

Datasheet of SAW Device

SAW Duplexer

for Band12 / Unbalanced / LR /1814

Murata PN: SAYEY707MBA0F0A

Feature

- > LTE-A
- ➤ High Power Durability
- Good 3f Linearity



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
SAYEY707MBA0F0A_rev. A	Mar-05-2014	■ Initial Release
SAYEY707MBA0F0A_rev. B	Mar-31-2014	■ Updated by new version
SAYEY707MBA0F0A_rev. C	Jul-04-2014	■ Updated for MP
SAYEY707MBA0F0A_rev. D	Sep-03-2015	■ Updated for Feature
SAYEY707MBA0F0A_rev. E	Sep-08-2015	■ Updated for Feature
SAYEY707MBA0F0A_rev. F	Jun-24-2016	■ Updated for SPEC
SAYEY707MBA0F0A_rev. G	Sep-06-2016	■ Updated General Information
SAYEY707MBA0F0A_rev. H	Aug-31-2017	■ Updated General Information
SAYEY707MBA0F0A rev. I	Nov-13-2017	■ Updated SPEC

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

- Input Power : +30.0 dBm 5000 h +50 deg.C

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

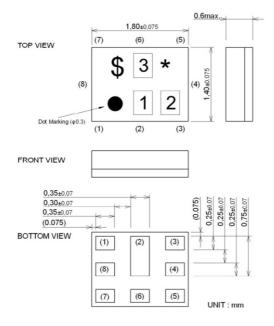
Minimum Resistance between the terminals : 10M ohm
 RoHS compliance : Yes
 ESD (ElectroStatic Discharge) sensitive device



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:N

3 : A

Terminal Number

(6): Ant

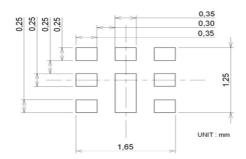
(3):TX

(1): RX

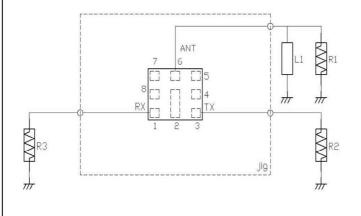
Others: GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :12nH(Ideal inductor)
	:12nH(LQP03TN12N)
	<reference></reference>
R2 : 50 ohm	
R3 : 50 ohm	



Electrical Characteristic < TX→ANT. >

TX	$X \rightarrow ANT$.				Cha (-201	racteri to +85 d	stics eg.C)	Unit	Note	
					min.	typ.*	max.			
Center Frequency						707.5		MHz		
Insertion Loss	699.25		715.75			1.9	2.4	dB	4.50411	
Dinale Deviation	701.5 699.25	to	713.5 715.75	MHz		1.5	2.2	dB _{INT}	Any 4.5MHz	
Ripple Deviation VSWR	699.25	<u>to</u>	715.75	MHz MHz		0.8 1.6	2.0	dB	ANT.	
VSVVR	699.25	<u>to</u>	715.75	MHz		1.7	2.0		TX	
Absolute Attenuation		to	685.	MHz	30	40	2.0	dB	IX	
/ toodiate / tteriaation		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		
	768.	to	805.	MHz	25	41		dB		
	824.	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		1573.37	MHz	35	38		dB	Lower GPS	
		to to	1577.47 1585.42	MHz MHz	35 35	38 38		dB dB	Regular GPS Upper GPS	
	1577.47	to to	1605.42	MHz	35	38		dB dB	GLONASS	
		to	1755.	MHz	30	36		dB	B4 TX	
		to	1880.	MHz	30	35		dB	DCS RX	
		to	1990.	MHz	29	34		dB	100100	
		to	2155.	MHz	29	34		dB	3f, B1 RX	
		to	2170.	MHz	29	34		dB	B1 RX	
		to	2484.	MHz	25	35		dB	ISM2.4	
		to	2864.	MHz	12	21		dB	4f	
	4900.	to	5950.	MHz	5.0	10.0		dB	ISM 5G	
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT.→RX >

Electrical Characteristic (7/14).												
				Cha	racteri	stics						
l AI	$NT. \rightarrow RX$			(-20	to +85 d	eg.C)	Unit	Note				
· "	7100			min.	typ.*	max.	Orne	11010				
Contor Fraguency	1			1111111.	737.5	IIIax.	MHz					
Center Frequency	729.25 to	745.75	MILI-		1.8	2.4	dB					
Insertion Loss					1.7	2.4	dB _{INT}	A 4 5 M I I				
Diamle Deviation			MHz					Any 4.5MHz				
Ripple Deviation	729.25 to	745.75			0.5	2.0	dB	ANIT				
VSWR	729.25 to	745.75			1.7	2.0		ANT.				
	729.25 to		MHz	40	1.7	2.0		RX				
Absolute Attenuation	10. to		MHz	40	55		dB	Out-of-band rejection				
	30. to	30.	MHz	50	106		dB	RX-TX				
	699.25 to			45	56		dB	TX				
	716. to		MHz	0.5	16.0		dB	Average attenuation				
	776. to		MHz	24	29		dB	Upper 700 MHz Tx jammer				
	793. to		MHz	35	55		dB	PS mobile transmitters				
	824. to		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		MHz	40	45		dB	ISM2.4				
	4900. to		MHz	36	41		dB	ISM 5G				
	6561. to		MHz	30	49		dB	9f				
	7290. to		MHz	25	37		dB	10f				
	8019. to		MHz	15	28		dB	11f				
	8748. to		MHz	10	25		dB	12f				
	9477. to		MHz	5.0	22.0		dB	13f				
			MHz	5.0	15.0		dB	14f				
	1000		MHz	5.0	11.0		dB	15f				
	11221											
	11664. to		MHz	5.0	12.0		dB	16f				
	12393. to	12682.	MHz	5.0	15.0		dB	17f				
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX→RX. >

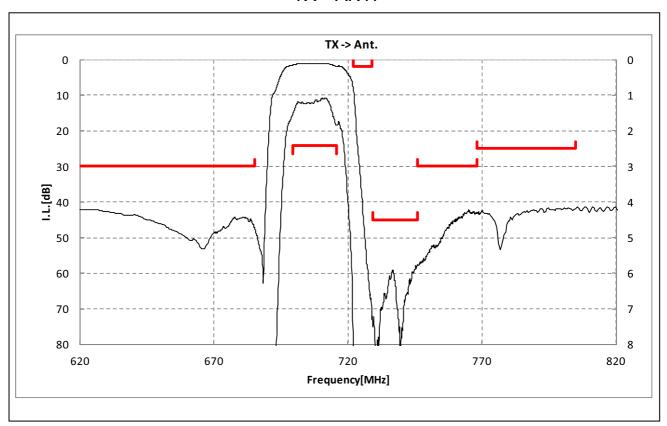
Tisolation	1398. 2097.	to	715.75 713.5 745.75 743.5 1432. 2198. 2864.	MHz MHz MHz MHz MHz MHz MHz	(-20) min. 57 58 55 56 30 30	racterio +85 d typ.* 60 62 61 65 62 55	max.	dB dB _{INT} dB dB _{INT}	Note Any 4.5MHz Any 4.5MHz
Isolation	701.5 729.25 731.5 1398. 2097.	to to to to	713.5 745.75 743.5 1432. 2198.	MHz MHz MHz MHz MHz	57 58 55 56 30 30	60 62 61 65 62	max.	dB _{INT} dB dB _{INT}	
Isolation	701.5 729.25 731.5 1398. 2097.	to to to to	713.5 745.75 743.5 1432. 2198.	MHz MHz MHz MHz MHz	58 55 56 30 30	62 61 65 62		dB _{INT} dB dB _{INT}	
	729.25 731.5 1398. 2097.	to to to	745.75 743.5 1432. 2198.	MHz MHz MHz MHz	55 56 30 30	61 65 62		dB dB _{INT}	
	731.5 1398. 2097.	to to to	743.5 1432. 2198.	MHz MHz MHz	56 30 30	65 62		dB _{INT}	Any 4.5MHz
	1398. 2097.	to to	1432. 2198.	MHz MHz	30 30	62		u D _{INT}	IANV 4.5IVIHZ
	2097.	to	2198.	MHz	30	55		40	2f
		to	2864.	MHz				dB dB	3f
	2132.	10	2004.	IVII IZ	50	52		dB	4f
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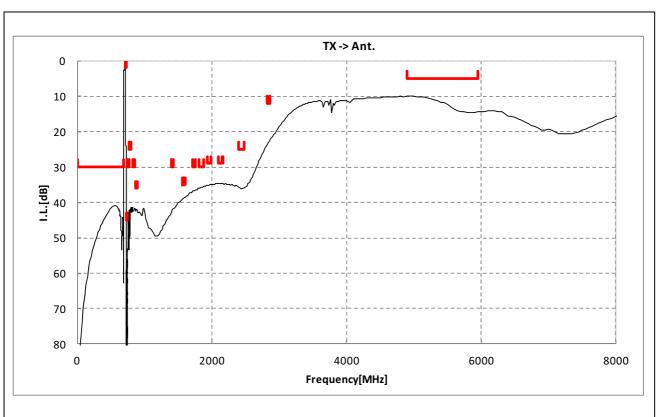
^{*} Typical value at 25±2deg.C



Electrical Characteristic

< TX→ANT. >

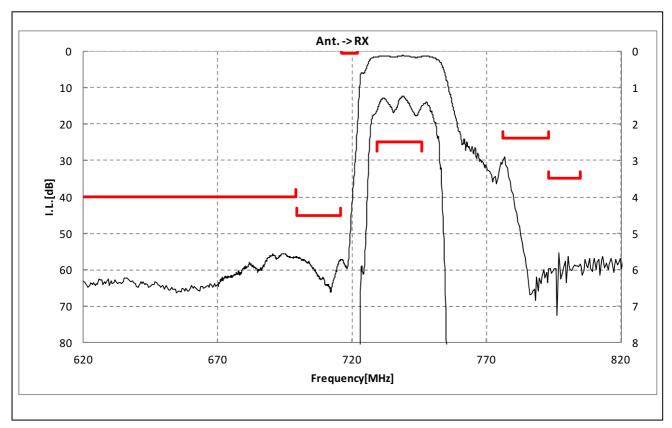


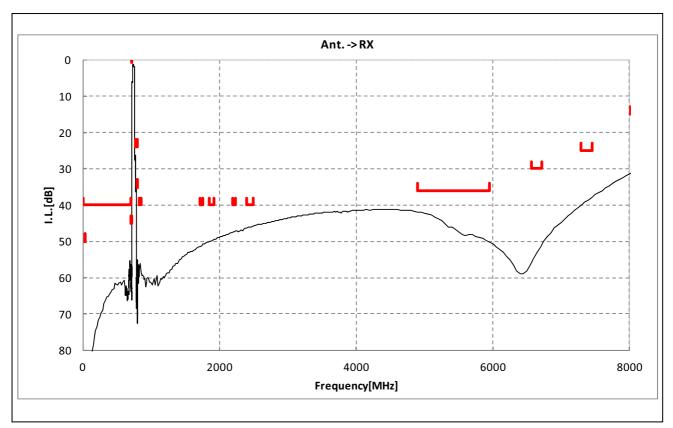




Electrical Characteristic

< ANT.→RX >

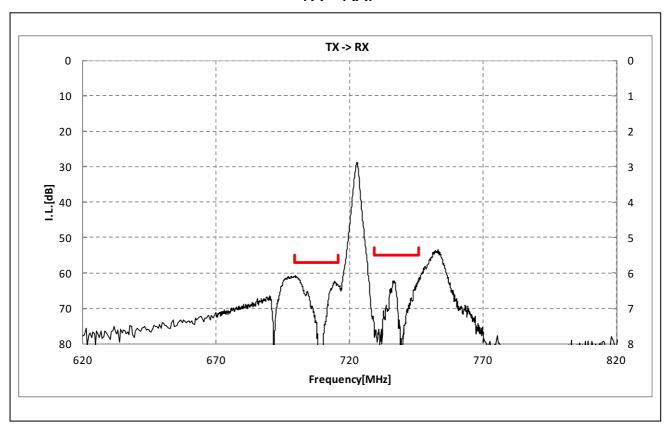


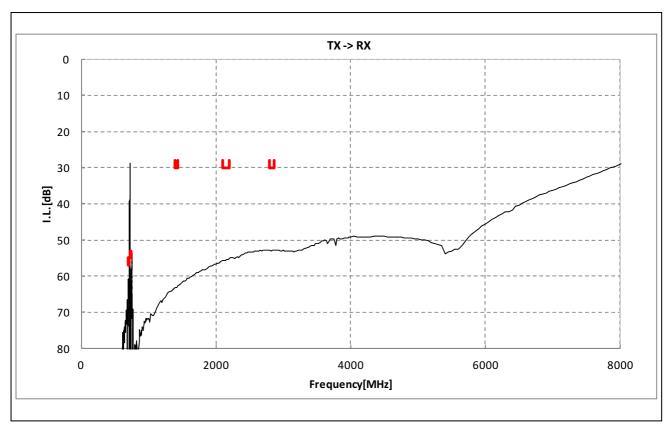




Electrical Characteristic

< TX→RX. >

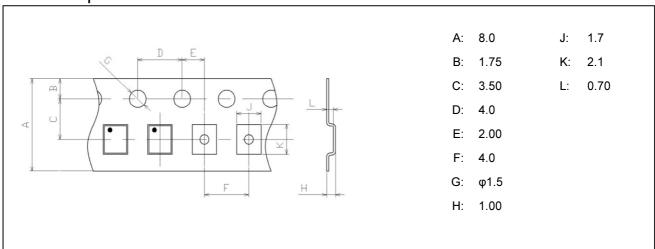




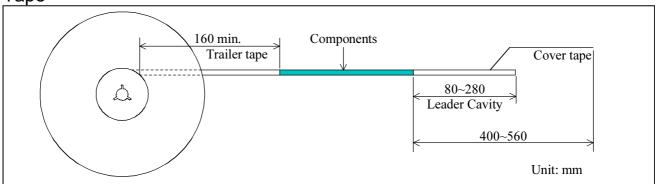


Dimensions of Tape & Reel unit: mm

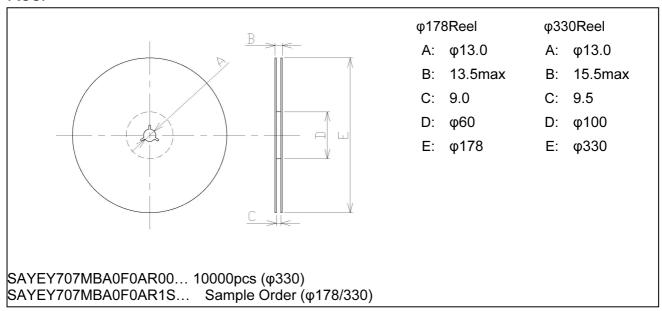
Carrier Tape



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	Η	J	K	L	М
2014	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2018 2022	Z	Р	Q	R	S	Т	J	>	W	Х	Y	Z
2015	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2019 2023	а	ь	10	d	е	f	9,0	h	j	k	Q	m
2016	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2020 2024	c	P	G	r	4	t	a	٦	3	æ	y	3

Table B: Date Code

date code	21st W	22nd X	23rd	24th	25th a	26th b	27th	28th	29th e	30th	31st g
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)

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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.

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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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