Datasheet of SAW Device

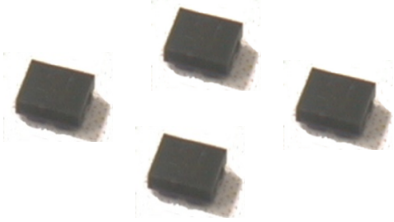
SAW Duplexer

for Band26 / Unbalanced / LR /1814

Murata PN: SAYEY831MBA0B0A

■ Feature

- LTE-A
- TC-SAW
- 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.

SAYEY831MBA0B0A (Band26 / Unbalanced / LR / 1814)

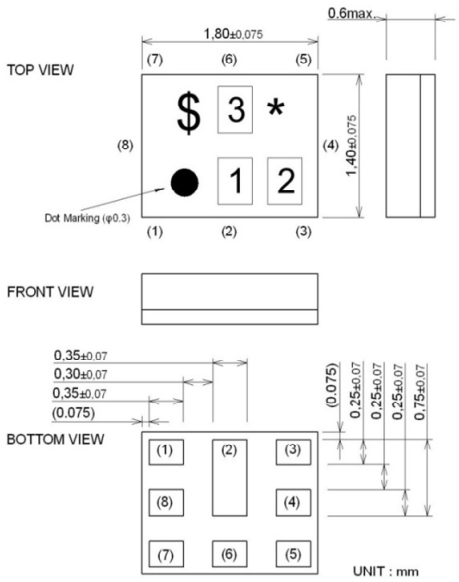
Revision Number	Date	Description
SAYEY831MBA0B0A_rev. A	Dec-04-2013	■ Initial Release
SAYEY831MBA0B0A_rev. B	Feb-18-2014	■ Updated for MP
SAYEY831MBA0B0A_rev. C	Feb-25-2014	■ Updated Tx Isoration
SAYEY831MBA0B0A_rev. D	Feb-27-2014	■ Updated TX/RX Isoration
SAYEY831MBA0B0A_rev. E	Apr-28-2015	■ Updated General Information
SAYEY831MBA0B0A_rev. F	Sep-03-2015	■ Updated Feature
SAYEY831MBA0B0A_rev. G	Aug-29-2016	■ Updated General Information
SAYEY831MBA0B0A_rev. H	Mar-30-2017	■ Updated General Information
SAYEY831MBA0B0A_rev. I	Nov-13-2017	■ Updated SPEC

- Operating temperature : -20 to +85 deg.C
- Storage temperature : -40 to +85 deg.C
- Input Power : +30 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

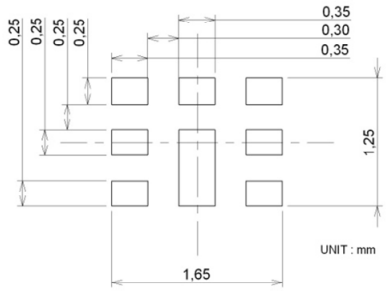


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 6
2 : L
3 : A

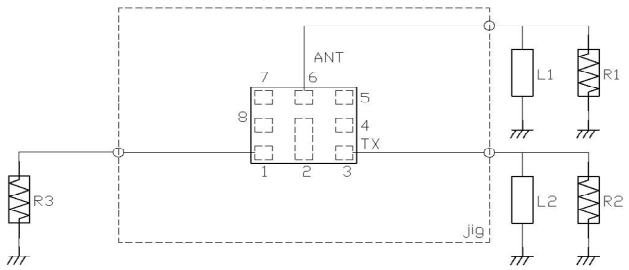
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :8.2nH(Ideal inductor)
	:9.1nH(LQP03TN9N1) <Reference>
R2 : 50 ohm	L2 :24nH(Ideal inductor)
R3 : 50 ohm	

SAYEY831MBA0B0A (Band26 / Unbalanced / LR / 1814)

Electrical Characteristic < TX→ANT. >

TX→ANT.			Characteristics (-20 to +85 deg.C) min.	typ.	max.	Unit	Note
Center Frequency				831.5		MHz	
Insertion Loss	814.25 to 848.75	MHz		2.1	3.0	dB	B26
	816.5 to 846.5	MHz		1.7	2.3	dB_{INT}	B26, Any 4.5MHz
	815. to 830.	MHz		1.4	2.1	dB	B18
	824. to 849.	MHz		2.2	3.0	dB	B5
	830. to 845.	MHz		1.5	2.0	dB	B19
Ripple Deviation	814.25 to 848.75	MHz		0.79	1.50	dB	Any 5MHz
VSWR	814.25 to 848.75	MHz		1.6	2.0		Tx
	814.25 to 848.75	MHz		1.5	2.0		ANT.
Absolute Attenuation	10. to 420.	MHz	30	47		dB	
	420. to 494.	MHz	38	43		dB	450MHz Rx Rejection
	494. to 701.	MHz	30	38		dB	
	701. to 728.	MHz	32	38		dB	
	728. to 764.	MHz	33	38		dB	700MHz Rx Rejection
	764. to 804.	MHz	5.0	20.0		dB	
	859. to 894.	MHz	44	51		dB	Rx
	1475.9 to 1510.9	MHz	30	39		dB	B11 / B21 Rx
	1559. to 1563.	MHz	38	44		dB	COMPASS
	1565.42 to 1573.37	MHz	39	44		dB	Lower GPS
	1573.37 to 1577.46	MHz	39	45		dB	Regular GPS
	1577.46 to 1585.42	MHz	39	45		dB	Upper GPS
	1597.55 to 1605.89	MHz	40	45		dB	GLONASS
	1628. to 1698.	MHz	35	46		dB	2f
	1844.9 to 1879.9	MHz	30	49		dB	
	1884.5 to 1919.6	MHz	30	47		dB	
	1930. to 1995.	MHz	36	44		dB	
	2110. to 2170.	MHz	38	47		dB	B1 Rx
	2400. to 2690.	MHz	33	40		dB	ISM2.4, B7 Rx, 3f
	3256. to 3396.	MHz	20	35		dB	4f
	3396. to 3800.	MHz	20	34		dB	B42 / B43
	4070. to 4245.	MHz	20	34		dB	5f
	4884. to 5950.	MHz	20	31		dB	ISM 5G, 6f, 7f
	6512. to 6792.	MHz	9.0	17.0		dB	8f
	7326. to 7641.	MHz	9.0	14.0		dB	9f
	8140. to 8490.	MHz	2.0	11.0		dB	10f
	8954. to 9339.	MHz	2.0	12.0		dB	11f
	9768. to 10188.	MHz	2.0	9.0		dB	12f
	10582. to 11037.	MHz	2.0	7.0		dB	13f
	11396. to 11886.	MHz	2.0	7.0		dB	14f
	12210. to 12735.	MHz	2.0	9.0		dB	15f

* Typical value at 25±2deg.C

SAYEY831MBA0B0A (Band26 / Unbalanced / LR / 1814)

Electrical Characteristic < ANT.→RX >

ANT.→RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.		
Center Frequency					876.5		MHz	
Insertion Loss	859.25	to	893.75 MHz		2.4	3.5	dB	B26
	861.5	to	891.5 MHz		1.9	2.7	dB_{INT}	B26, Any 4.5MHz
	860.	to	875. MHz		2.1	3.2	dB	B18
	869.	to	894. MHz		2.0	3.0	dB	B5
	875.	to	890. MHz		1.5	2.5	dB	B19
Ripple Deviation	859.25	to	893.75 MHz		0.74	2.9	dB	Any 5MHz
VSWR	859.25	to	893.75 MHz		1.8	2.1		ANT.
	859.25	to	893.75 MHz		1.8	2.1		Rx
Absolute Attenuation	10.	to	447. MHz	40	71		dB	
			45. MHz	50	102		dB	Rx - Tx
	814.	to	849. MHz	45	58		dB	Tx
	849.	to	854. MHz	3.0	27.0		dB	
	909.	to	979. MHz	15	26		dB	
	1427.	to	1447. MHz	40	73		dB	B11 Tx
	1710.	to	1785. MHz	50	66		dB	B3 Tx
	1850.	to	1915. MHz	50	65		dB	B25 Tx
	1920.	to	1980. MHz	40	65		dB	B1 Tx
	2400.	to	2500. MHz	40	61		dB	ISM2.4
	2467.	to	2494. MHz	50	61		dB	WLAN co-ex
	2577.	to	2682. MHz	40	61		dB	3f
	4900.	to	5950. MHz	40	58		dB	ISM 5G
	6013.	to	6258. MHz	20	57		dB	
	6258.	to	12750. MHz	15	23		dB	

* Typical value at 25±2deg.C

SAYEY831MBA0B0A (Band26 / Unbalanced / LR / 1814)

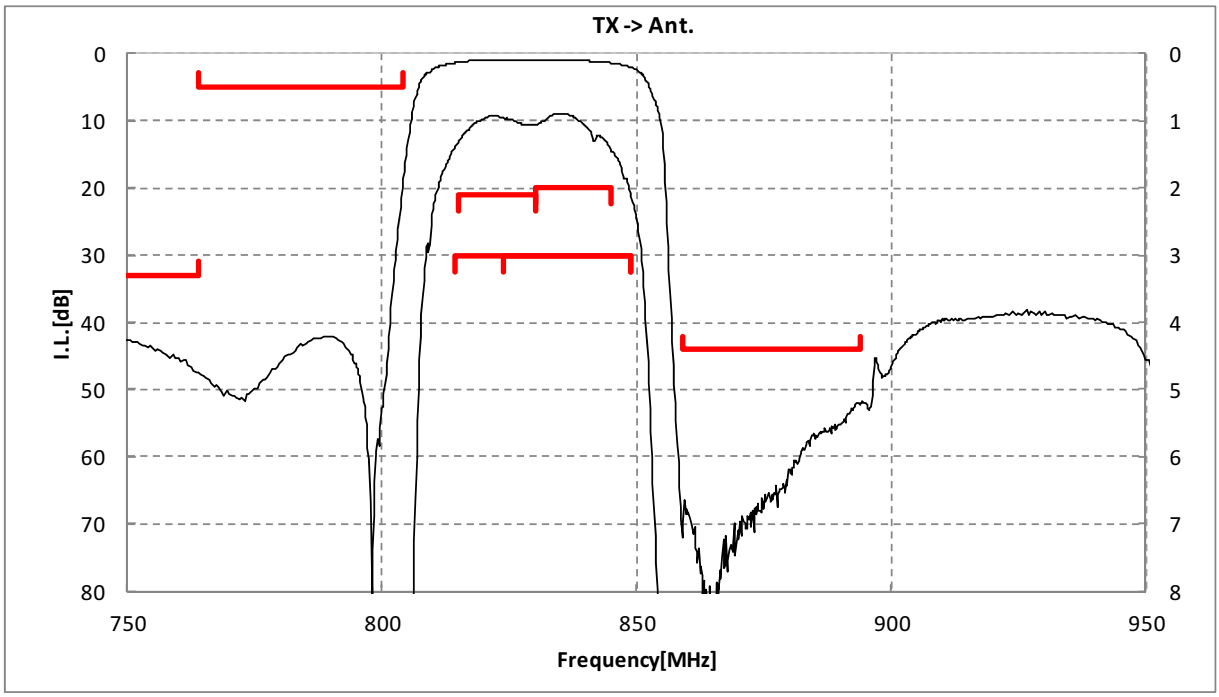
Electrical Characteristic < TX→RX. >

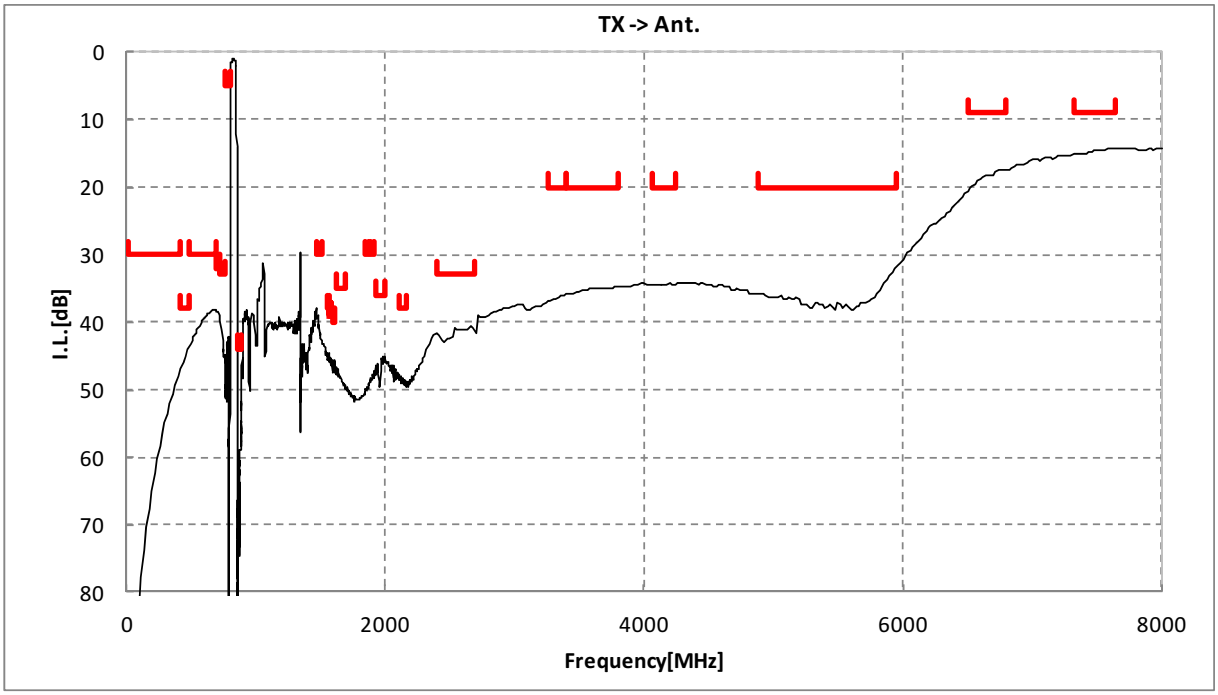
TX→RX.			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.*	max.		
Isolation	814.25 to 848.75	MHz	55	60		dB	B26 Tx
	816.5 to 846.5	MHz	55	63		dB_{INT}	B26 Tx, Any 4.5MHz
	815. to 830.	MHz	55	64		dB	B18 Tx
	824. to 849.	MHz	53	60		dB	B5 Tx
	830. to 845.	MHz	55	61		dB	B19 Tx
	859.25 to 893.75	MHz	51	55		dB	B26 Rx
	861.5 to 891.5	MHz	53	56		dB_{INT}	B26 Rx, Any 4.5MHz
	860. to 875.	MHz	55	66		dB	B18 Rx
	869. to 894.	MHz	52	55		dB	B5 Rx
	875. to 890.	MHz	52	57		dB	B19 Rx
	1574. to 1577.	MHz	40	65		dB	GPS
	1628. to 1698.	MHz	20	62		dB	2f
	2442. to 2547.	MHz	20	56		dB	3f

* Typical value at 25±2deg.C

Electrical Characteristic

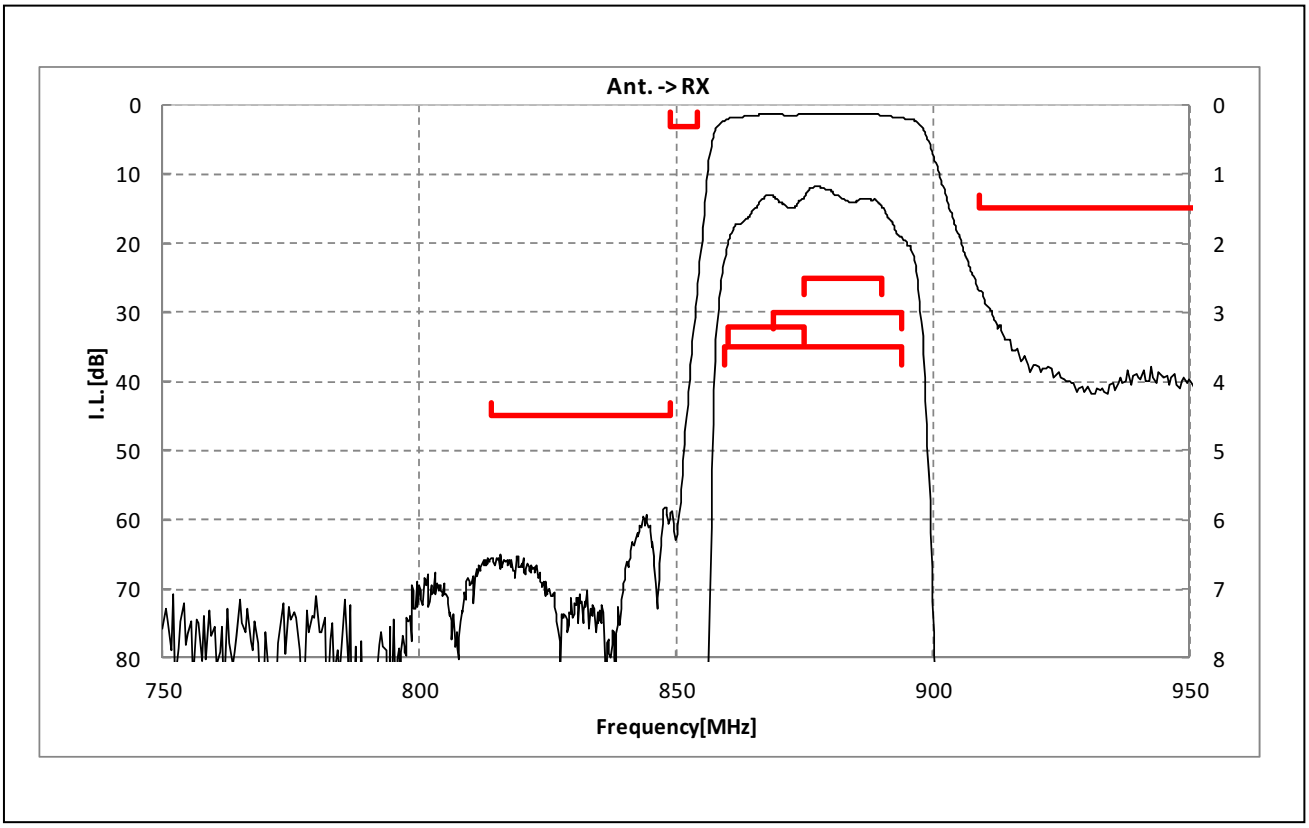
< TX→ANT. >

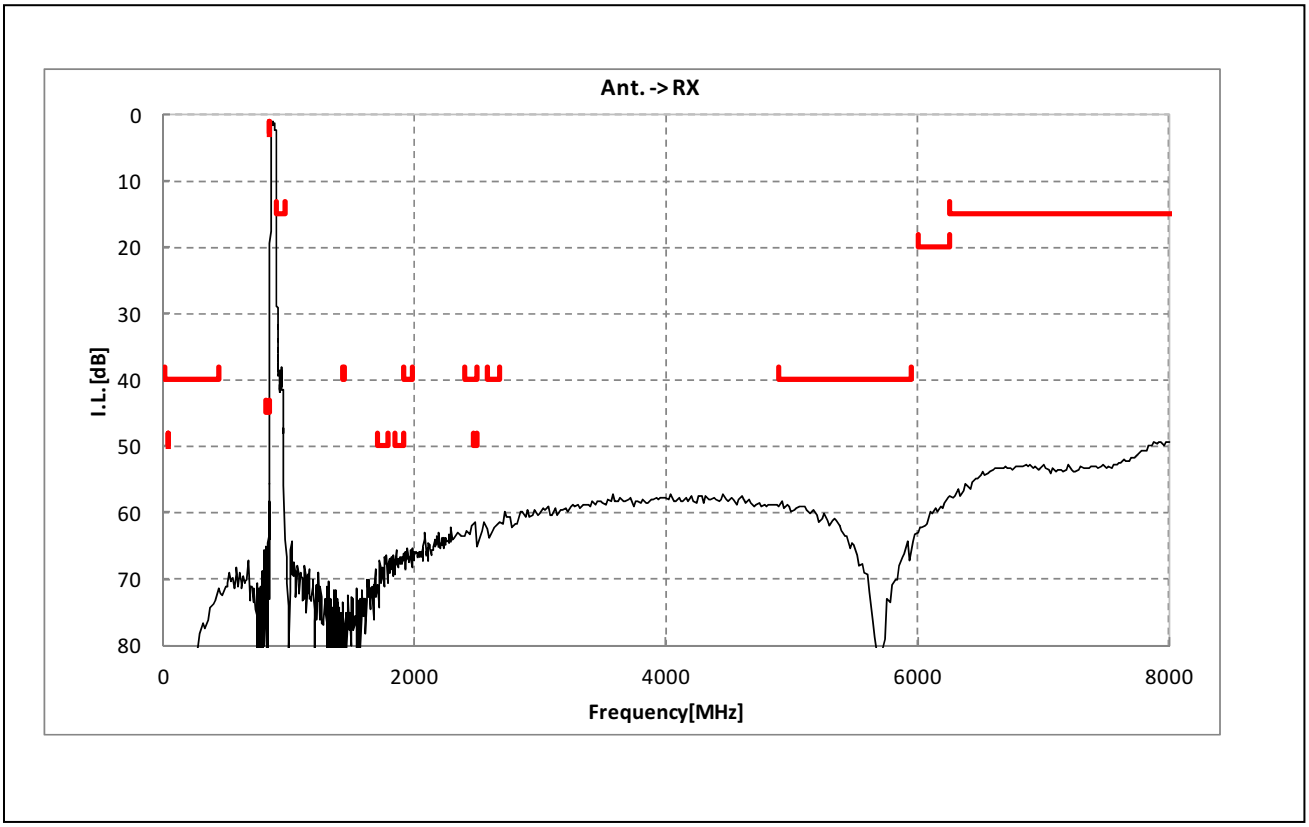




Electrical Characteristic

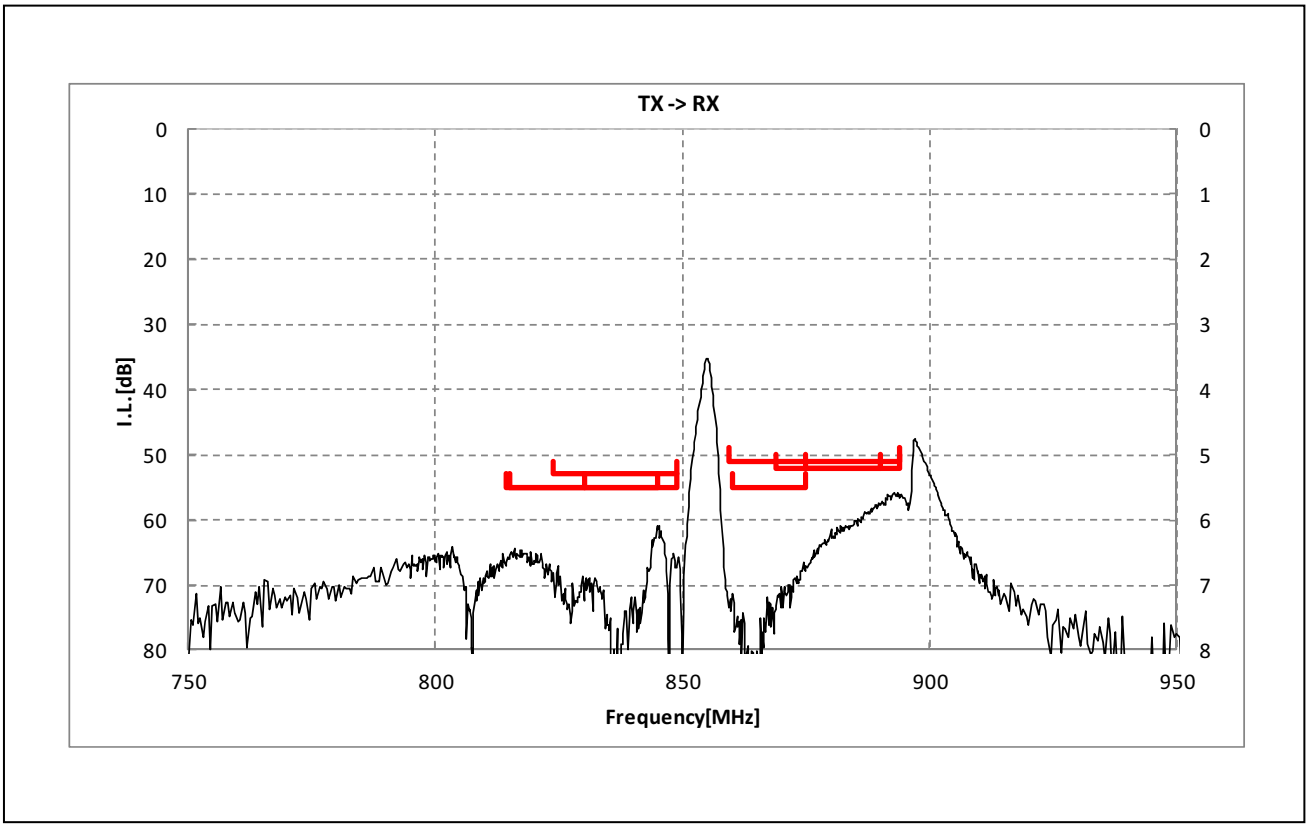
< ANT.→RX >

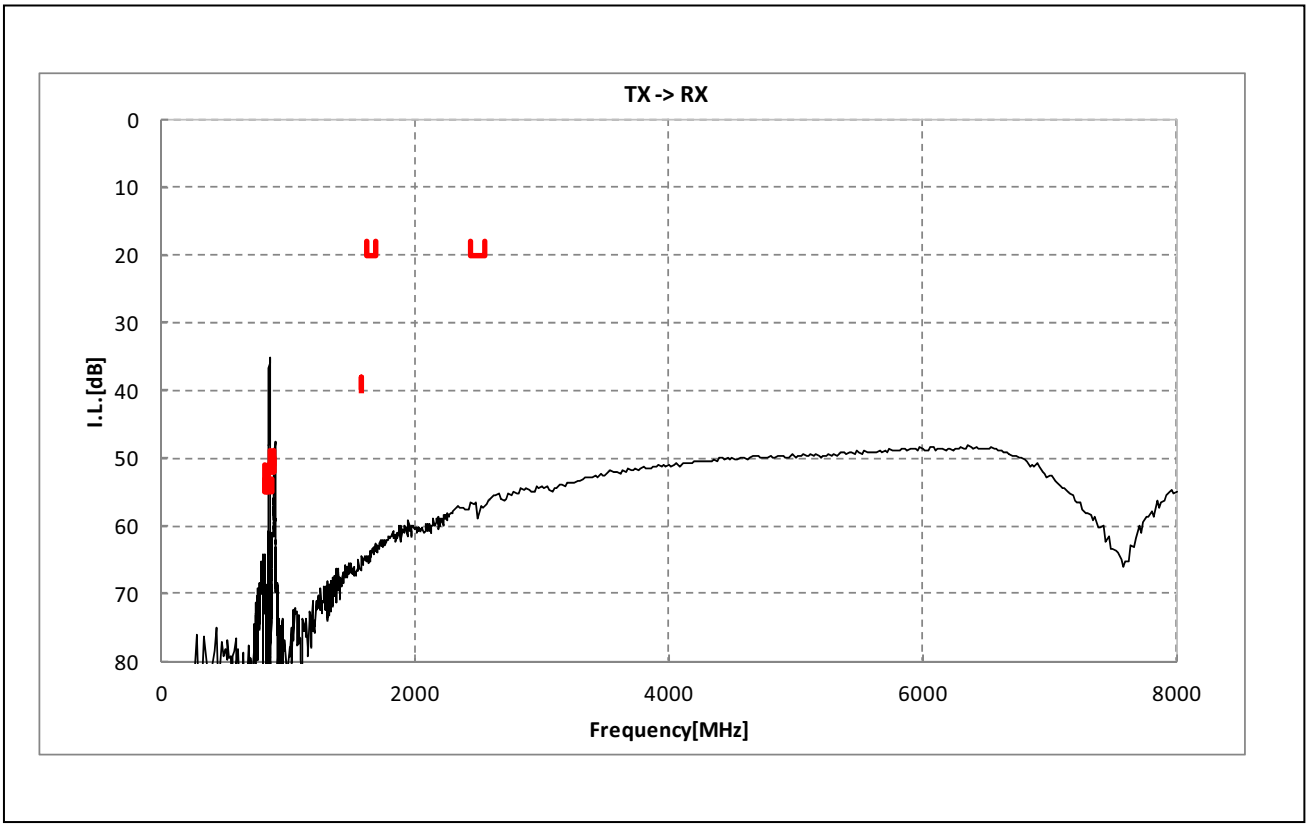




Electrical Characteristic

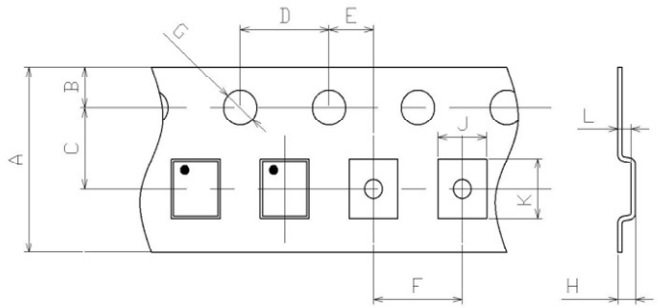
< TX→RX. >





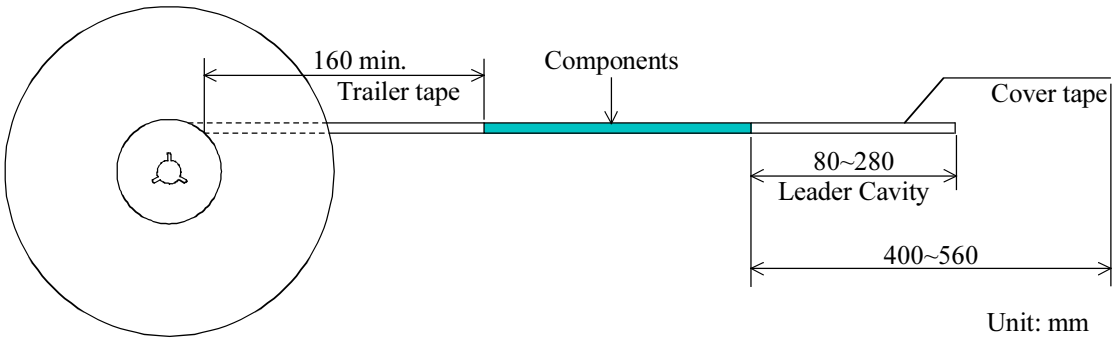
Dimensions of Tape & Reel unit: mm

Carrier Tape

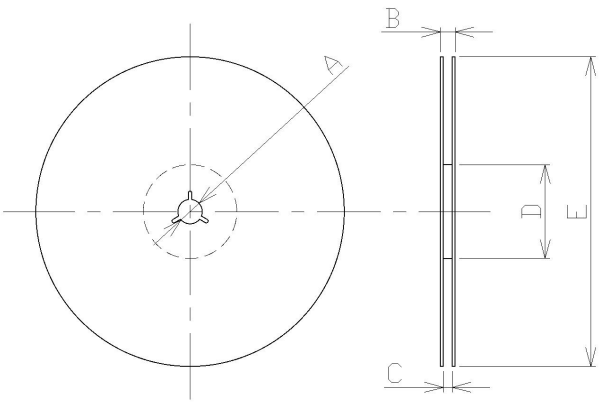


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

Tape



Reel



φ178Reel		φ330Reel	
A:	φ13.0	A:	φ13.0
B:	13.5max	B:	15.5max
C:	9.0	C:	9.5
D:	φ60	D:	φ100
E:	φ178	E:	φ330

SAYEY831MBA0B0AR00… 10000pcs (φ330)
SAYEY831MBA0B0AR1S… Sample Order (φ178/330)

Marking Code

Table A: Month Code

2013 2017 2021	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2014 2018 2022	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015 2019 2023	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c̄	d	e	f	g	h	j	k	l	m
2016 2020 2024	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	n	p	q	r	s	t	u	v	w	x	y	z

Table B: Date Code

date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
code	A	B	C	D	E	F	G	H	J	K
date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th
code	L	M	N	P	Q	R	S	T	U	V
date	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	X	Y	Z	a	b	c̄	d	e	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.

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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.

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- 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.
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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.

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