

Datasheet of SAW Device

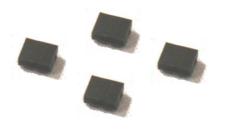
SAW Duplexer

for Band2 / Unbalanced / LR /1814

Murata PN: SAYEY1G88BA0B0A

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
SAYEY1G88BA0B0A_rev. A	Aug-20-2013	■ Initial Release
SAYEY1G88BA0B0A_rev. B	Oct-18-2013	
SAYEY1G88BA0B0A_rev. C	Dec-17-2013	
SAYEY1G88BA0B0A_rev. D	Jan-30-2014	■ Updated MP Spec
SAYEY1G88BA0B0A_rev. E	Jan-13-2015	■ Updated SPEC
SAYEY1G88BA0B0A_rev. F	Apr-17-2015	
SAYEY1G88BA0B0A_rev. G	Jun-01-2015	
SAYEY1G88BA0B0A_rev. H	Sep-25-2015	■ Updated Feature
SAYEY1G88BA0B0A_rev. I	May-20-2016	■ Updated Feature
SAYEY1G88BA0B0A_rev. J	Sep-02-2016	■ General Information
SAYEY1G88BA0B0A_rev. K	May-10-2017	■ Updated General Information
SAYEY1G88BA0B0A_rev. L	May-30-2017	■ Updated General Information

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

- Input Power : +29 dBm 5000 h +50 deg.C

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

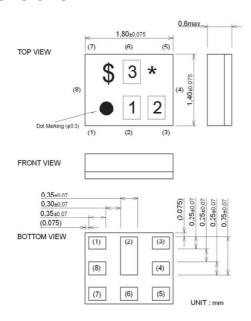
Minimum Resistance between the terminals : 10M ohm
 RoHS compliance : Yes
 ESD (ElectroStatic Discharge) sensitive device



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)

1:5

2:P

3:A

Terminal Number

(6): Ant

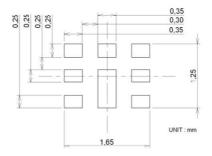
(3):TX

(1): RX

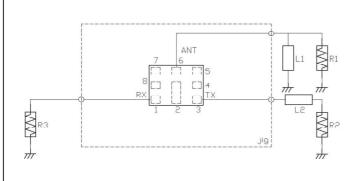
Others: GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :4.3nH(Ideal inductor)
	:5.1nH(LQP03TN5N1) <reference></reference>
R2 : 50 ohm	L2 :1.5nH(Ideal capacitor)
R3:50 ohm	



Electrical Characteristic < TX→ANT. >

TX → ANT.						Characteristics (-20 to +85 deg.C)			Note
					min.	typ.*	max.		
Center Frequency						1880		MHz	
Insertion Loss		to	1909.52	MHz		2.0	2.8	dB	
		to	1907.6	MHz		1.9	2.4	dB _{INT}	Any 3.84MHz
	1852.5	to	1907.5	MHz		1.9	2.4	dB _{INT}	Any 4.5MHz
	1851.25		1908.75	MHz		2.0	2.6 2.3	dB _{INT} dB	Any 1.25MHz
		to	1909.52 1907.6	MHz MHz		1.9	2.3	dB _{INT}	+23 to +27deg.C +23 to +27deg.C Any 3.84MHz
Ripple Deviation		<u>to</u> to	1907.0	MHz		0.3	1.2	dB _{INT}	Any 5MHz
Ripple Deviation	1850.48	to.	1909.52	MHz		0.3	0.8	dB	+23 to +27deg.C Any 5MHz
VSWR		to	1909.52	MHz		1.4	1.9	45	Ant
		to	1909.52	MHz		1.5	1.9		TX
	1850.48	to	1909.52	MHz		1.4	1.9		+23 to +27deg.C ANT.
	1850.48	to	1909.52	MHz		1.5	1.9		+23 to +27deg.C TX
Absolute Attenuation	10.	to	728.	MHz	33	38		dB	_
	704.	to	716.	MHz	34	39		dB	
	728.	to	764.	MHz	33	38		dB	
		to	787.	MHz	32	37		dB	
	869.	to	894.	MHz	31	36		dB	
	1226.	to	1250.	MHz	28 35	33 38		dB dB	
	1559. 1565.42	to	1563. 1573.37	MHz MHz	35	39		dВ	
		to to	1577.47	MHz	35	39		dB	
		to	1585.42	MHz	35	39		dB	
		to	1605.88	MHz	35	40		dB	
		to	1680.	MHz	24	35		dB	
		to	1990.	MHz	41	49		dB	
	1930.	to	1990.	MHz	43	49		dB	+23 to +27deg.C
	2010.	to	2025.	MHz	36	44		dB	
	2110.	to	2155.	MHz	25	38		dB	
	2350.	to	2360.	MHz	17	25		dB	
	2400.	to	2500.	MHz	18	26		dB	
	3700.	to	3820.	MHz	18	23		dB	
	4900.	to	5850.	MHz	5.0	10.0		dB	
	5254.	to	5455.	MHz	7.0 5.0	12.0		dB	
	5520. 5540.	to_	5845. 5950.	MHz MHz	5.0	10.0 10.0		dB dB	
		<u>to</u> to	7650.	MHz	3.0	6.1		dB	
	9240.	to	9560.	MHz	9.0	7.5		dB	
	11090.		11470.	MHz	12	8		dB	
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < ANT.→RX >

Licotrical Orial actoristic 47(14). 1777											
			Cha	racteri	stics						
l An	$NT. \rightarrow RX$				(-20	to +85 d	eg.C)	Unit	Note		
	*				min.	typ.*	max.				
Center Frequency						1960		MHz	1		
Insertion Loss	1930.48	to	1989.52	MHz	 	2.6	3.2	dB			
Intertion Loop		to	1987.6	MHz		2.2	2.9	dB _{INT}	Any 3.84MHz		
		to	1987.5	MHz		2.2	2.9	dB _{INT}	Any 4.5MHz		
	1931.25	to	1988.75	MHz		2.3	3.0	dB _{INT}	Any 1.25MHz		
	1930.48	10	1989.52	MHz		2.6	2.8	dB _{IN1}	+23 to +27deg.C		
Di la Di di	1932.4	to	1987.6	MHz		2.2	2.4	dB _{INT}	+23 to +27deg.C Any 3.84MHz		
Ripple Deviation	1930.48	to	1989.52	MHz		0.6	1.4	dB	Any 5MHz		
	1930.48	to	1989.52	MHz		0.6	1.1	dB	+23 to +27deg.C Any 5MHz		
VSWR	1930.48		1989.52	MHz		2.0	2.1		ANT.		
	1930.48	to	1989.52			1.8	2.1		RX		
	1930.48	to	1989.52	MHz		2.0	2.1		+23 to +27deg.C ANT		
	1930.48	to	1989.52	MHz		1.8	2.0		+23 to +27deg.C RX		
Absolute Attenuation	1.	to	1850.	MHz	30	46		dB			
		to	80.	MHz	80	94		dB			
		to	716.	MHz	51	57		dB			
	777.	to	787.	MHz	50	56		dB			
	824.	to	849.	MHz	48	55		dB			
			1830.	MHz	47	53		dB			
	1850.	to to	1910.	MHz	45	56		dB			
		to				52					
	1910.	to	1915.	MHz	11			dB			
	2005.	to	2050.	MHz	2.5	7.4		dB			
	1850.	to	1910.	MHz	51	56		dB	+23 to +27deg.C		
		to	1915.	MHz	24	52		dB	+23 to +27deg.C		
	2005.	to	2050.	MHz	4.0	7.4		dB	+23 to +27deg.C		
	2050.	to	2075.	MHz	25	50		dB			
	2075.	to	6000.	MHz	40	45		dB			
		to	2315.	MHz	42	47		dB			
	2400.	to	2500.	MHz	42	48		dB			
	3780.		3900.	MHz	48	60		dB			
	3860.	to	3980.	MHz	48	60		dB			
		to				38					
	3980.	to	13025.	MHz	15			dB			
		to	5950.	MHz	40	48		dB			
		to	5845.	MHz	40	48		dB			
	5630.	to	5810.	MHz	40	48		dB			
	5790.	to	5970.	MHz	40	48		dB			
	5970.	to	7720.	MHz	30	40		dB			
	7720.	to	7960.	MHz	30	38		dB			
	9650.	to	9950.	MHz	20	38		dB			
	11580.		11940.	MHz	15	38		dB			
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^{*} Typical value at 25±2deg.C



Electrical Characteristic < TX→RX. >

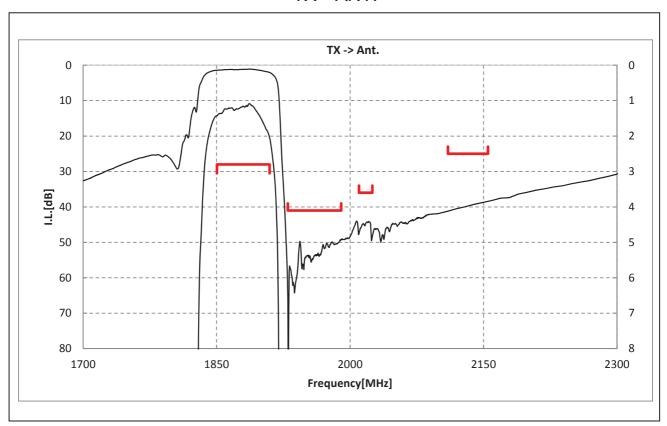
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							Unit			
T.	$TX \rightarrow RX$							Note		
				min.	typ.*	max.				
Isolation					 ''			<u>I</u>		
Isolation	1574. to	1577.	MHz	40	66		dB			
	1574. to	1909.75		53	58		dB			
	1050.25 [[1909.75								
	1850.48 to			53	58		dB			
	1852.4 t o		MHz	53	58		dB _{INT}	Any 3.84MHz		
	1852.5 to	1907.5	MHz	53	58		dB _{INT}	Any 4.5MHz		
	1851.25 to	1908.75		53	58		dB _{INT}	Any 1.25MHz		
	1930.25 to	1989.75	MHz	50	54		dB			
	1932.4 to		MHz	52	55		dB _{INT}	Any 3.84MHz		
	1932.5 to		MHz	52	55		dB _{INT}	Any 4.5MHz		
	1931.25 to	1988.75		52	55		dB _{INT}	Any 1.25MHz		
	1850.48 to	1909.52		54	58		dB	+23 to +27deg.C		
	1852.4 to		MHz	54	58		dB _{INT}	+23 to +27deg.C Any 3.84MHz		
	3700. to		MHz	45	53		dB	- 20 to 121 dog.o 7 try 0.0 HVII 12		
			MHz	42	59		dB			
	5550. to	, 5050.	ıvıг¹∠	44	1 23	-	นบ			
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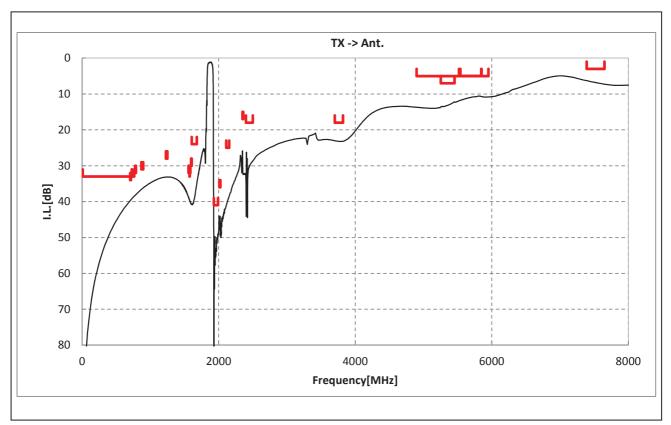
^{*} Typical value at 25±2deg.C



Electrical Characteristic

< TX→ANT. >

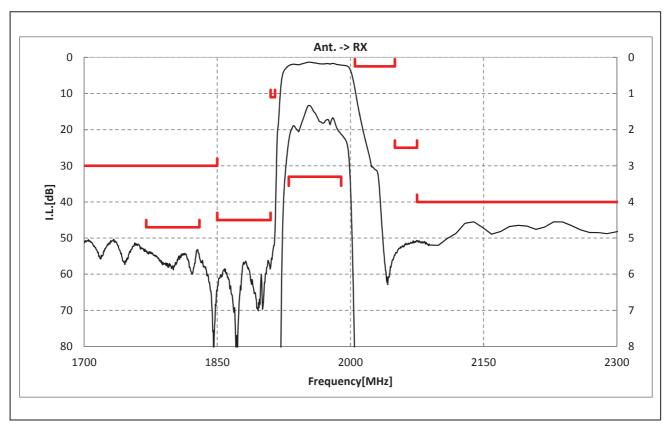


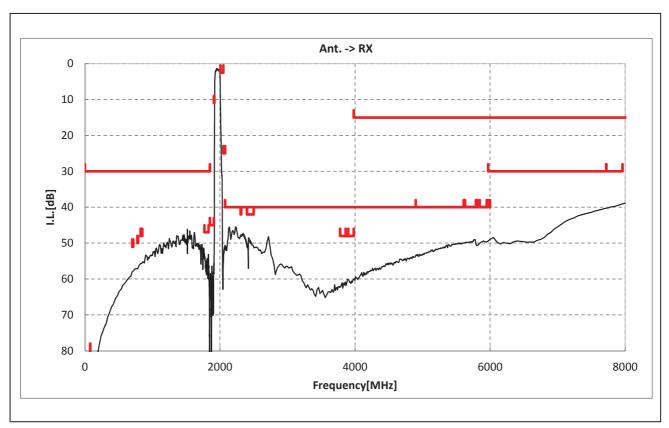




Electrical Characteristic

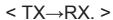
< ANT.→RX >

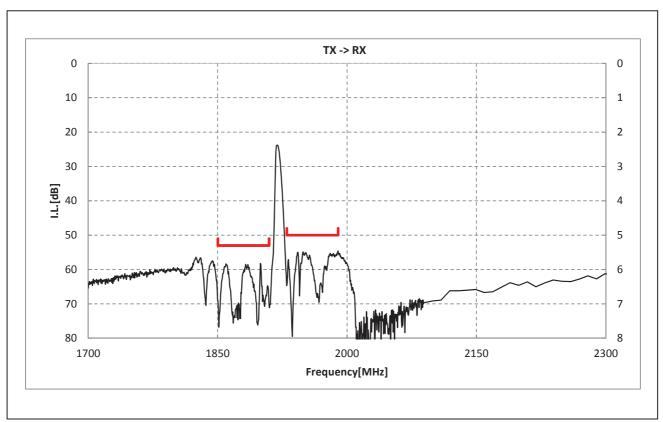


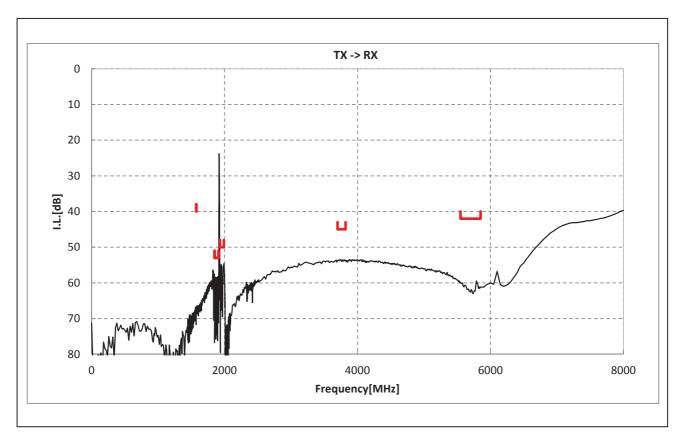




Electrical Characteristic



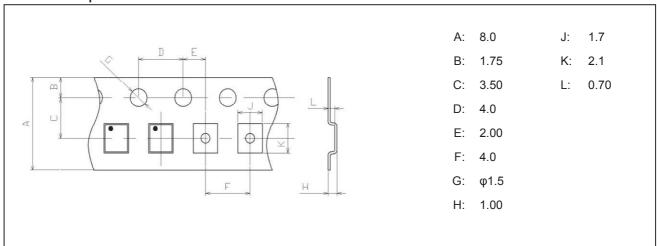




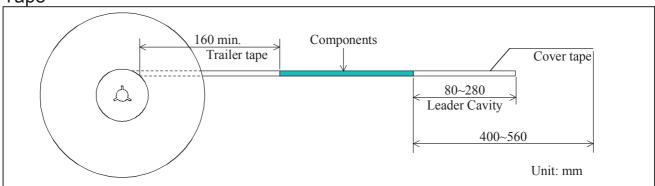


Dimensions of Tape & Reel unit: mm

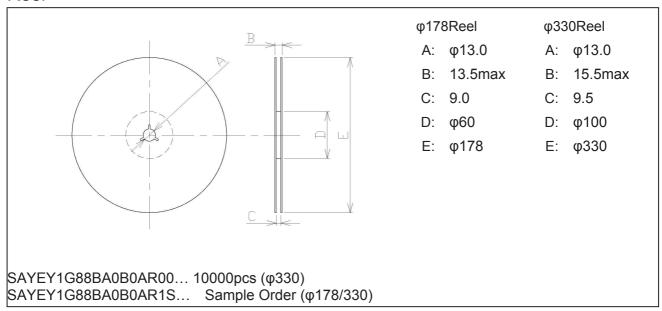
Carrier Tape



Tape



Reel





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	a	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

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- 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.

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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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