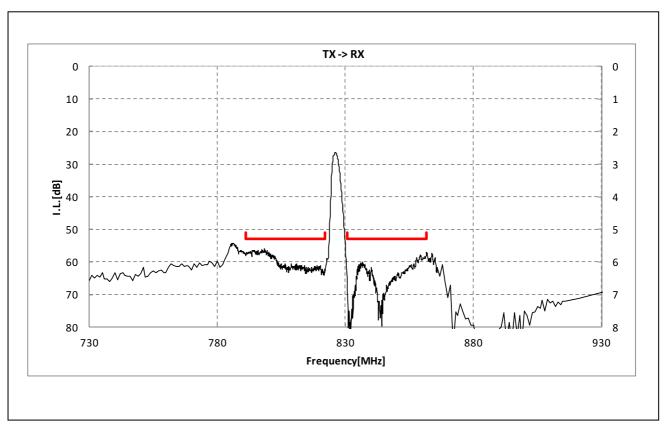


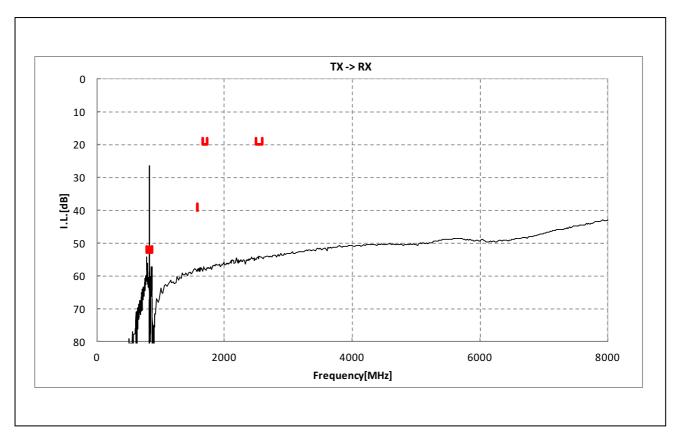




#### **Electrical Characteristic**

< TX→RX. >

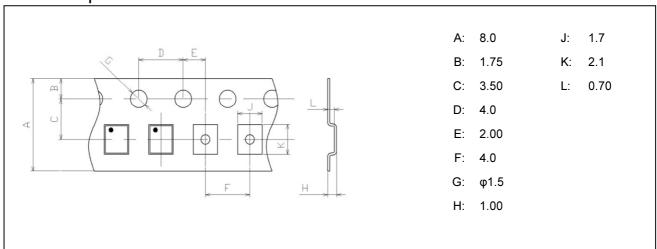




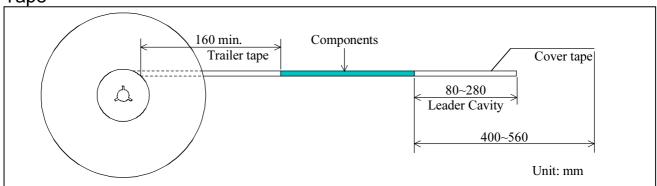


## Dimensions of Tape & Reel unit: mm

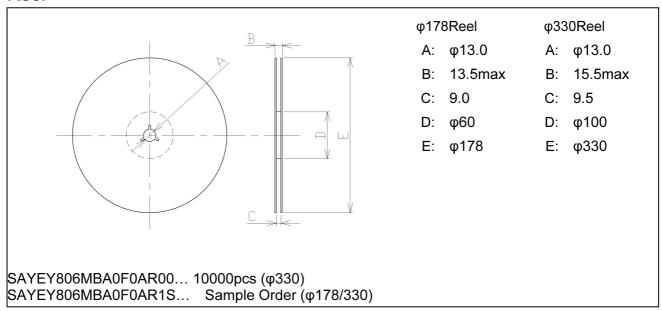
#### **Carrier Tape**



#### Tape



#### Reel





#### Marking Code

#### Table A: Month Code

2013	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017 2021	Α	В	С	D	Е	F	G	Ι	٦	K	١	М
2014	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2018 2022	Ν	Р	Ø	R	S	Т	U	٧	W	Х	Y	Z
2015	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2019 2023	а	Ф	01	d	е	f	æ	h	j	k	Q	m
2016	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2020 2024	n	P	G	r	4	t	u	U	w	x	y	3

#### Table B: Date Code

code	W	Χ	Υ	Z	а	b	c	d	е	f	g
date	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	L	М	N	Р	Q	R	S	T	U	V	
date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
code	Α	В	С	D	Е	F	G	Н	J	K	
date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	

#### 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 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 products 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 in any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property. You acknowledge and agree that, if you use our products in such applications, we will not be responsible for any failure to meet such requirements.

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 SUCH APPLICATIONS.



#### Important Notice (2/2)

- Aircraft equipment.
- Aerospace equipment
- Undersea equipment.
- Power plant control equipment Medical equipment.
- Transportation equipment (vehicles, trains, ships, elevator, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Burning / explosion control equipment
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.

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.