Datasheet of SAW Device

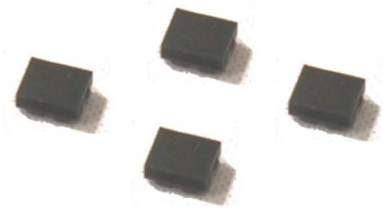
SAW Duplexer

for Band5 / Unbalanced / LR /1814

Murata PN : SAYEY836MBE0F0A

■ Feature

- ➢ LTE-A
- ➢ High Power Durability



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
G

General Information

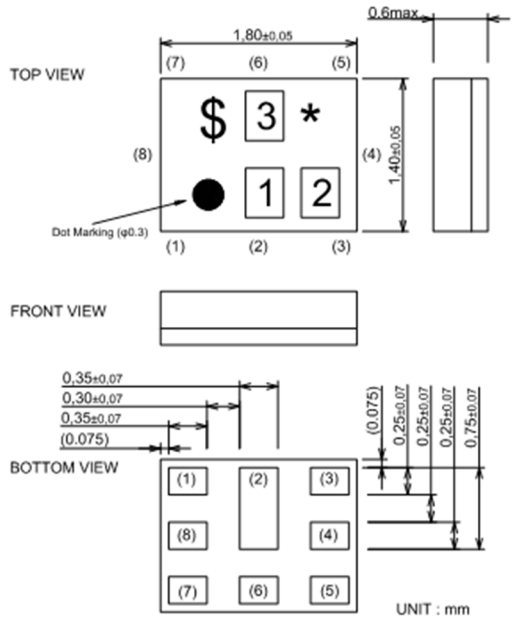
- Operating temperature	: -20 to +85deg.C
- Storage temperature	: -40 to +85deg.C
- Input Power	: +30.0 dBm 5000 h +50 deg.C
- D.C. Voltage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

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

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

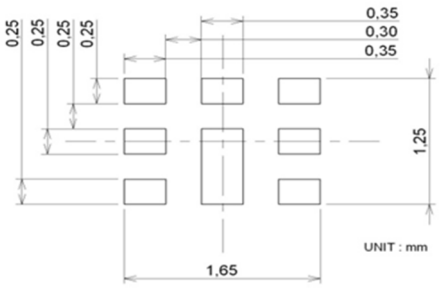


Marking : Laser Printing
* : Month code
$: Date code
1 : 8
2 : T
3 : A

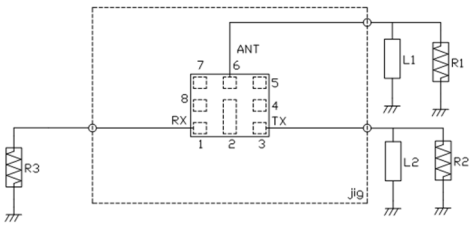
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L : 7.2 nH (Ideal inductor)
	: 7.5 nH (LQP03TN7N5) <Reference>
R2 : 50 ohm	L : 25 nH (Ideal inductor)
R3 : 50 ohm	

Electrical Characteristic

TX → ANT.					Characteristics (-20~+85deg.C)			Unit	Note
					min.	typ.*	max.		
Center Frequency						836.5		MHz	
Insertion Loss	824.	to	849.	MHz		1.6	2.0	dB	
	826.5	to	846.5	MHz		1.3	1.7	dB_{INT}	Any 4.5MHz
Ripple Deviation	824.	to	849.	MHz		0.7	1.4	dB	
	824.	to	849.	MHz		0.4	1.2	dB	Any 3.84MHz
VSWR	824.	to	849.	MHz		1.3	2.0		TX
	824.	to	849.	MHz		1.3	2.0		ANT.
Absolute Attenuation	10.	to	420.	MHz	35	43		dB	
	420.	to	494.	MHz	35	40		dB	450MHz Rejection
	494.	to	701.	MHz	30	34		dB	
	699.	to	716.	MHz	30	34		dB	B12 TX
	701.	to	728.	MHz	30	34		dB	
	704.	to	716.	MHz	30	34		dB	B17 TX
	728.	to	764.	MHz	30	34		dB	700MHz Rejection
	764.	to	804.	MHz	30	36		dB	
	860.	to	869.	MHz	5.0	8.1		dB	
	869.	to	894.	MHz	45	56		dB	RX
	1559.	to	1563.	MHz	42	47		dB	COMPASS
	1565.42	to	1573.37	MHz	42	47		dB	Lower GPS
	1573.37	to	1577.47	MHz	42	47		dB	Regular GPS
	1577.47	to	1585.42	MHz	42	47		dB	Upper GPS
	1597.55	to	1605.89	MHz	42	47		dB	GLONASS
	1638.	to	1708.	MHz	40	46		dB	2f
	1710.	to	1785.	MHz	40	45		dB	B4 TX
	1844.9	to	1879.9	MHz	40	48		dB	B3 TX
	1884.5	to	1919.6	MHz	40	49		dB	
	1920.	to	1980.	MHz	39	49		dB	B1 TX
	2110.	to	2170.	MHz	37	51		dB	B1 RX
	2400.	to	2494.	MHz	35	43		dB	ISM2.4
	2472.	to	2547.	MHz	35	41		dB	3f
	3286.	to	3406.	MHz	11	18		dB	4f
	4110.	to	4255.	MHz	5.0	7.9		dB	5f
	4900.	to	5950.	MHz	5.0	7.6		dB	ISM 5G, 6f, 7f
	6582.	to	6802.	MHz	10	16		dB	8f
	7406.	to	7651.	MHz	10	16		dB	9f
	8230.	to	8500.	MHz	10	14		dB	10f
	9054.	to	9349.	MHz	5.0	10.0		dB	11f
	9878.	to	10198.	MHz	5.0	7.4		dB	12f
	10702.	to	11047.	MHz	5.0	7.9		dB	13f
	11526.	to	11896.	MHz	5.0	12.0		dB	14f
	12350.	to	12745.	MHz	5.0	12.0		dB	15f

* Typical value at 25±2deg.C

Electrical Characteristic

ANT. → RX					Characteristics (-20~+85deg.C)			Unit	Note
					min.	typ.*	max.		
Center Frequency						881.5		MHz	
Insertion Loss	869.	to	894.	MHz		1.6	2.1	dB	
	871.5	to	891.5	MHz		1.6	1.9	dB_{INT}	Any 4.5MHz
Ripple Deviation	869.	to	894.	MHz		0.3	1.0	dB	
	869.	to	894.	MHz		0.2	0.8	dB	Any 3.84MHz
VSWR	869.	to	894.	MHz		1.5	2.0		RX
	869.	to	894.	MHz		1.4	2.0		ANT.
Absolute Attenuation	10.	to	447.	MHz	50	63		dB	
			45.	MHz	50	99		dB	RX - TX
	447.	to	824.	MHz	45	55		dB	
	779.	to	804.	MHz	45	56		dB	2TX - RX
	824.	to	849.	MHz	45	63		dB	TX
	849.	to	854.	MHz	30	58		dB	(RX + TX) / 2
	909.	to	979.	MHz	10	18		dB	
	1693.	to	1743.	MHz	50	73		dB	RX + TX
	1710.	to	1785.	MHz	50	72		dB	B3 TX
	1788.	to	1788.	MHz	50	76		dB	2f
	1850.	to	1920.	MHz	50	68		dB	B2 TX
	1920.	to	1980.	MHz	50	66		dB	B1 TX
	1980.	to	2400.	MHz	50	60		dB	
	2305.	to	2315.	MHz	50	61		dB	B30 TX
	2400.	to	2500.	MHz	50	59		dB	ISM2.4
	2467.	to	2494.	MHz	50	59		dB	WLAN Co-ex
	2517.	to	2592.	MHz	50	58		dB	RX + 2TX
	2607.	to	2682.	MHz	50	57		dB	3f
	3476.	to	3576.	MHz	40	50		dB	4f
	4345.	to	4470.	MHz	33	41		dB	5f
	4900.	to	5950.	MHz	20	29		dB	ISM 5G
	5214.	to	5364.	MHz	22	30		dB	6f
	6083.	to	6258.	MHz	20	30		dB	7f
	6952.	to	7152.	MHz	20	30		dB	8f
	7821.	to	8046.	MHz	20	31		dB	9f
	8690.	to	8940.	MHz	25	34		dB	10f
	9559.	to	9834.	MHz	25	34		dB	11f
	10428.	to	10728.	MHz	25	31		dB	12f
	11297.	to	11622.	MHz	20	28		dB	13f
	12166.	to	12516.	MHz	20	38		dB	14f

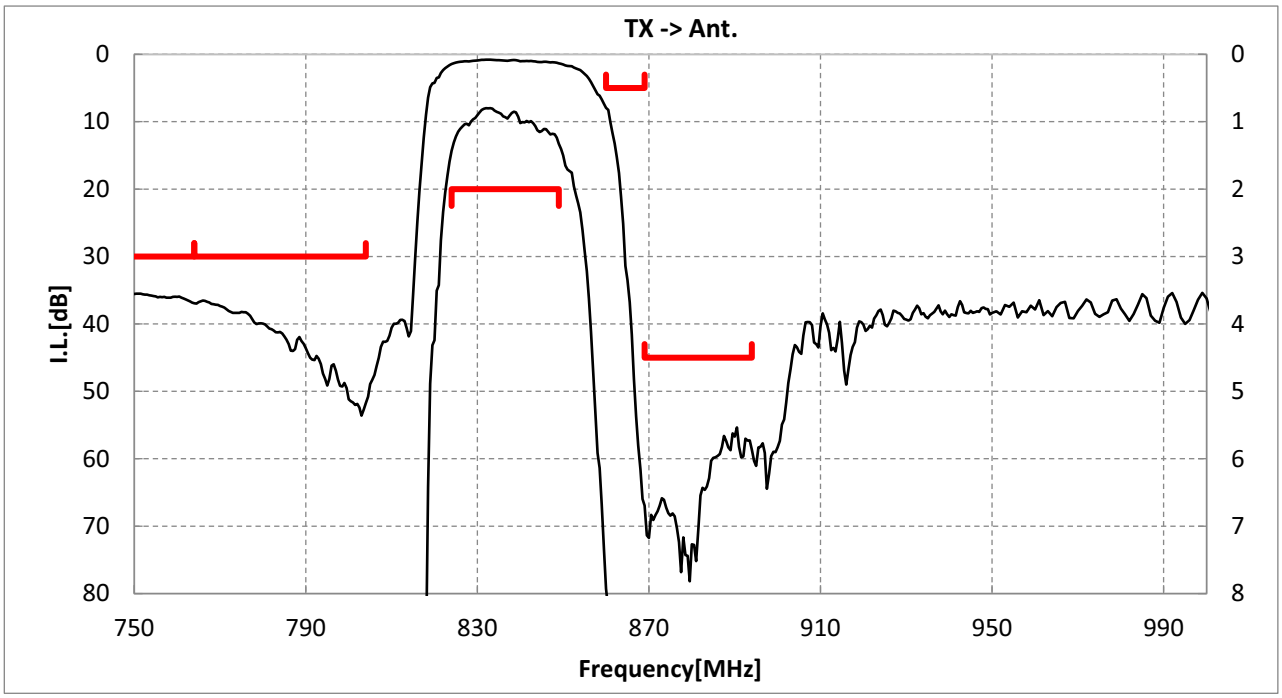
* Typical value at 25±2deg.C

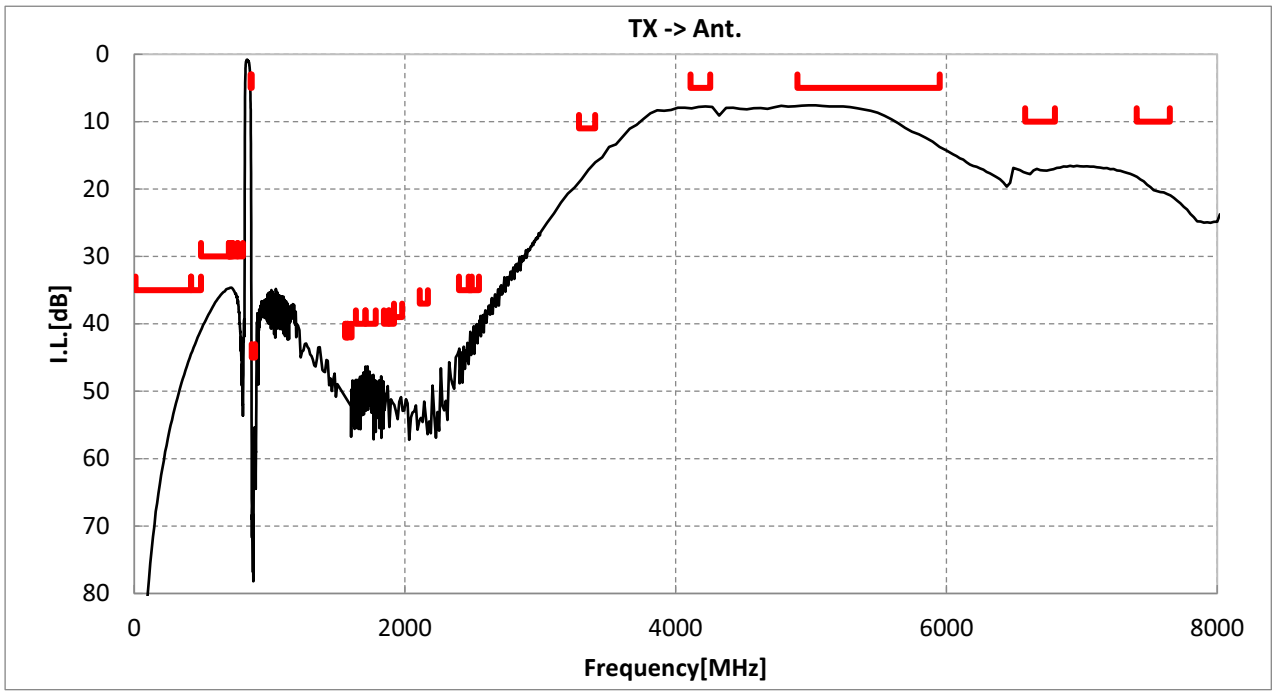
Electrical Characteristic

TX → RX					Characteristics (-20~+85deg.C)			Unit	Note
					min.	typ.*	max.		
Isolation	824.	to	849.	MHz	55	64		dB	TX
	826.5	to	846.5	MHz	55	66		dB_{INT}	Any 4.5MHz, TX
	869.	to	894.	MHz	50	52		dB	RX
	871.5	to	891.5	MHz	52	53		dB_{INT}	Any 4.5MHz, RX
	1574.	to	1577.	MHz	50	59		dB	GPS
	1683.	to	1708.	MHz	50	58		dB	2f
	2462.	to	2557.	MHz	45	54		dB	3f

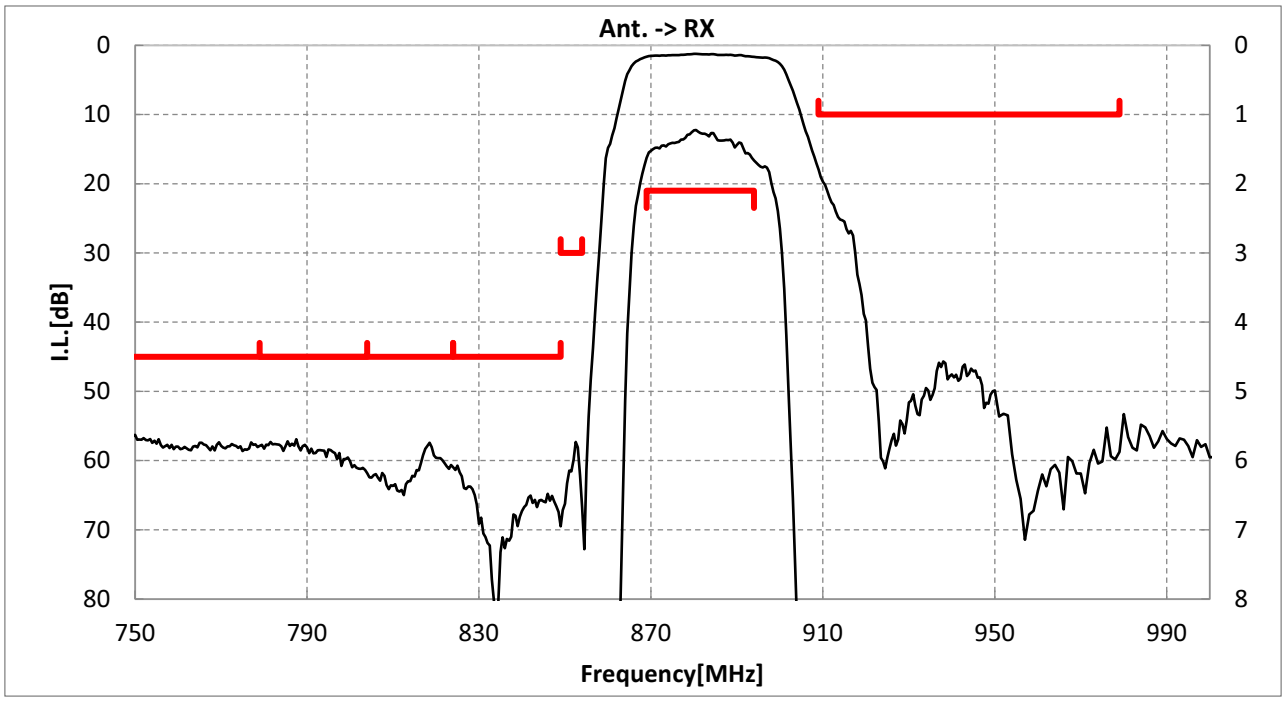
* Typical value at 25±2deg.C

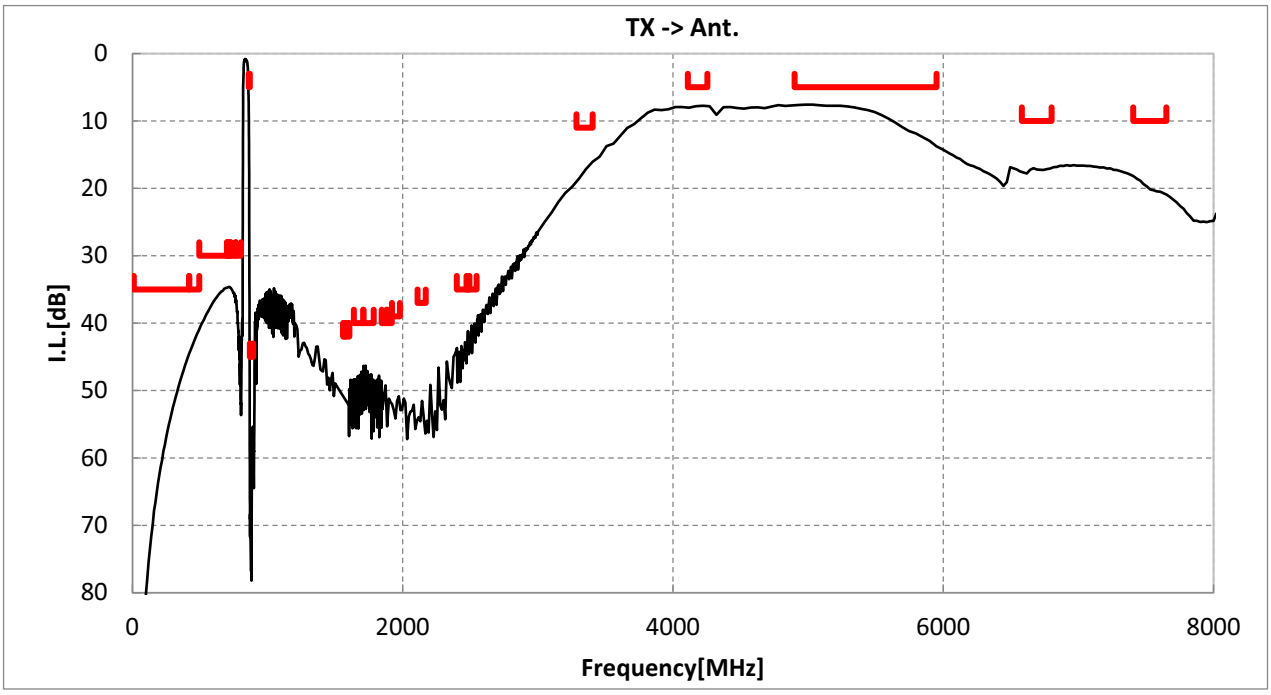
Electrical Characteristic



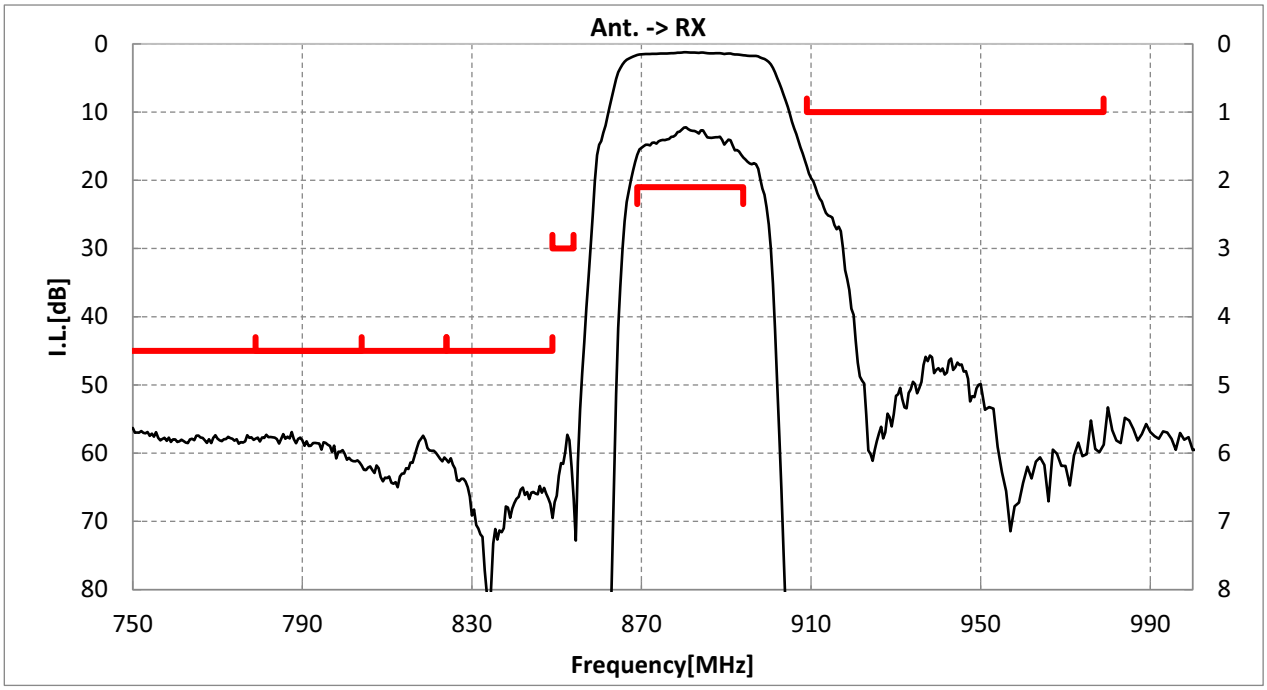


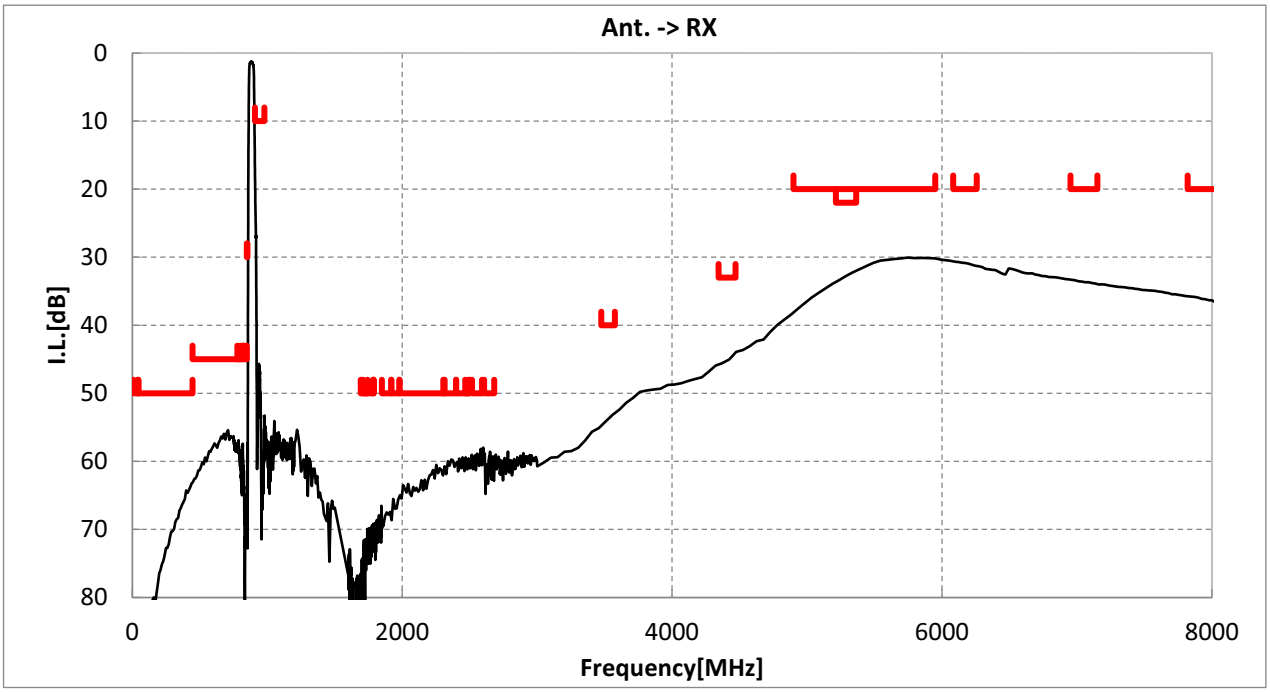
Electrical Characteristic





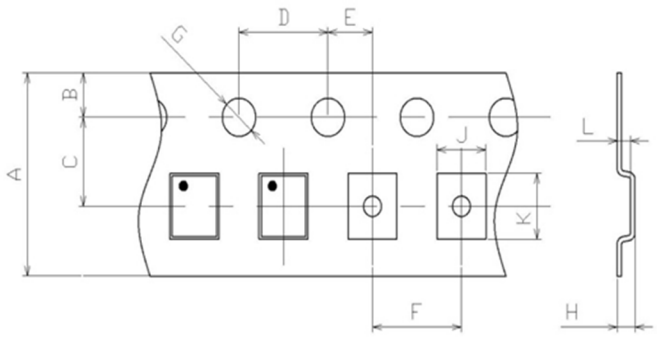
Electrical Characteristic





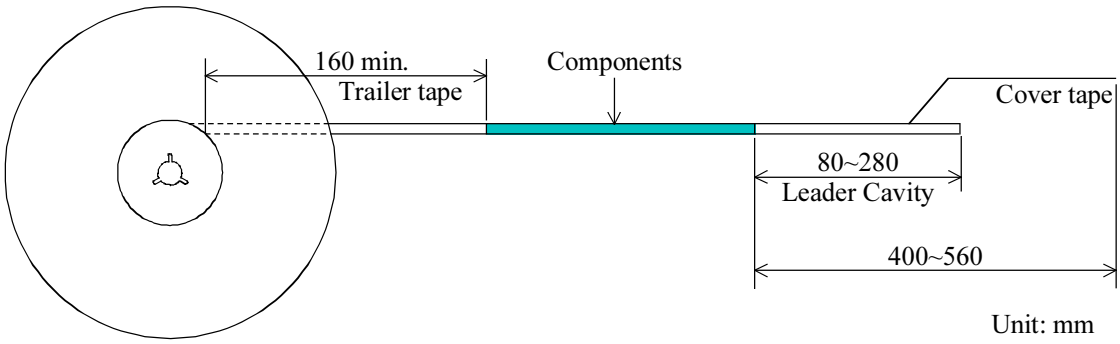
Dimensions of Tape & Reel unit: mm

Carrier Tape

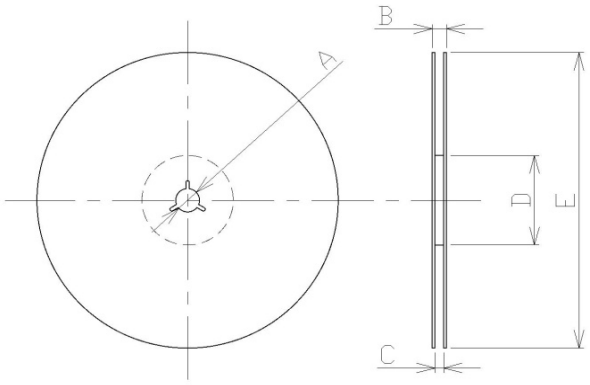


A: 8.0
B: 1.75
C: 3.50
D: 4.0
E: 2.00
F: 4.0
G: φ1.5
H: 1.00
J: 1.7
K: 2.1
L: 0.70

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

SAYEY836MBE0F0AR00… 10000pcs (φ330)
SAYEY836MBE0F0AR1S… Sample Order (φ178/330)

Important Notice (1/2)

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(b) Aerospace equipment
(c) Undersea equipment.
(d) Power plant control equipment
(e) Medical equipment.
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(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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- PPAP
- IATF16949,VDA6.3
- Zero Defect program
- Long product life cycle
- Automotive 8D failure analysis and report

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Please do not use the Product in molding condition.

The 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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