Datasheet of SAW Device

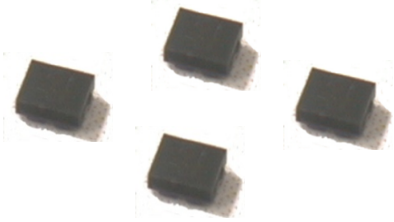
SAW Duplexer

for Band7 / Unbalanced / LR /1814

Murata PN: SAYEY2G53BC0F0A

■ Feature

- LTE-A
- High WiFi Attenuation
- Low Insertion Loss



Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.
Please also read caution at the end of this document.

SAYEY2G53BC0F0A (Band7 / Unbalanced / LR / 1814)

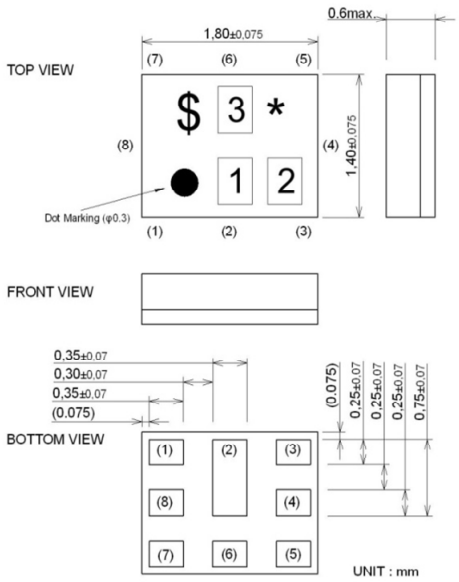
Revision Number	Date	Description
SAYEY2G53BC0F0A_rev. A	Feb-19-2015	■ Initial Release
SAYEY2G53BC0F0A_rev. B	Apr-01-2015	■ Updated for MP
SAYEY2G53BC0F0A_rev. C	Sep-02-2015	■ Updated Feature
SAYEY2G53BC0F0A_rev. D	Sep-14-2015	■ Updated Feature
SAYEY2G53BC0F0A_rev. E	Sep-15-2016	■ Updated General Information
SAYEY2G53BC0F0A_rev. F	Feb-06-2017	■ Updated Matching Circuit
SAYEY2G53BC0F0A_rev. G	Jul-14-2017	■ Updated SPEC
SAYEY2G53BC0F0A_rev. H	Jul-24-2017	■ 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

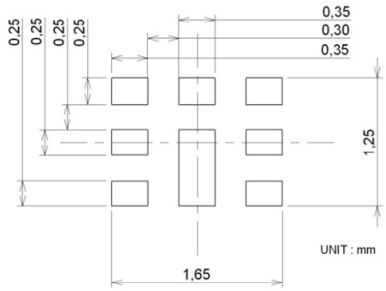


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 7
2 : T
3 : A

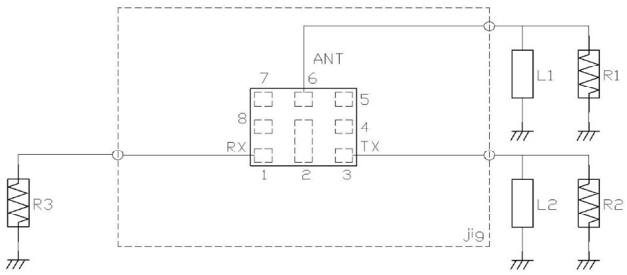
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :2.7nH(Ideal inductor)
	:3nH(LQP03TN3N0) <Reference>
R2 : 50 ohm	L2 :12nH(Ideal inductor)
R3 : 50 ohm	

Electrical Characteristic < TX→ANT. >

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Center Frequency					2535			
Insertion Loss	2500.25	to	2569.75 MHz		2.2	2.9	dB	
	2502.5	to	2567.5 MHz		1.9	2.8	dB_{INT}	Any 4.5MHz
Ripple Deviation	2500.25	to	2569.75 MHz		1.1	2.0	dB	
	2500.25	to	2569.75 MHz		0.5	1.1	dB	Any 5MHz
VSWR	2500.25	to	2569.75 MHz		1.5	2.1		TX
	2500.25	to	2569.75 MHz		1.5	2.1		ANT.
Absolute Attenuation	10.	to	718. MHz	30	59		dB	FM, 921-960MHz, etc
	832.	to	862. MHz	30	55		dB	B20TX
	1226.	to	1250. MHz	35	48		dB	GPS L2
	1559.	to	1563. MHz	38	45		dB	Compass
	1565.42	to	1573.37 MHz	38	44		dB	Wideband GPS, lower side-lobe
	1573.37	to	1577.47 MHz	38	44		dB	Regular GPS, main-lobe
	1577.47	to	1585.42 MHz	38	44		dB	Wideband GPS, upper side-lobe
	1597.55	to	1605.89 MHz	38	44		dB	GLONASS
	1605.89	to	1680. MHz	35	44		dB	
	1710.	to	1785. MHz	32	44		dB	B3/4TX
	1805.	to	1880. MHz	32	44		dB	B3RX
	1900.	to	1920. MHz	32	44		dB	B33
	2010.	to	2025. MHz	32	44		dB	B34
	2110.	to	2170. MHz	32	46		dB	B1RX
	2401.	to	2468. MHz	40	43		dB_{INT}	WLAN ch1-10 18MHz-BW
	2451.	to	2473. MHz	40	53		dB_{INT}	WLAN ch11 18MHz-BW
	2456.	to	2478. MHz	27	53		dB_{INT}	WLAN ch12 18MHz-BW
	2461.	to	2483. MHz	14	38		dB_{INT}	WLAN ch13 18MHz-BW
	2401.	to	2468. MHz	40	43		dB_{INT}	+23 to +27deg.C, WLAN ch1-10 18MHz-BW
	2451.	to	2473. MHz	40	53		dB_{INT}	+23 to +27deg.C, WLAN ch11 18MHz-BW
	2456.	to	2478. MHz	40	53		dB_{INT}	+23 to +27deg.C, WLAN ch12 18MHz-BW
	2461.	to	2483. MHz	23	38		dB_{INT}	+23 to +27deg.C, WLAN ch13 18MHz-BW
	2590.	to	2595. MHz	2.0	3.6		dB	B38
	2595.	to	2620. MHz	2.4	8.4		dB	B38
	2620.	to	2690. MHz	45	57		dB	B7RX
	5000.	to	5140. MHz	25	39		dB	2f
	5100.	to	5280. MHz	20	39		dB	ISM5G
	7500.	to	7710. MHz	20	33		dB	3f

* Typical value at 25±2deg.C

Electrical Characteristic < ANT.→RX >

Item				Characteristics (-20 to +85 deg.C) min.	typ.*	max.	Unit	Note
Center Frequency					2655		MHz	
Insertion Loss	2620.25	to 2689.75	MHz		2.0	2.9	dB	
	2622.5	to 2687.5	MHz		2.0	2.8	dB_{INT}	Any 4.5MHz
Ripple Deviation	2620.25	to 2689.75	MHz		0.5	1.7	dB	
VSWR	2620.25	to 2689.75	MHz		1.8	2.3		ANT.
	2620.25	to 2689.75	MHz		1.9	2.4		RX
Absolute Attenuation	1.	to 2500.	MHz	40	48		dB	
		45.	MHz	50	100		dB	Rx-Tx
	718.	to 748.	MHz	40	65		dB	B28TX
	814.	to 849.	MHz	40	63		dB	B26TX
	832.	to 862.	MHz	40	63		dB	B20TX
	880.	to 915.	MHz	40	62		dB	B8TX
	1710.	to 1785.	MHz	40	52		dB	B3TX
	2402.	to 2470.	MHz	45	63		dB	ISM2.4
	2500.	to 2570.	MHz	45	53		dB	TX
	2570.	to 2600.	MHz	2.5	5.5		dB	(Rx + Tx)/2
	4900.	to 5950.	MHz	40	49		dB	ISM 5G
	7620.	to 7830.	MHz	35	44		dB	Rx + 2Tx
	7860.	to 8070.	MHz	35	44		dB	3f
	10480.	to 10760.	MHz	20	45		dB	4f

* Typical value at 25±2deg.C

SAYEY2G53BC0F0A (Band7 / Unbalanced / LR / 1814)

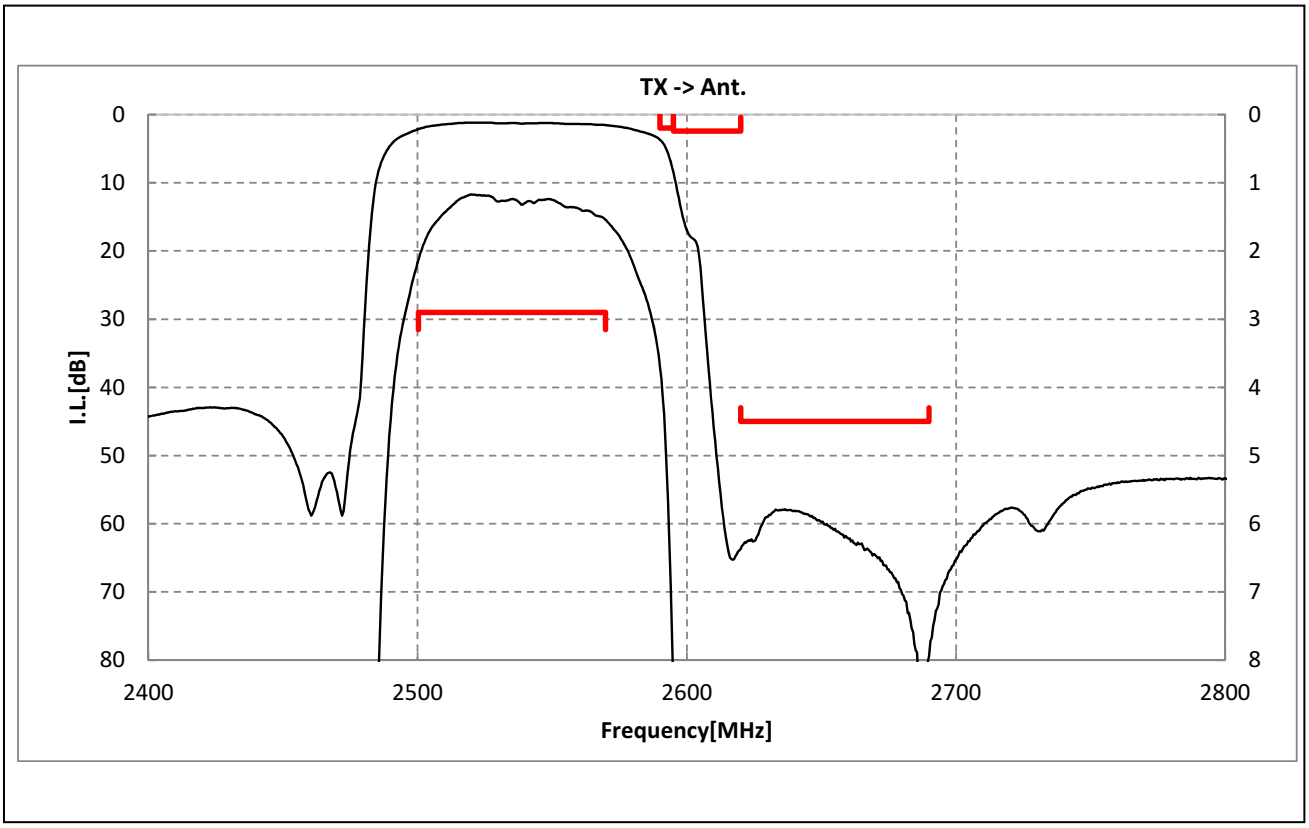
Electrical Characteristic < TX→RX. >

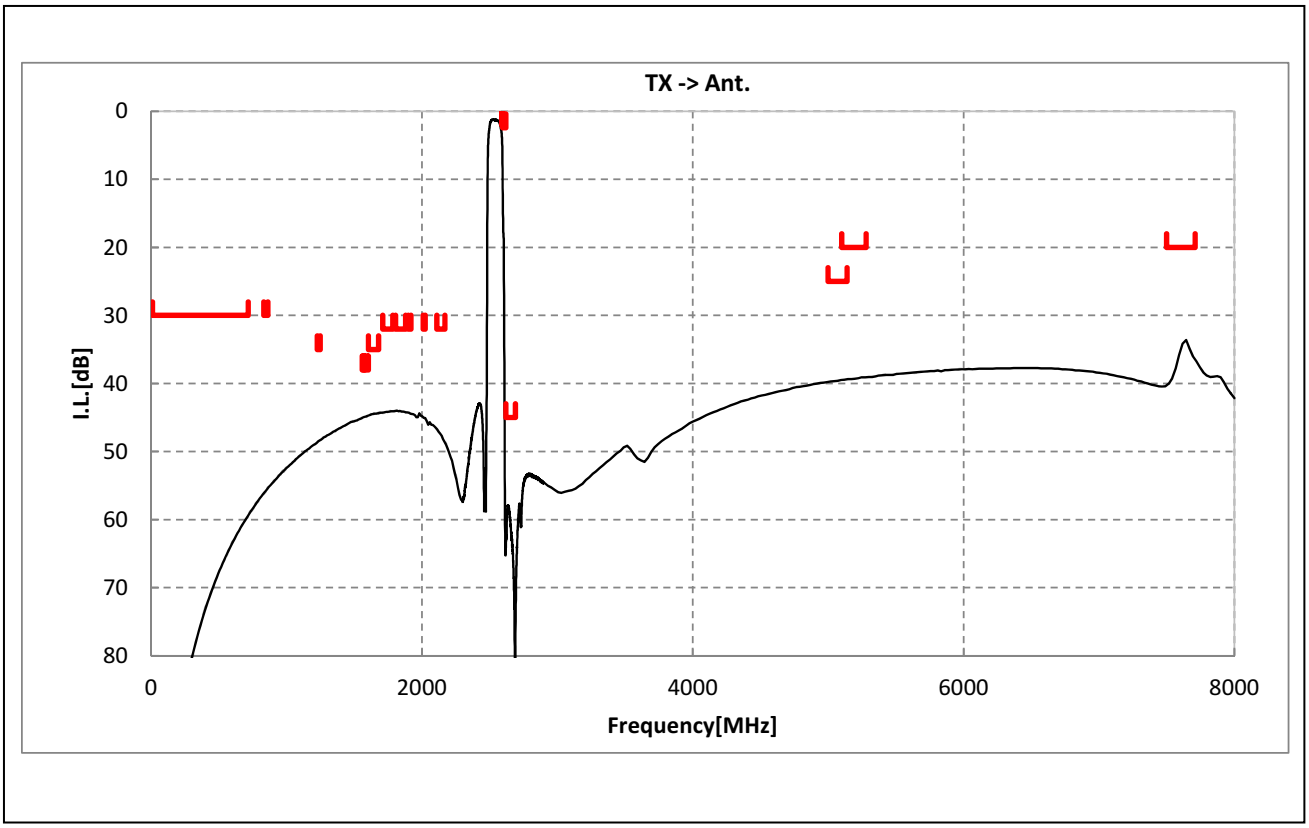
Item				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Isolation								
	1574.	to	2570. MHz	30	53		dB	GPS
	2500.25	to	2569.75 MHz	55	58		dB	TX
	2502.5	to	2567.5 MHz	55	59		dB_{INT}	Any 4.5MHz, TX
	2620.25	to	2689.75 MHz	55	58		dB	RX
	2622.5	to	2687.5 MHz	55	58		dB_{INT}	Any 4.5MHz, RX
	5000.	to	5140. MHz	30	48		dB	2f
	7500.	to	7710. MHz	25	40		dB	3f

* Typical value at 25±2deg.C

Electrical Characteristic

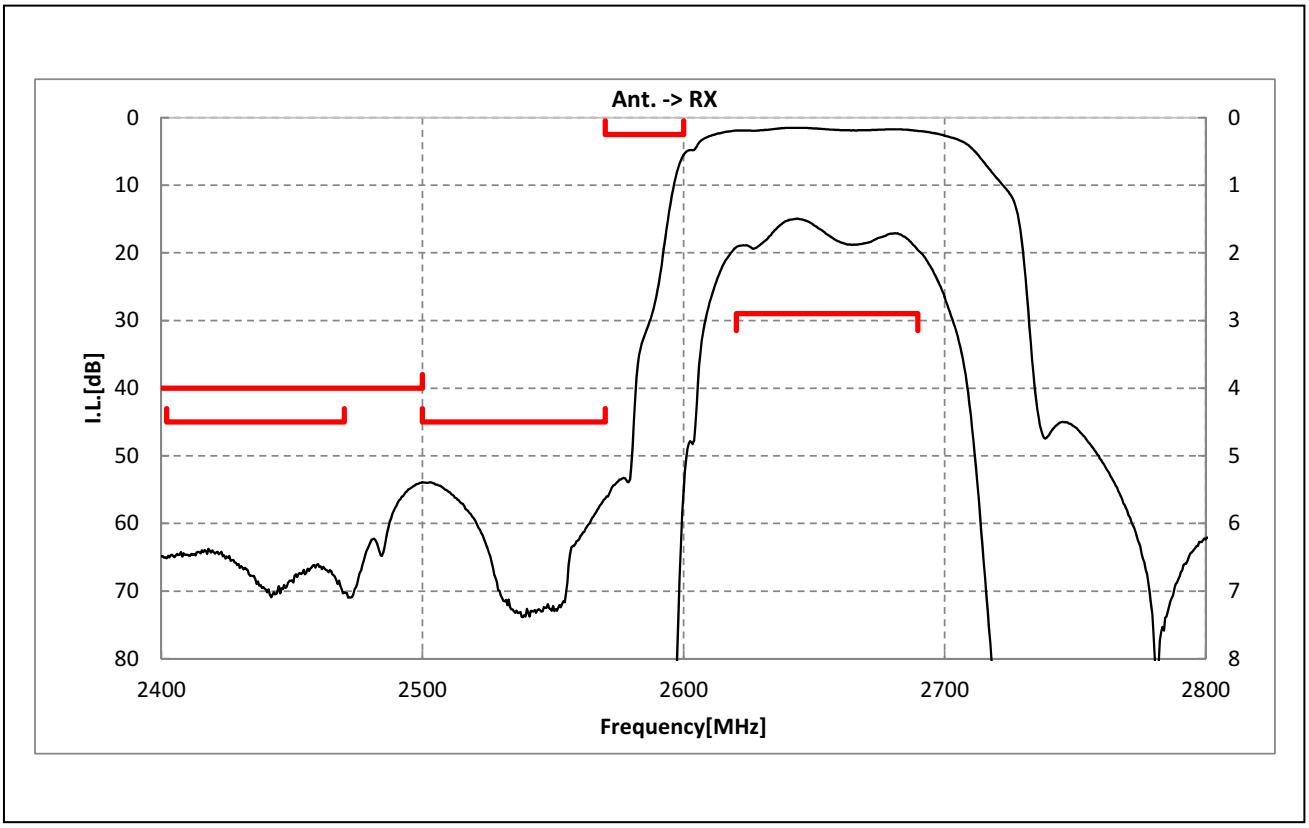
< TX→ANT. >

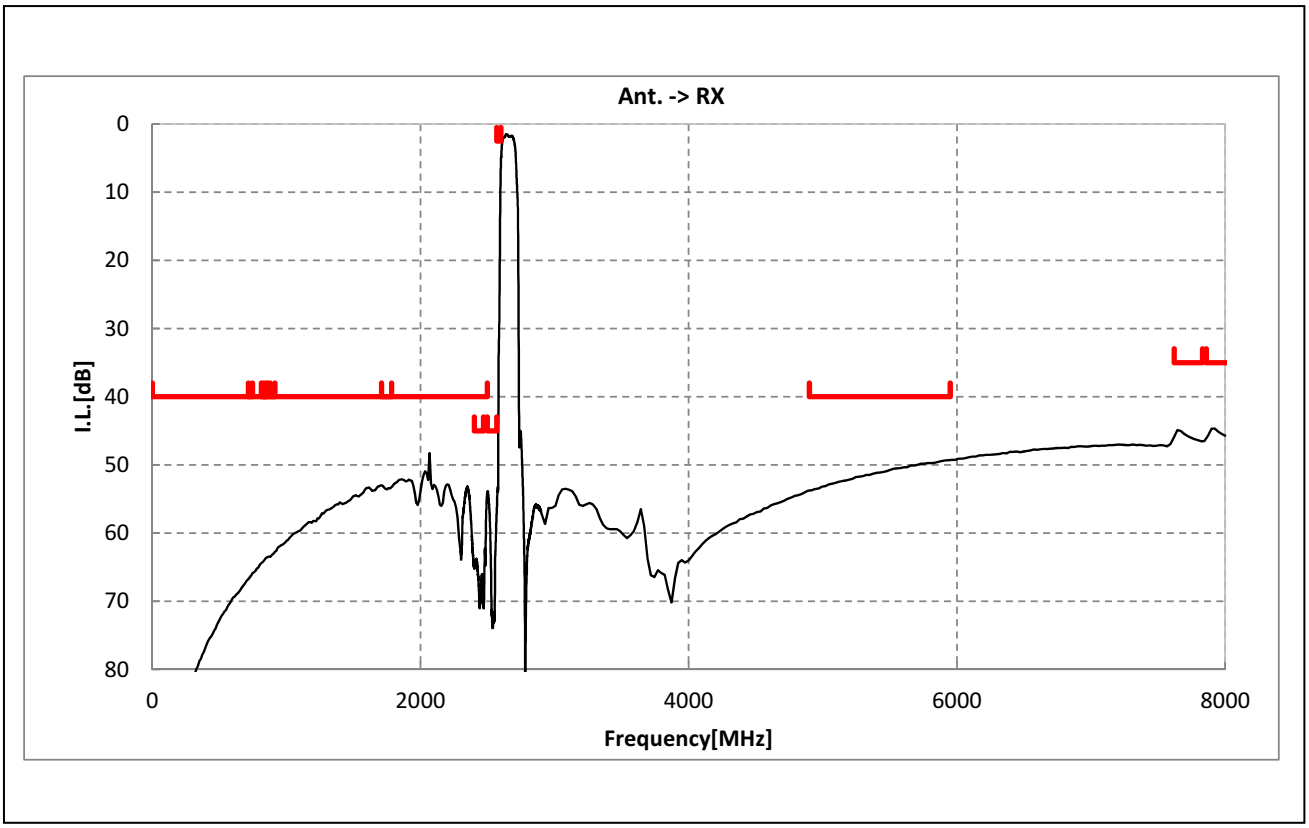




Electrical Characteristic

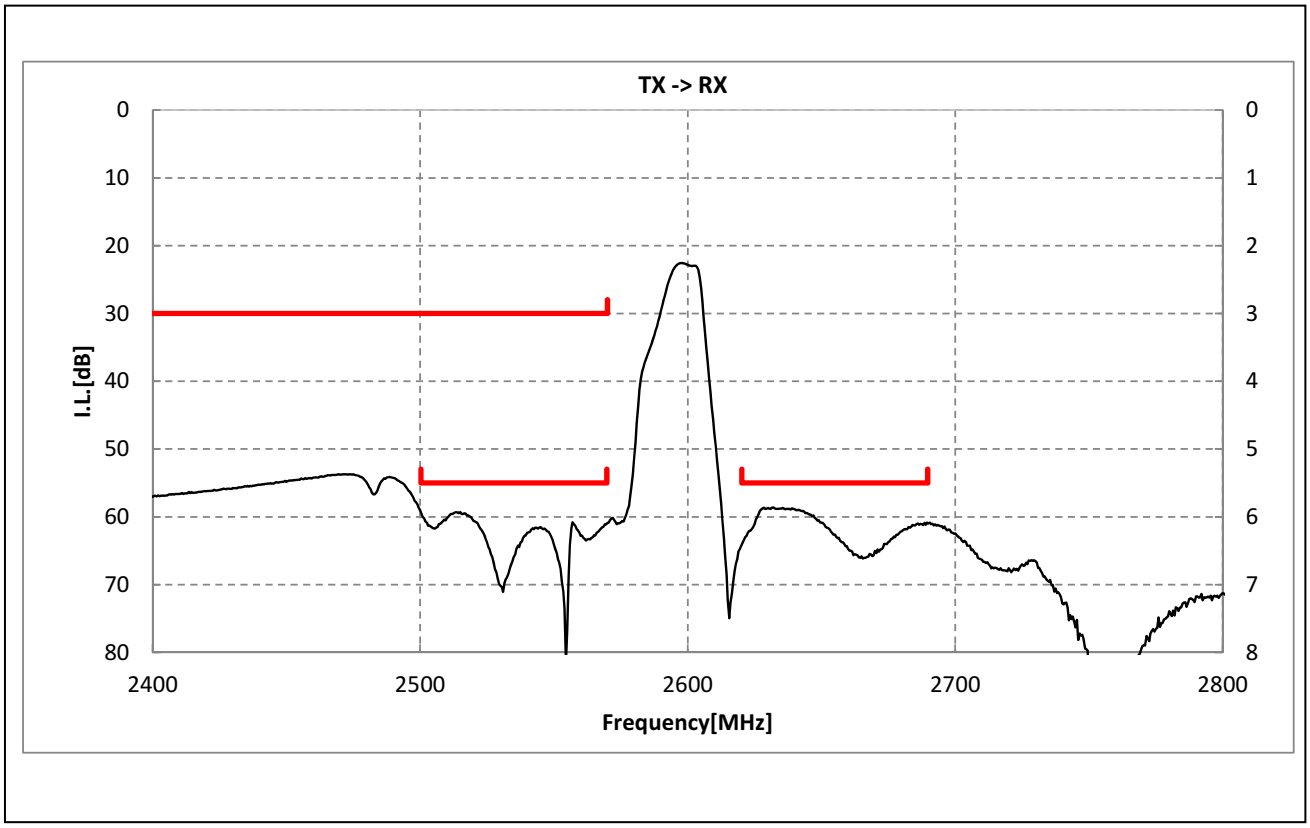
< ANT.→RX >

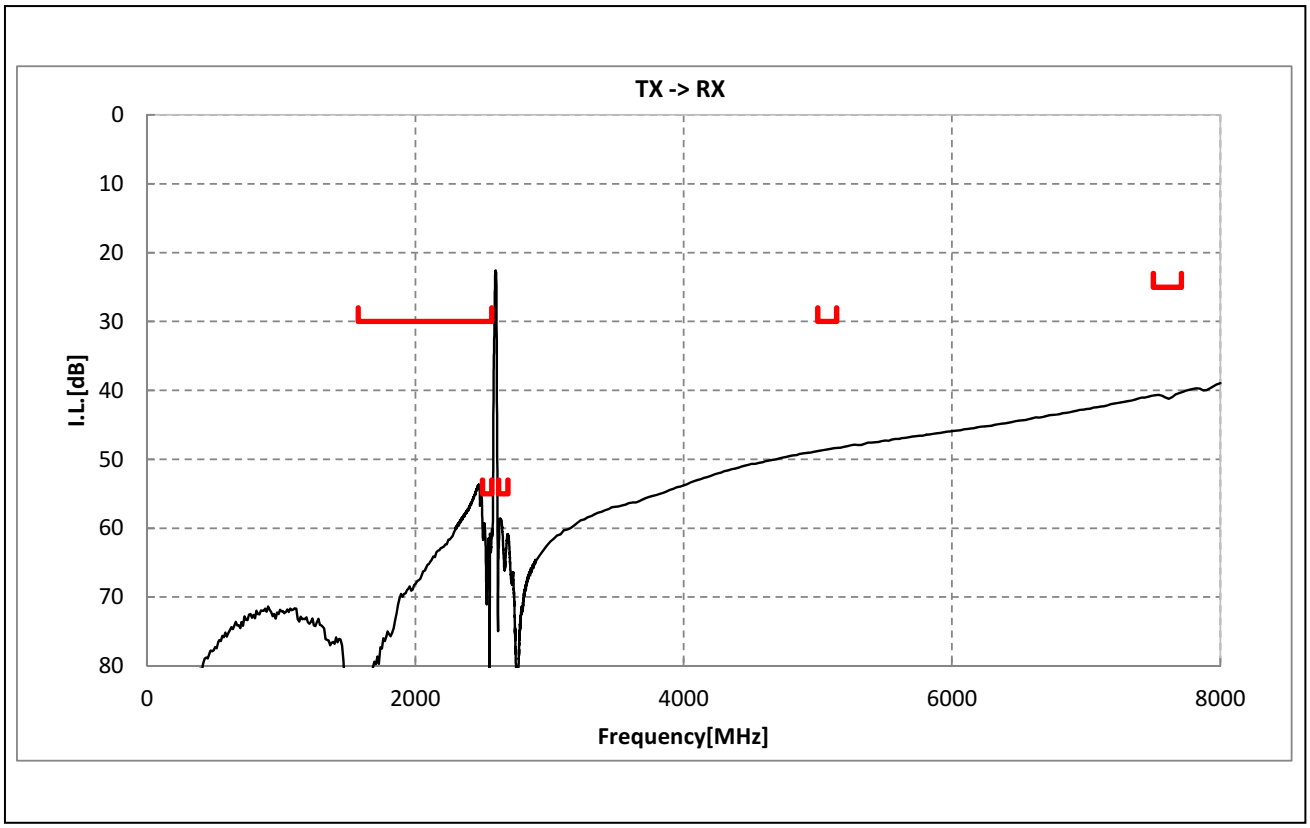




Electrical Characteristic

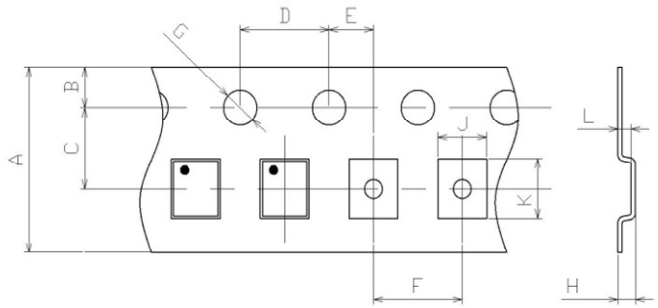
< TX→RX. >





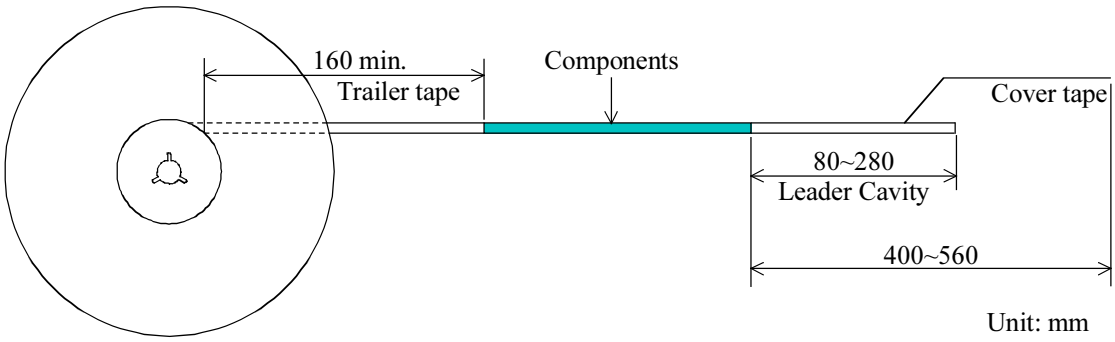
Dimensions of Tape & Reel unit: mm

Carrier Tape

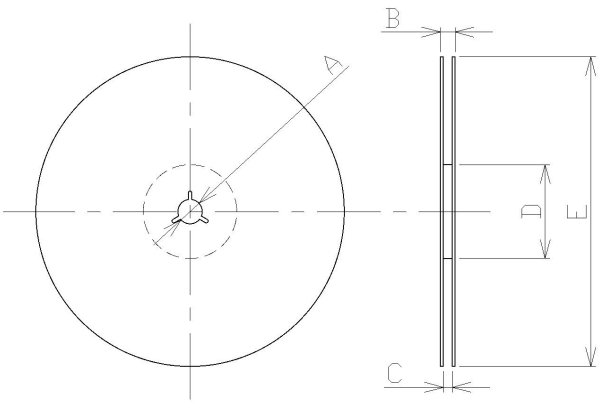


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY2G53BC0F0AR00… 10000pcs (φ330)
SAYEY2G53BC0F0AR1S… 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)

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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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- 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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