INNOVATOR IN ELECTRONICS

Datasheet of SAW Device

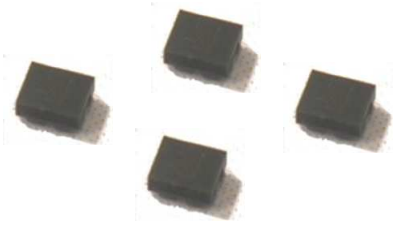
SAW Duplexer

for Band2 / Unbalanced / LR /1814

Murata PN: SAYEY1G88BA0B0A

■ Feature

- 5GNR
- Low Insertion Loss
- High Isolation



Note : This Murata SAW Component is Consumer grade product and applicable for Cellular phone or similar end devices.
Please also read Important Notice at the end of this document.

Revision
N

General Information

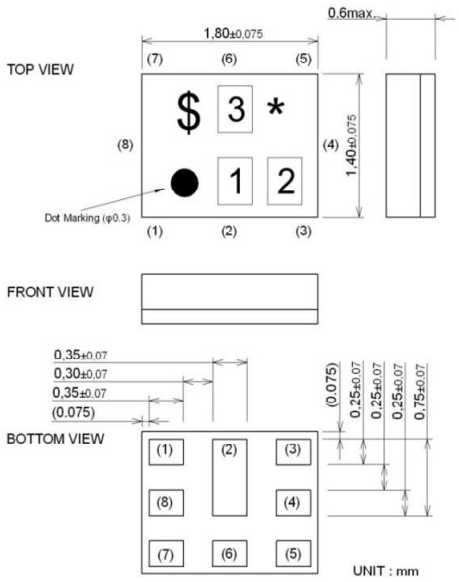
- Operating temperature	: -20 to +85 deg.C
- Storage temperature	: -40 to +85 deg.C
- Input Power	: +29.0dBm 5000h +50deg.C (1) +27.5dBm 5000h +50deg.C (2) (1) applicable for W-CDMA, SC-FDMA, DFT-s-OFDM (2) applicable for CP-OFDM
- D.C. Volatage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

The input power shall be applied to Tx-port within own Tx passband frequency range.

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

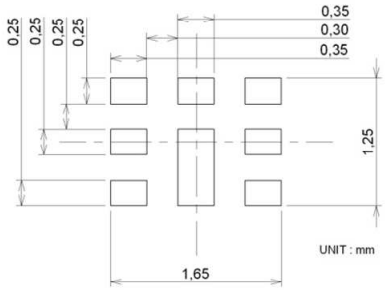


Marking : Laser Printing
* : Month code
$: Date code
1 : 5
2 : P
3 : A

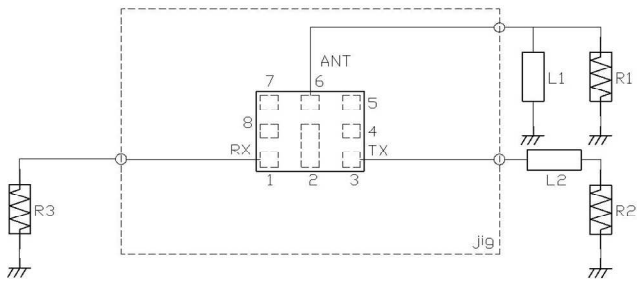
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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>
R2 : 50 ohm	L2 :1.5nH (Ideal capacitor)
R3 : 50 ohm	

Electrical Characteristic < TX→ANT. >

TX → ANT.			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.*	max.		
Center Frequency				1880		MHz	
Insertion Loss	1850.48 to 1909.52 MHz			2.0	2.8	dB	
	1852.4 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 to 1908.75 MHz			2.0	2.6	dB_{INT}	Any 1.25MHz
	1850.48 to 1909.52 MHz			2.0	2.3	dB	+23 to +27deg.C
	1852.4 to 1907.6 MHz			1.9	2.1	dB_{INT}	+23 to +27deg.C Any 3.84MHz
Ripple Deviation	1850.48 to 1909.52 MHz			0.3	1.2	dB	Any 5MHz
	1850.48 to 1909.52 MHz			0.3	0.8	dB	+23 to +27deg.C Any 5MHz
VSWR	1850.48 to 1909.52 MHz			1.4	1.9		Ant
	1850.48 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	
	777. to 787. MHz		32	37		dB	
	869. to 894. MHz		31	36		dB	
	1226. to 1250. MHz		28	33		dB	
	1559. to 1563. MHz		35	38		dB	
	1565.42 to 1573.37 MHz		35	39		dB	
	1573.37 to 1577.47 MHz		35	39		dB	
	1577.47 to 1585.42 MHz		35	39		dB	
	1597.55 to 1605.88 MHz		35	40		dB	
	1605.88 to 1680. MHz		24	35		dB	
	1930. 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	12.0		dB	
	5520. to 5845. MHz		5.0	10.0		dB	
	5540. to 5950. MHz		5.0	10.0		dB	
	7390. to 7650. MHz		3.0	6.1		dB	
	9240. to 9560. MHz		9.0	7.5		dB	
	11090. to 11470. MHz		12	8		dB	

* Typical value at 25±2deg.C

SAYEY1G88BA0B0A (Band2 / Unbalanced / LR / 1814)

Electrical Characteristic < ANT.→RX >

ANT. → RX			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.*	max.		
Center Frequency				1960		MHz	
Insertion Loss	1930.48 to 1989.52	MHz		2.6	3.2	dB	
	1932.4 to 1987.6	MHz		2.2	2.9	dB_{INT}	Any 3.84MHz
	1932.5 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 to 1989.52	MHz		2.6	2.8	dB	+23 to +27deg.C
	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 to 1989.52	MHz		2.0	2.1		ANT.
	1930.48 to 1989.52	MHz		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	
	80. to 80.	MHz	80	94		dB	
	699. to 716.	MHz	51	57		dB	
	777. to 787.	MHz	50	56		dB	
	824. to 849.	MHz	48	55		dB	
	1770. to 1830.	MHz	47	53		dB	
	1850. to 1910.	MHz	45	56		dB	
	1910. to 1915.	MHz	11	52		dB	
	2005. to 2050.	MHz	2.5	7.4		dB	
	1850. to 1910.	MHz	51	56		dB	+23 to +27deg.C
	1910. 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	
	2305. to 2315.	MHz	42	47		dB	
	2400. to 2500.	MHz	42	48		dB	
	3780. to 3900.	MHz	48	60		dB	
	3860. to 3980.	MHz	48	60		dB	
	3980. to 13025.	MHz	15	38		dB	
	4900. to 5950.	MHz	40	48		dB	
	5610. 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. to 11940.	MHz	15	38		dB	

* Typical value at 25±2deg.C

SAYEY1G88BA0B0A (Band2 / Unbalanced / LR / 1814)

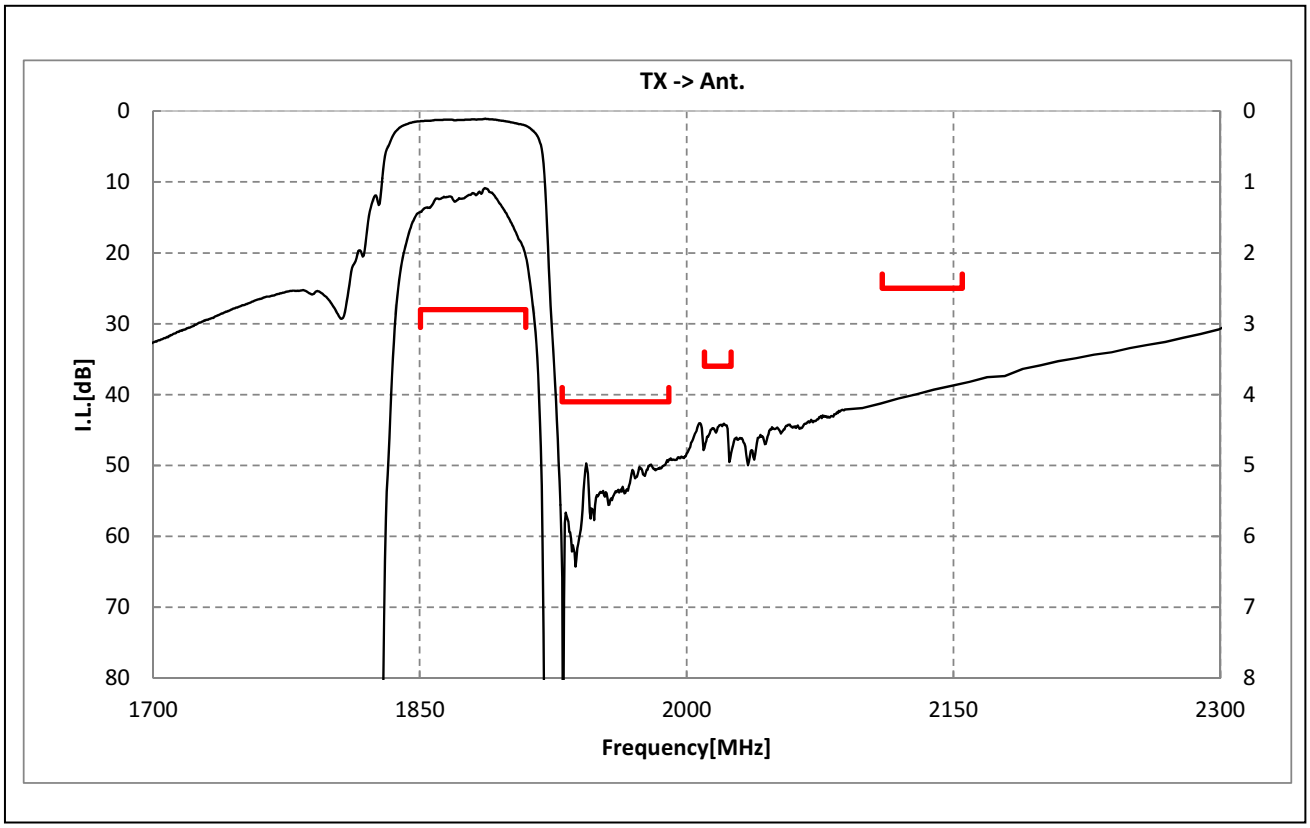
Electrical Characteristic < TX→RX. >

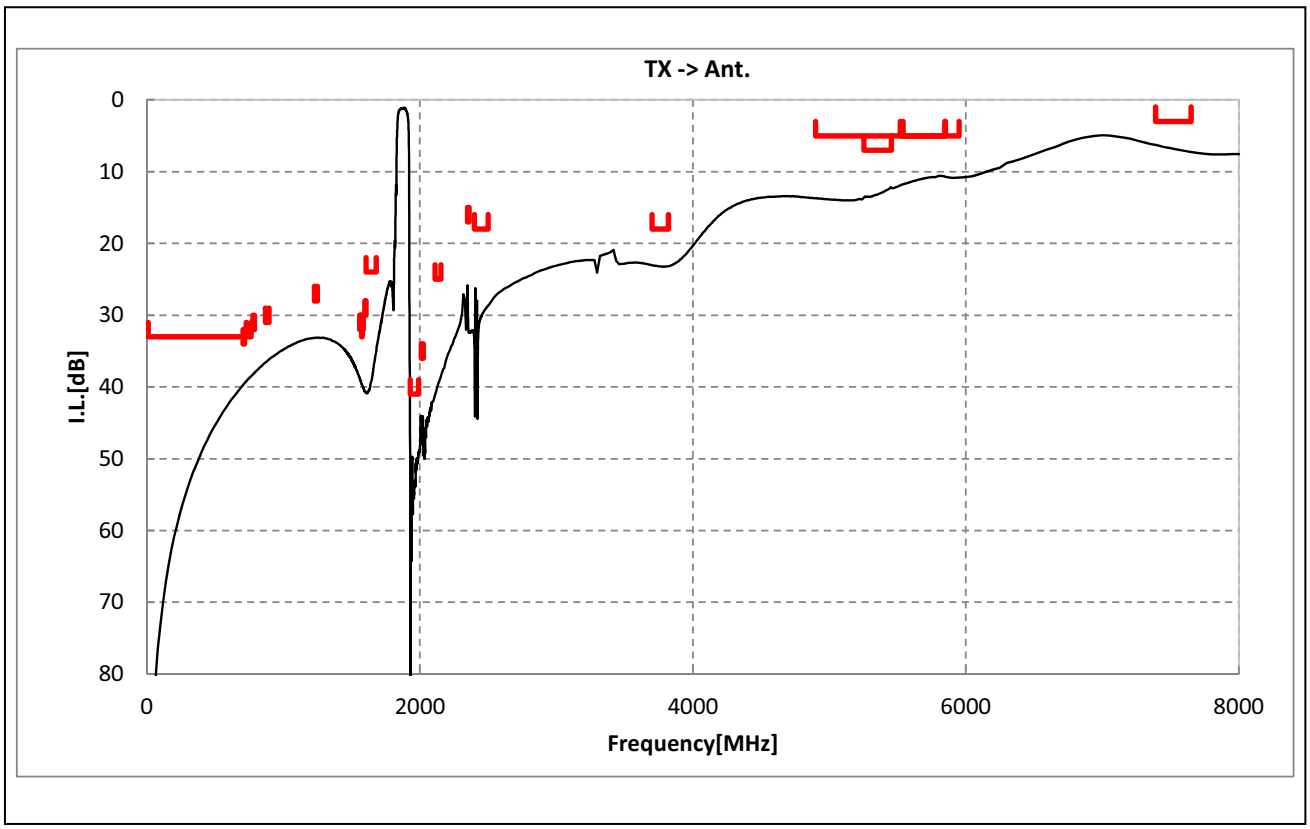
TX → RX		Characteristics (-20 to +85 deg.C)			Unit	Note
		min.	typ.*	max.		
Isolation						
	1574. to 1577. MHz	40	66		dB	
	1850.25 to 1909.75 MHz	53	58		dB	
	1850.48 to 1909.52 MHz	53	58		dB	
	1852.4 to 1907.6 MHz	53	58		dB_{INT}	Any 3.84MHz
	1852.5 to 1907.5 MHz	53	58		dB_{INT}	Any 4.5MHz
	1851.25 to 1908.75 MHz	53	58		dB_{INT}	Any 1.25MHz
	1930.25 to 1989.75 MHz	50	54		dB	
	1932.4 to 1987.6 MHz	52	55		dB_{INT}	Any 3.84MHz
	1932.5 to 1987.5 MHz	52	55		dB_{INT}	Any 4.5MHz
	1931.25 to 1988.75 MHz	52	55		dB_{INT}	Any 1.25MHz
	1850.48 to 1909.52 MHz	54	58		dB	+23 to +27deg.C
	1852.4 to 1907.6 MHz	54	58		dB_{INT}	+23 to +27deg.C Any 3.84MHz
	3700. to 3820. MHz	45	53		dB	
	5550. to 5850. MHz	42	59		dB	

* Typical value at 25±2deg.C

Electrical Characteristic

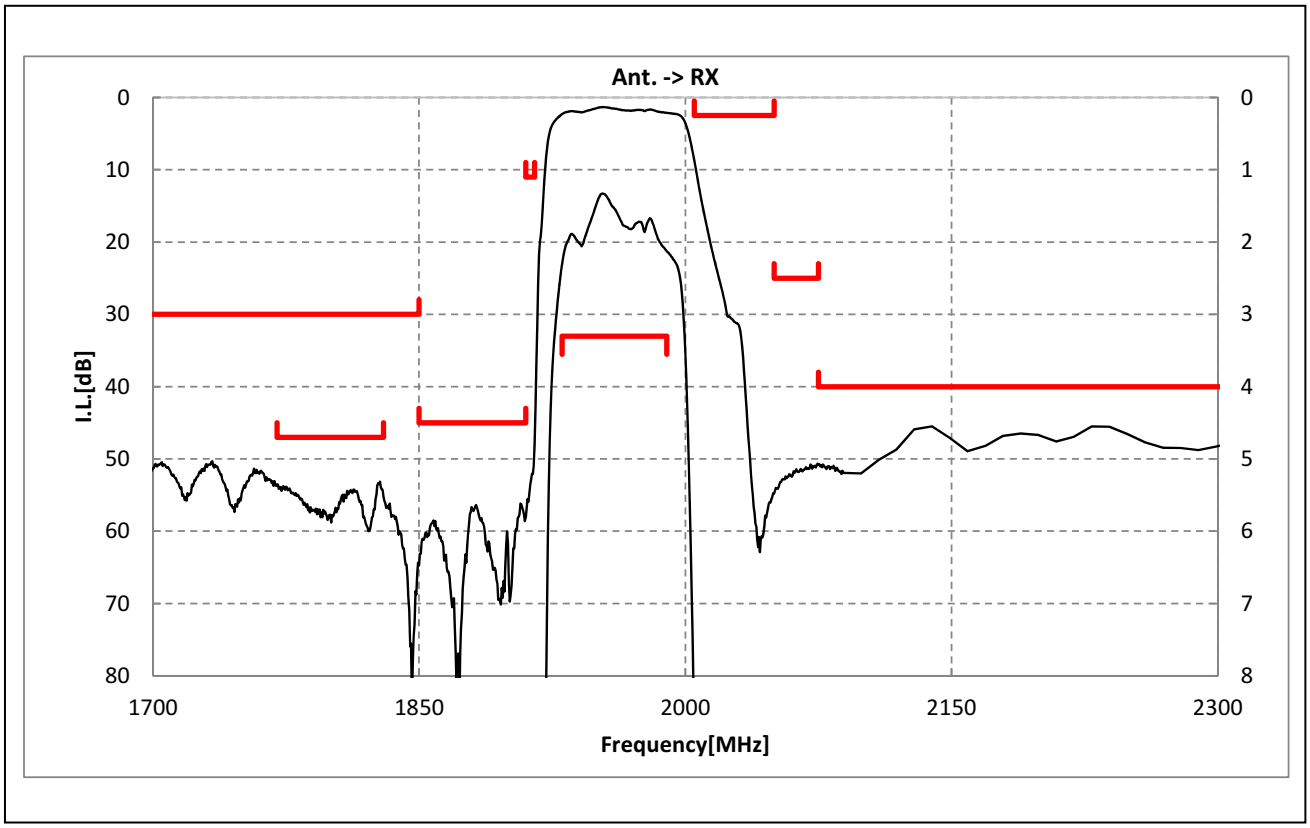
< TX→ANT. >

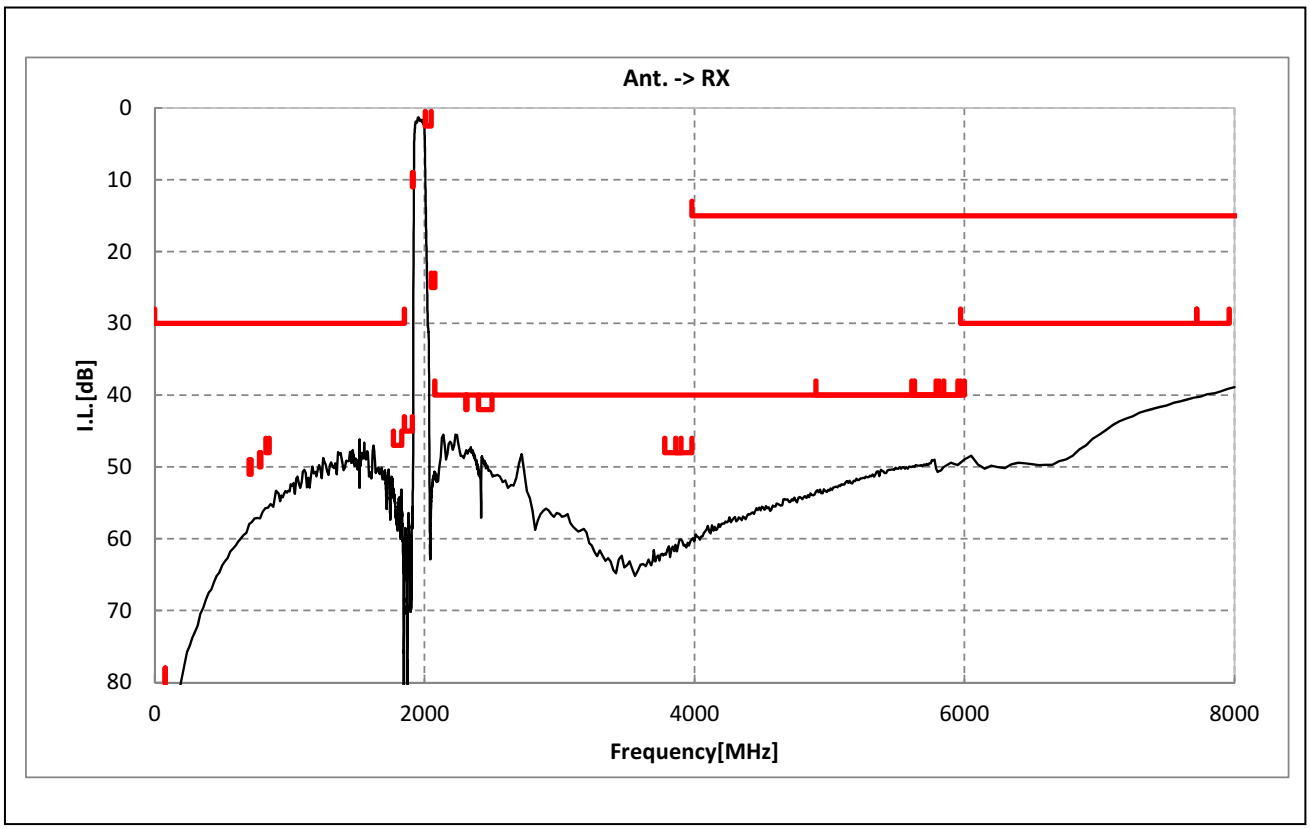




Electrical Characteristic

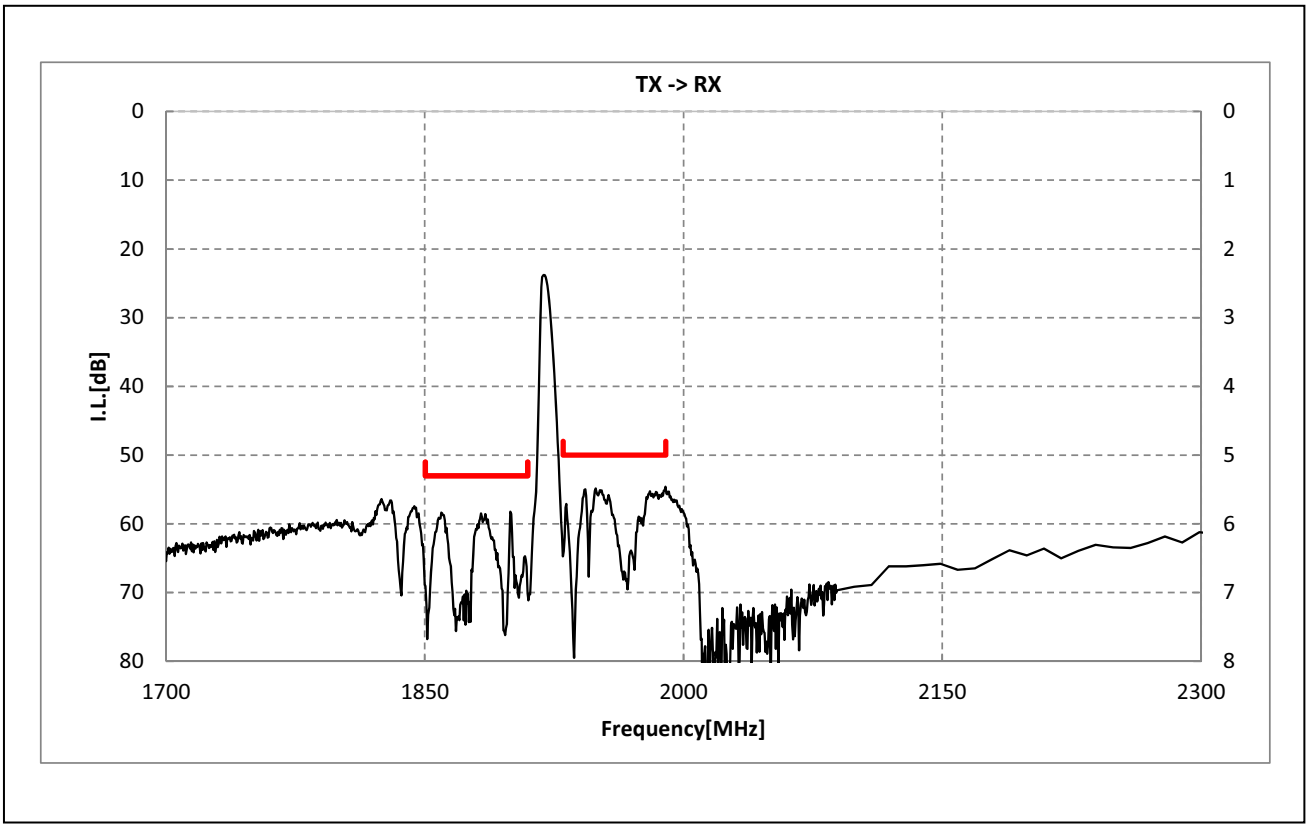
< ANT.→RX >

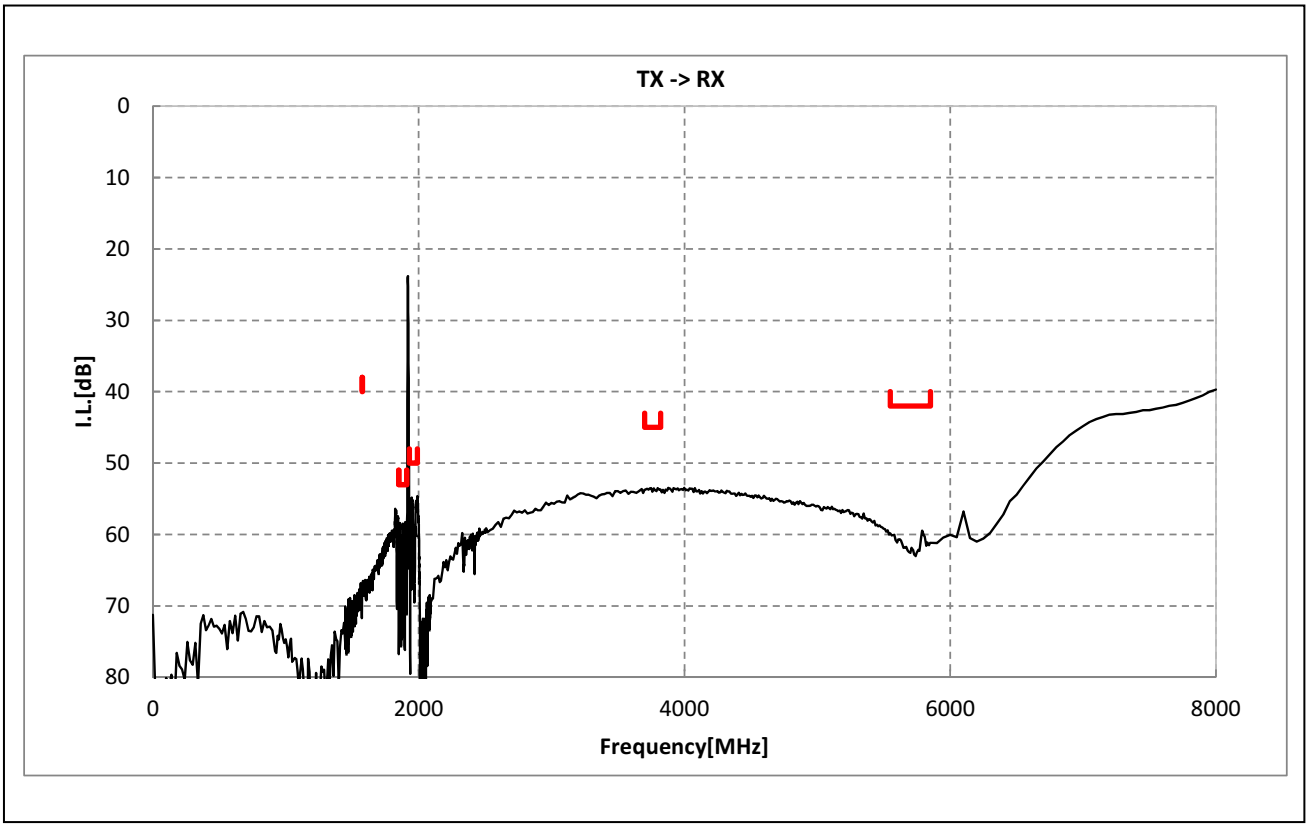




Electrical Characteristic

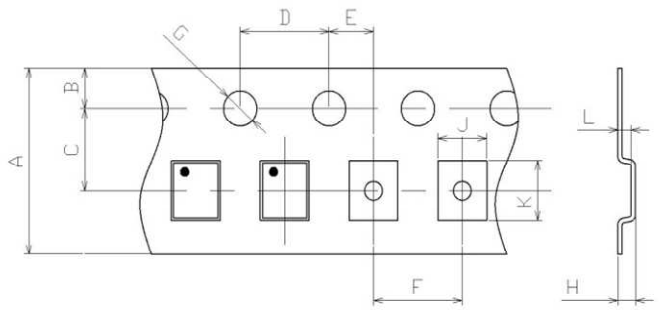
< TX→RX. >





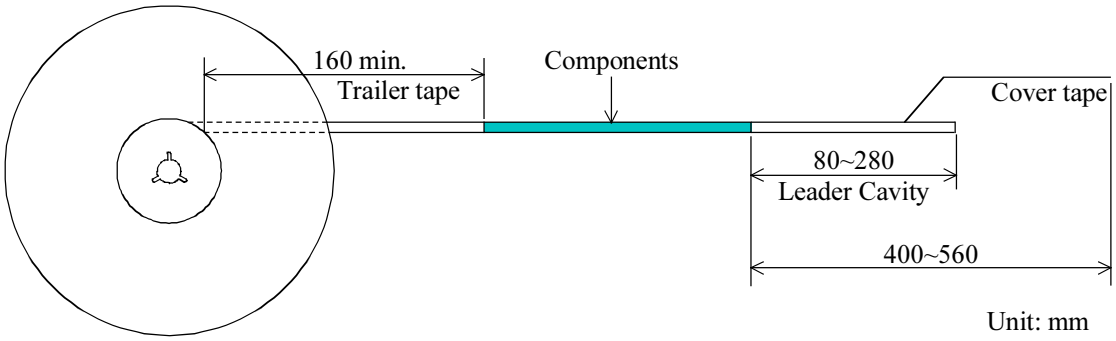
Dimensions of Tape & Reel unit: mm

Carrier Tape

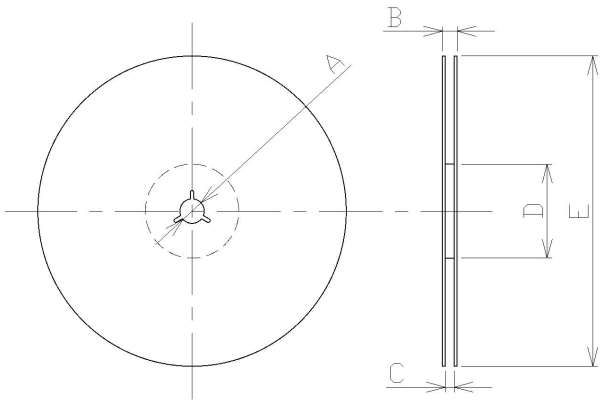


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY1G88BA0B0AR00… 10000pcs (φ330)
SAYEY1G88BA0B0AR1S… Sample Order (φ178/330)

Important Notice (1/2)

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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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(b) Aerospace equipment
(c) Undersea equipment.
(d) Power plant control equipment -
(e) Medical equipment.
(f) Transportation equipment (vehicles, automotive, trains, ships, etc.).
(g)Traffic signal equipment.
(h)Disaster prevention / crime prevention equipment.
(i) Burning / explosion control equipment
(j) Application of similar complexity and/ or reliability requirements to the applications listed in the above.

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- AEC-Q200
- PPAP
- IATF16949,VDA6.3
- Zero Defect program
- Long product life cycle
- Automotive 8D failure analysis and report

Important Notice (2/2)

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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Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

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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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