

Datasheet of SAW Device

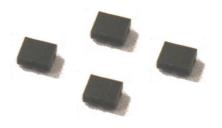
SAW Duplexer

for Band5 / Unbalanced / LR /1814

Murata PN: SAYEY836MBA0F0A

Feature

- > LTE-A
- Low Insertion Loss & High Isolation



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
SAYEY836MBA0F0A_rev. A	Aug-06-2013	■ Initial Release
SAYEY836MBA0F0A_rev. B	Oct-16-2013	■ Updated specification
SAYEY836MBA0F0A_rev. C	Nov-19-2013	■ Updated for MP
SAYEY836MBA0F0A_rev. D	Jul-24-2015	■ Updated for MP
SAYEY836MBA0F0A_rev. E	Sep-02-2015	■ Updated Feature
SAYEY836MBA0F0A_rev. F	Sep-14-2015	■ Updated Feature
SAYEY836MBA0F0A_rev. G	Aug-30-2016	■ Updated General Information
SAYEY836MBA0F0A_rev. H	Apr-20-2017	■ Updated General Information

Operating temperature
 Storage temperature
 Input Power
 D.C. Volatage between the terminals
 -20 to +85 deg.C
 +40 to +85 deg.C
 +29 dBm 5000 h 55 deg.C
 3V (25+/-2 deg.C)

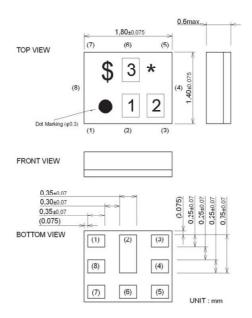
Minimum Resistance between the terminals : 10M ohm
 RoHS compliance : Yes
 ESD (ElectroStatic Discharge) sensitive device



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)

1:5

2:V

3:A

Terminal Number

(6): Ant

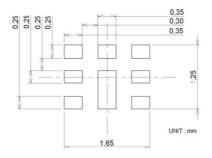
(3): TX

(1): RX

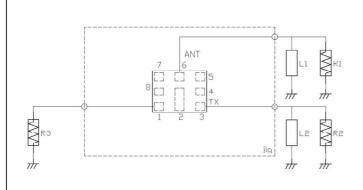
Others: GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :7.2nH(Ideal inductor)
	:8.2nH(LQP03TN8N2)
	<reference></reference>
R2 : 50 ohm	L2 :25nH(Ideal inductor)
R3 : 50 ohm	



Electrical Characteristic < TX→ANT. >

-	Tx->Ant.							Unit	Note
					min.	typ.*	max.		
Center Frequency						836.5		MHz	
Insertion Loss		to	849.	MHz		1.6	1.9	dB	A 50411
Dipple Deviation		to	846.5 849.	MHz MHz		1.3 0.8	1.7 1.3	dBINT dB	Any 4.5MHz
Ripple Deviation		to to	849.	MHz		0.6	1.3	dВ	Any 3.84MHz
VSWR	+	to to	849.	MHz		1.3	2.0	ub ub	Tx
VOVIN		to	849.	MHz		1.4	2.0		ANT.
Absolute Attenuation		to	420.	MHz	30	42		dB	7.111
		to	494.	MHz	34	39		dB	450MHz Rejection
		to	701.	MHz	30	34		dB	
	699.	to	716.	MHz	30	35		dB	B12 Tx
		to	728.	MHz	30	35		dB	
		to	716.	MHz	30	35		dB	B17 Tx
		to	764.	MHz	30	35		dB	700MHz Rejection
		to	804.	MHz	30	40		dB	
		to to	869. 894.	MHz	5.0 44	10.0 56		dB dB	Dv
		to to	1563.	MHz MHz	32	36		dB	Rx COMPASS
	,	to to	1573.37	MHz	32	36		dВ	Lower GPS
		to	1577.47	MHz	32	36		dB	Regular GPS
		to	1585.42	MHz	32	36		dB	Upper GPS
		to	1605.89	MHz	32	36		dB	GLONASS
		to	1708.	MHz	30	35		dB	2f
		to	1785.	MHz	30	35		dB	B4 Tx
		to	1879.9	MHz	30	34		dB	B3 Tx
	1884.5	to	1919.6	MHz	30	34		dB	
		to	1980.	MHz	30	34		dB	B1 Tx
		to	2170.	MHz	30	34		dB	B1 Rx
		to	2494.	MHz	30	35		dB	ISM2.4, 3f
		to	3406. 4255.	MHz	5.0 5.0	12.0 10.0		dB dB	4f
		to_	5950.	MHz MHz	3.0	10.0		dВ	5f ISM 5G, 6f, 7f
		<u>to</u> to	6802.	MHz	7.0	13.0		dВ	8f
		to	7651.	MHz	10	16		dB	9f
		to	8500.	MHz	12	23		dB	10f
		to	9349.	MHz	4.0	10.0		dB	11f
		to	10198.	MHz	2.0	7.0		dB	12f
	10702.	to	11047.	MHz	3.0	8.0		dB	13f
			11896.	MHz	5.0	11.0		dB	14f
	12350.	to	12745.	MHz	3.0	9.0		dB	15f
	-								
					<u> </u>				
	1				l	l			*T ::

^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT.→RX >

Characteristics												
1	Ant>Rx					(-20 to +85 deg.C)		Unit	Note			
					min.	typ.*	max.					
Center Frequency						881.5		MHz				
Insertion Loss	869.	to	894.	MHz		1.7	2.1	dB				
	871.5	to	891.5	MHz		1.6	1.9	dB _{INT}	Any 4.5MHz			
Ripple Deviation	869.	to	894.	MHz		0.3	1.0	dB				
	869.	to	894.	MHz		0.2	0.8	dB	Any 3.84MHz			
VSWR	869.	to	894.	MHz		1.4	2.0		Rx			
	869.	to	894.	MHz	45	1.5	2.0	ID.	ANT.			
Absolute Attenuation	10.	to	447.	MHz	45	60		dB	D. T.			
	447	4-	45. 824.	MHz	50 40	100 51		dB dB	Rx - Tx			
	447. 779.	to	804.	MHz MHz	40	53		dB	2Tx - Rx			
	824.	to	849.	MHz	45	58		dB	Tx			
	849.	to to	854.	MHz	30	56		dB	(Rx + Tx) / 2			
	909.		979.	MHz	12	19		dB	(NX + 1X) / Z			
	1693.	to to	1743.	MHz	40	63		dB	Rx + Tx			
	1710.	to	1785.	MHz	50	62		dB	B3 Tx			
	1788.	to	1788.	MHz	40	63		dB	2f			
	1850.	to	1920.	MHz	40	66		dB	B2 Tx			
	1920.	to	1980.	MHz	40	69		dB	B1 Tx			
	1980.	to	2400.	MHz	35	70		dB				
	2305.	to	2315.	MHz	40	73		dB	B30 Tx			
	2400.	to	2500.	MHz	40	67		dB	ISM2.4			
	2467.	to	2494.	MHz	44	68		dB	WLAN Co-ex			
	2517.	to	2592.	MHz	40	64		dB	Rx + 2Tx			
	2607.	to	2682.	MHz	40	63		dB	3f			
	3476.	to	3576.	MHz	35	60		dB	4f			
	4345.	to	4470.	MHz	35	59		dB	5f			
	4900.	to	5950.	MHz	37	47		dB	ISM 5G			
	5214.	to	5364.	MHz	30	48		dB	6f			
	6083.	to	6258.	MHz	20	54		dB	7f			
	6952.	to	7152.	MHz	15	48		dB	8f			
	7821.	to	8046.	MHz	15	40		dB	9f			
	8690.	to	8940.	MHz	15	34		dB	10f			
	9559.	to	9834.	MHz	15	29		dB	11f			
	10428.		10728.	MHz	15	24		dB	12f			
	11297.		11622.	MHz	15	21		dB	13f			
	12166.	to	12516.	MHz	15	23		dB	14f			
							<u> </u>		* Tracinal reduce of 05 (Odes) C			

^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX→RX. >

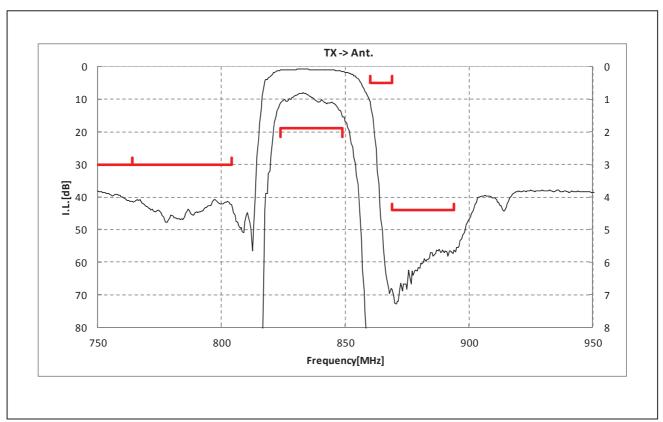
		1/\			stics					
1	x-> RX					Characteristics (-20 to +85 deg.C)			Note	
					min.	typ.*	max.			
Isolation Absolute Attenuation	824.	to	849.	MHz	54	57		dB	Tx	
/ tooolate / titeriaation	826.5	to	846.5	MHz	54	57		dB _{INT}	Any 4.5MHz, Tx	
	869.	to	894.	MHz	52	55		dB	Rx	
	871.5	to	891.5	MHz	52	56		dB _{INT}	Any 4.5MHz, Rx GPS	
	1574. 1683.	to	1577. 1708.	MHz MHz	40 20	61 60		dB dB	2f	
	2462.	to to	2557.	MHz	20	56		dB	3f	
		10						-		
									* Turniand value of OF LOdes O	

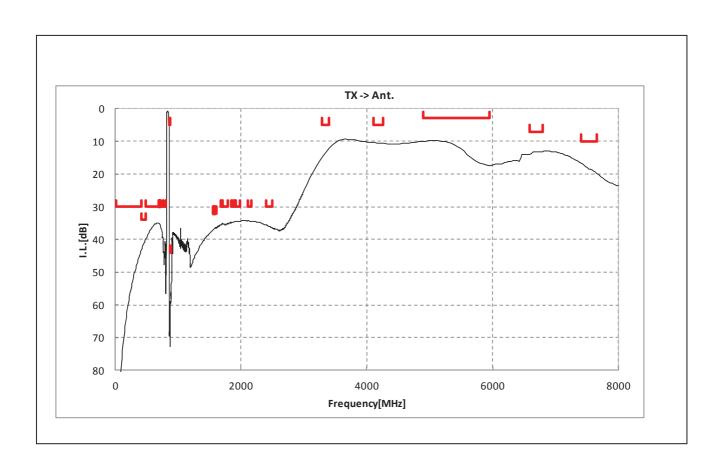
^{*} Typical value at 25±2deg.C



Electrical Characteristic

< TX→ANT. >

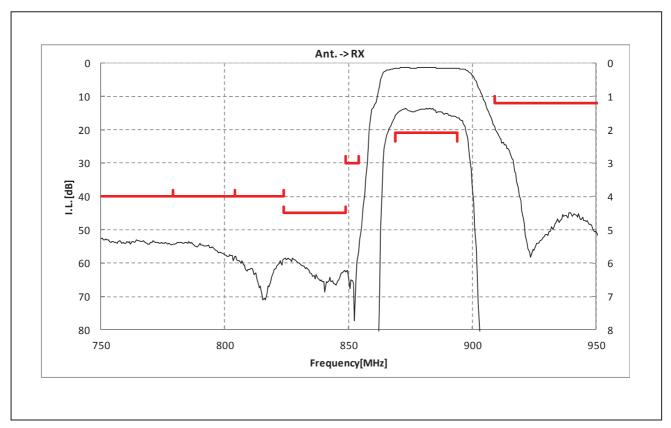


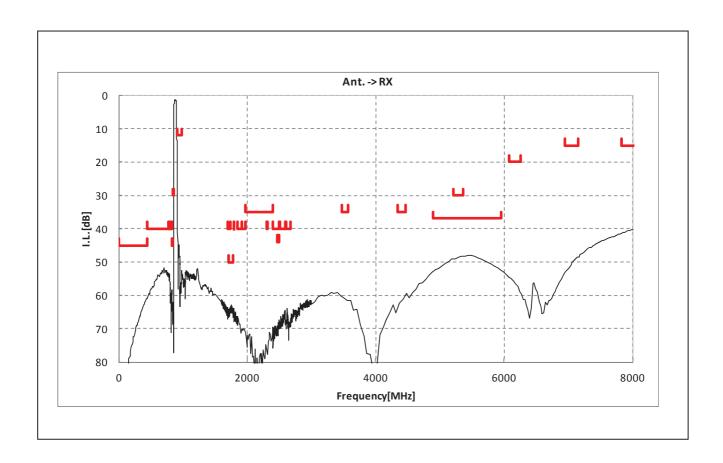




Electrical Characteristic

< ANT.→RX >

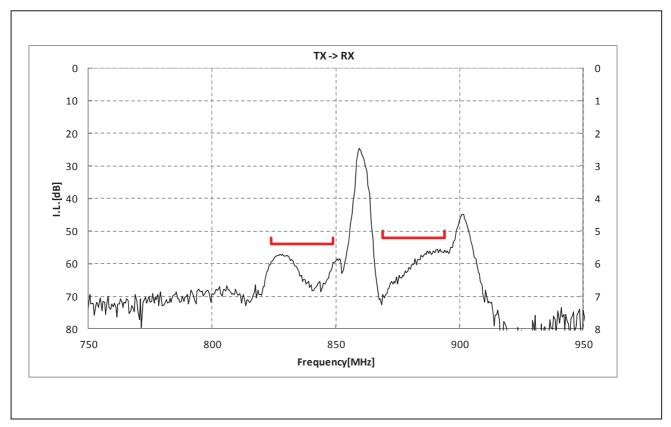


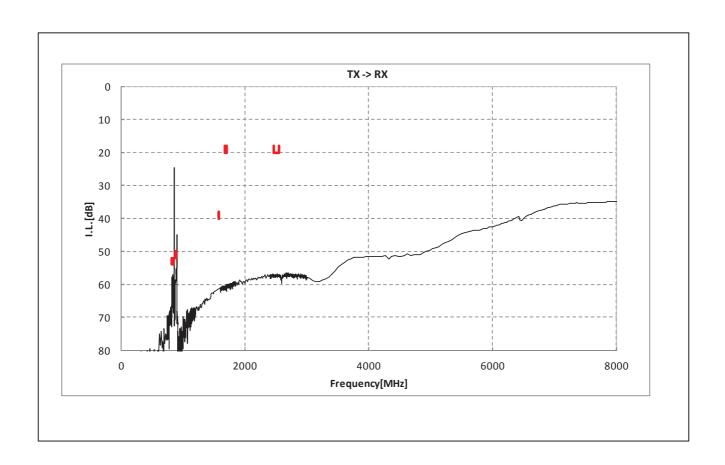




Electrical Characteristic

< TX→RX. >

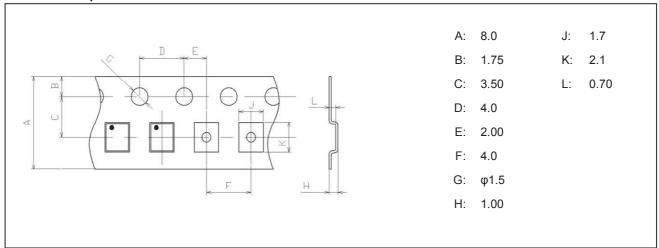




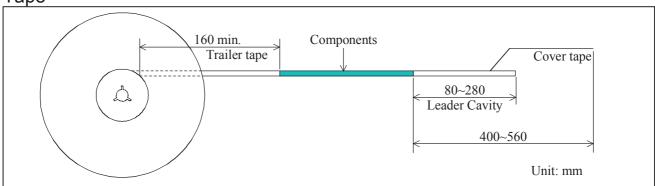


Dimensions of Tape & Reel unit: mm

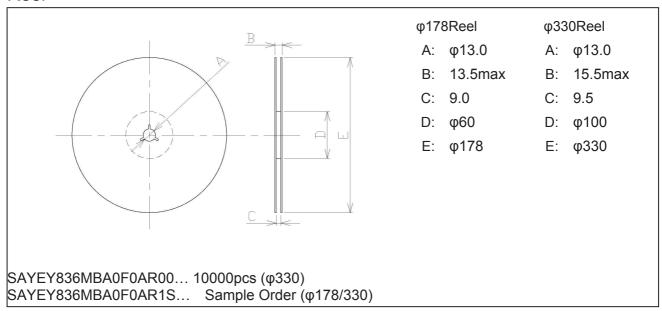
Carrier Tape



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	Н	J	K	L	М
2014	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2018 2022	N	Р	Q	R	S	Т	U	V	W	Х	Υ	Z
2015	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2019 2023	а	b	10	d	е	f	g	h	j	k	Q	m
2016	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2020 2024	n	P	8	r	d	t	3	U	ω	æ	y	8

Table B: Date Code

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

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.

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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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