INNOVATOR IN ELECTRONICS

Datasheet of SAW Device

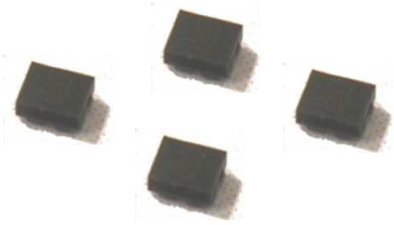
SAW Duplexer

for Band5 / Unbalanced / LR /1814

Murata PN: SAYEY836MBA0F0A

■ Feature

- LTE-A
- 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
K

General Information

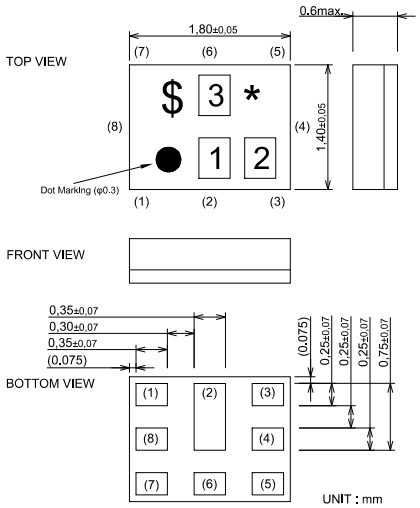
- Operating temperature	: -20 to +85 deg.C
- Storage temperature	: -40 to +85 deg.C
- Input Power	: +30.0 dBm 5000 h +55 deg.C
- D.C. Volatage between the terminals	: 3V (25+/-2 deg.C)
- Minimum Resistance between the terminals	: 10M ohm
- RoHS compliance	: Yes
- ESD (ElectroStatic Discharge) sensitive device	

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

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

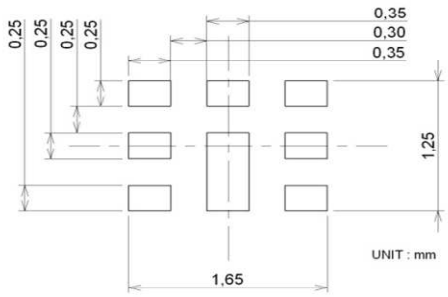


Marking : Laser Printing
* : Month code
$: Date code
1 : 5
2 : V
3 : A

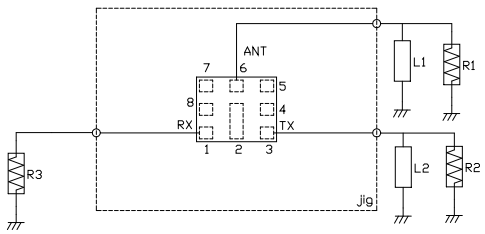
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :7.2nH(Ideal inductor)
	:8.2nH(LQP03TN8N2) <Reference>
R2 : 50 ohm	L2 :25nH(Ideal inductor)
R3 : 50 ohm	

SAYEY836MBA0F0A (Band5 / Unbalanced / LR / 1814)

Electrical Characteristic < TX → ANT. >

TX → ANT.			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.*	max.		
Center Frequency				836.5		MHz	
Insertion Loss	824. to 849.	MHz		1.6	1.9	dB	
	826.5 to 846.5	MHz		1.3	1.7	dB_{INT}	Any 4.5MHz
Ripple Deviation	824. to 849.	MHz		0.8	1.3	dB	
	824. to 849.	MHz		0.5	1.2	dB_{INT}	Any 3.84MHz
VSWR	824. to 849.	MHz		1.3	2.0		TX
	824. to 849.	MHz		1.4	2.0		ANT.
Absolute Attenuation	10. to 420.	MHz	30	42		dB	
	420. to 494.	MHz	34	39		dB	450MHz Rejection
	494. to 701.	MHz	30	34		dB	
	699. to 716.	MHz	30	35		dB	B12 TX
	701. to 728.	MHz	30	35		dB	
	704. to 716.	MHz	30	35		dB	B17 TX
	728. to 764.	MHz	30	35		dB	700MHz Rejection
	764. to 804.	MHz	30	40		dB	
	860. to 869.	MHz	5.0	10.0		dB	
	869. to 894.	MHz	44	56		dB	RX
	1559. to 1563.	MHz	32	36		dB	COMPASS
	1565.42 to 1573.37	MHz	32	36		dB	Lower GPS
	1573.37 to 1577.47	MHz	32	36		dB	Regular GPS
	1577.47 to 1585.42	MHz	32	36		dB	Upper GPS
	1597.55 to 1605.89	MHz	32	36		dB	GLONASS
	1638. to 1708.	MHz	30	35		dB	2f
	1710. to 1785.	MHz	30	35		dB	B4 TX
	1844.9 to 1879.9	MHz	30	34		dB	B3 TX
	1884.5 to 1919.6	MHz	30	34		dB	
	1920. to 1980.	MHz	30	34		dB	B1 TX
	2110. to 2170.	MHz	30	34		dB	B1 RX
	2400. to 2494.	MHz	30	35		dB	ISM2.4, 3f
	3286. to 3406.	MHz	5.0	12.0		dB	4f
	4110. to 4255.	MHz	5.0	10.0		dB	5f
	4900. to 5950.	MHz	3.0	10.0		dB	ISM 5G, 6f, 7f
	6582. to 6802.	MHz	7.0	13.0		dB	8f
	7406. to 7651.	MHz	10	16		dB	9f
	8230. to 8500.	MHz	12	23		dB	10f
	9054. to 9349.	MHz	4.0	10.0		dB	11f
	9878. to 10198.	MHz	2.0	7.0		dB	12f
	10702. to 11047.	MHz	3.0	8.0		dB	13f
	11526. to 11896.	MHz	5.0	11.0		dB	14f
	12350. to 12745.	MHz	3.0	9.0		dB	15f

* Typical value at 25±2deg.C

Electrical Characteristic < ANT. → RX >

ANT. → RX					Characteristics (-20 to +85 deg.C)			Unit	Note
					min.	typ.*	max.		
Center Frequency						881.5		MHz	
Insertion Loss	869.	to	894.	MHz		1.7	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		1.4	2.0		RX
	869.	to	894.	MHz		1.5	2.0		ANT.
Absolute Attenuation	10.	to	447.	MHz	45	60		dB	
			45.	MHz	50	100		dB	RX - TX
	447.	to	824.	MHz	40	51		dB	
	779.	to	804.	MHz	40	53		dB	2TX - RX
	824.	to	849.	MHz	45	58		dB	TX
	849.	to	854.	MHz	30	56		dB	(RX + TX) / 2
	909.	to	979.	MHz	12	19		dB	
	1693.	to	1743.	MHz	40	63		dB	RX + TX
	1710.	to	1785.	MHz	50	62		dB	B3 TX
	1788.	to	1788.	MHz	40	63		dB	2f
	1850.	to	1920.	MHz	40	66		dB	B2 TX
	1920.	to	1980.	MHz	40	69		dB	B1 TX
	1980.	to	2400.	MHz	35	70		dB	
	2305.	to	2315.	MHz	40	73		dB	B30 TX
	2400.	to	2500.	MHz	40	67		dB	ISM2.4
	2467.	to	2494.	MHz	44	68		dB	WLAN Co-ex
	2517.	to	2592.	MHz	40	64		dB	RX + 2TX
	2607.	to	2682.	MHz	40	63		dB	3f
	3476.	to	3576.	MHz	35	60		dB	4f
	4345.	to	4470.	MHz	35	59		dB	5f
	4900.	to	5950.	MHz	37	47		dB	ISM 5G
	5214.	to	5364.	MHz	30	48		dB	6f
	6083.	to	6258.	MHz	20	54		dB	7f
	6952.	to	7152.	MHz	15	48		dB	8f
	7821.	to	8046.	MHz	15	40		dB	9f
	8690.	to	8940.	MHz	15	34		dB	10f
	9559.	to	9834.	MHz	15	29		dB	11f
	10428.	to	10728.	MHz	15	24		dB	12f
	11297.	to	11622.	MHz	15	21		dB	13f
	12166.	to	12516.	MHz	15	23		dB	14f

* Typical value at 25±2deg.C

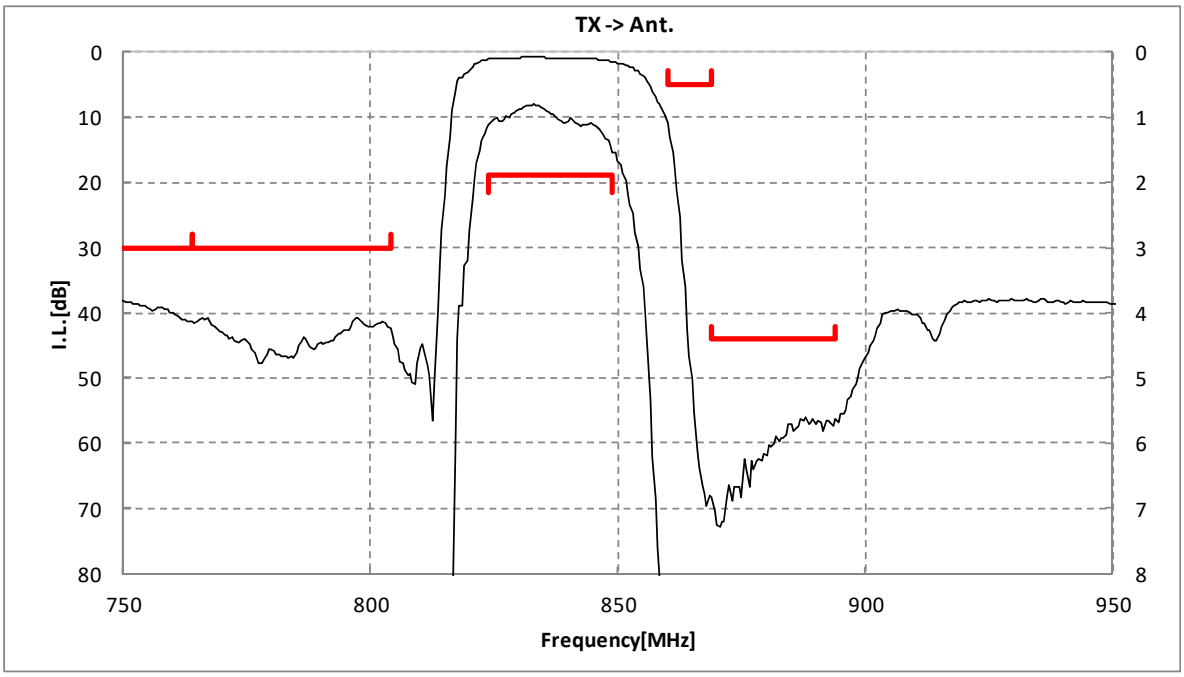
Electrical Characteristic < TX → RX >

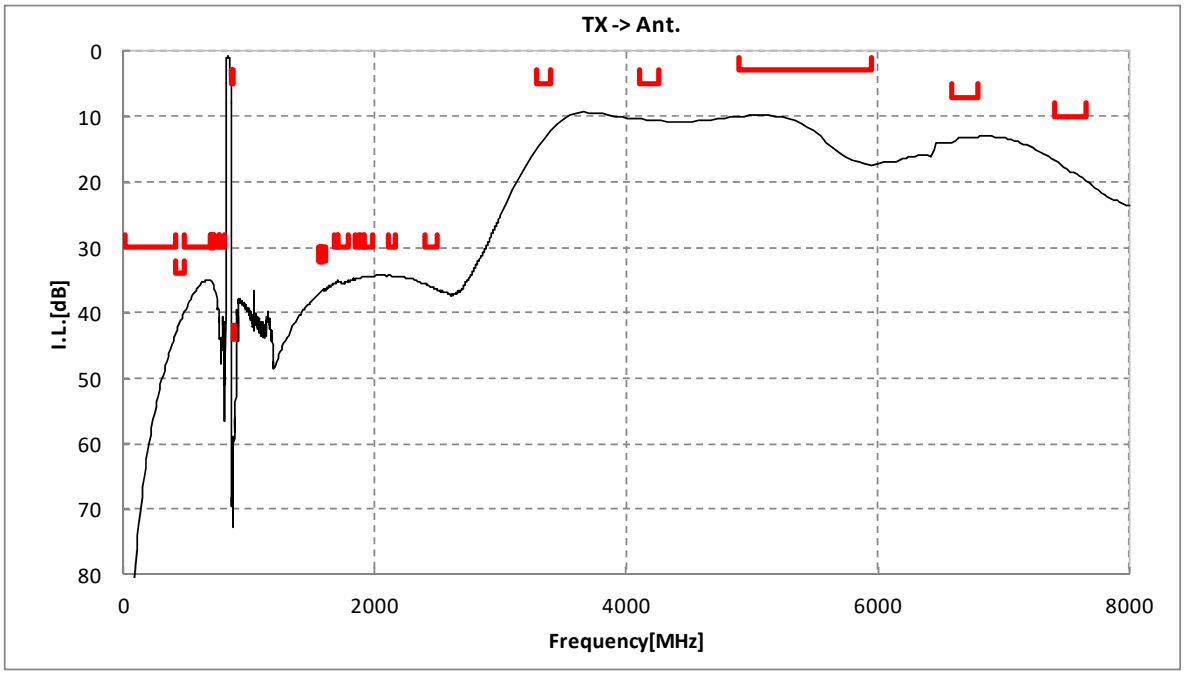
TX → RX		Characteristics (-20 to +85 deg.C)			Unit	Note
		min.	typ.*	max.		
Isolation						
	824. to 849. MHz	54	57		dB	TX
	826.5 to 846.5 MHz	54	57		dB_{INT}	Any 4.5MHz, TX
	869. to 894. MHz	52	55		dB	RX
	871.5 to 891.5 MHz	52	56		dB_{INT}	Any 4.5MHz, RX
	1574. to 1577. MHz	40	61		dB	GPS
	1683. to 1708. MHz	20	60		dB	2f
	2462. to 2557. MHz	20	56		dB	3f

* Typical value at 25±2deg.C

Electrical Characteristic

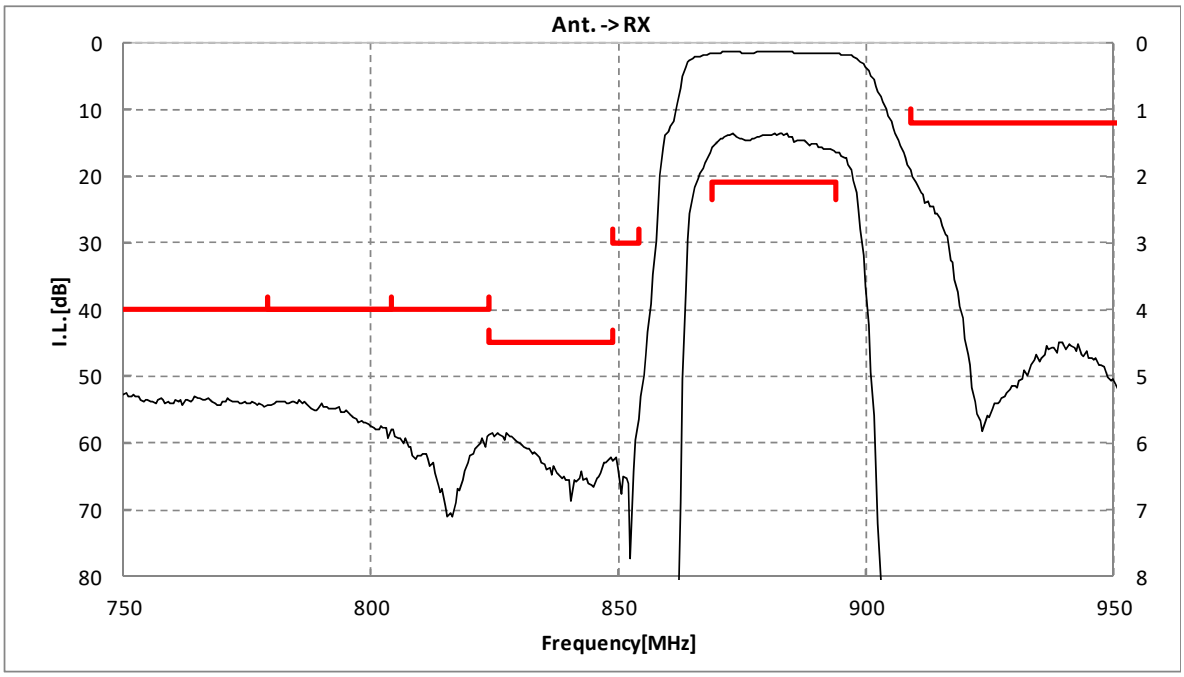
< TX → ANT. >

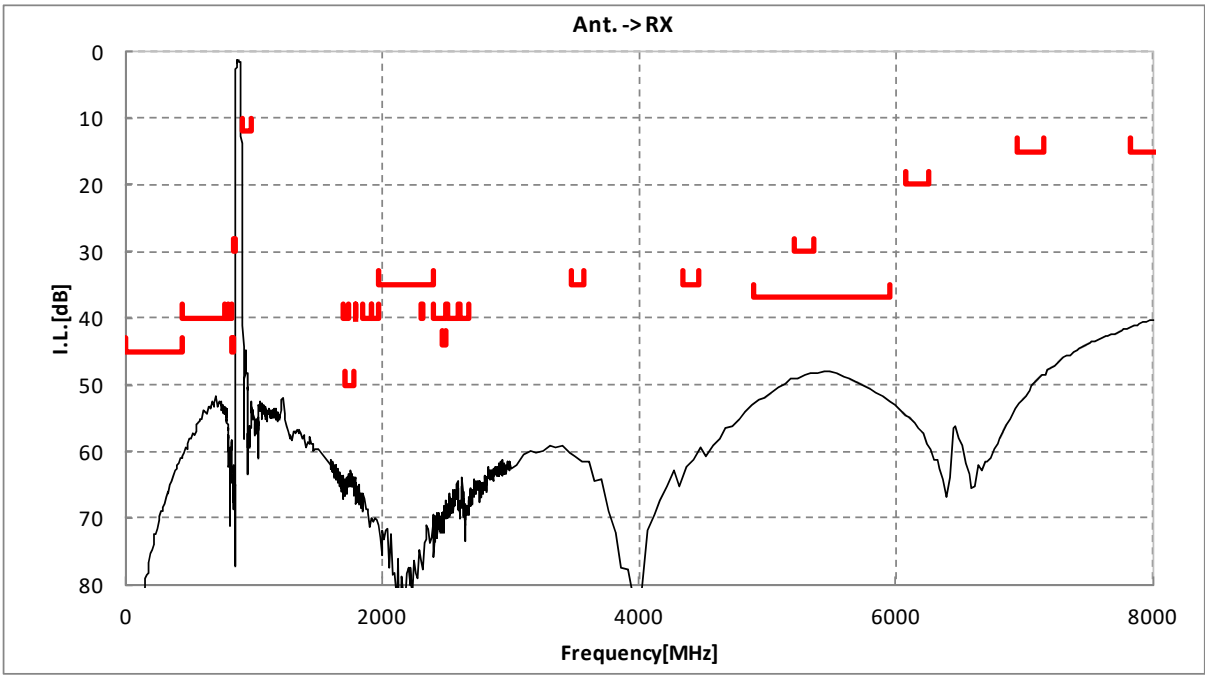




Electrical Characteristic

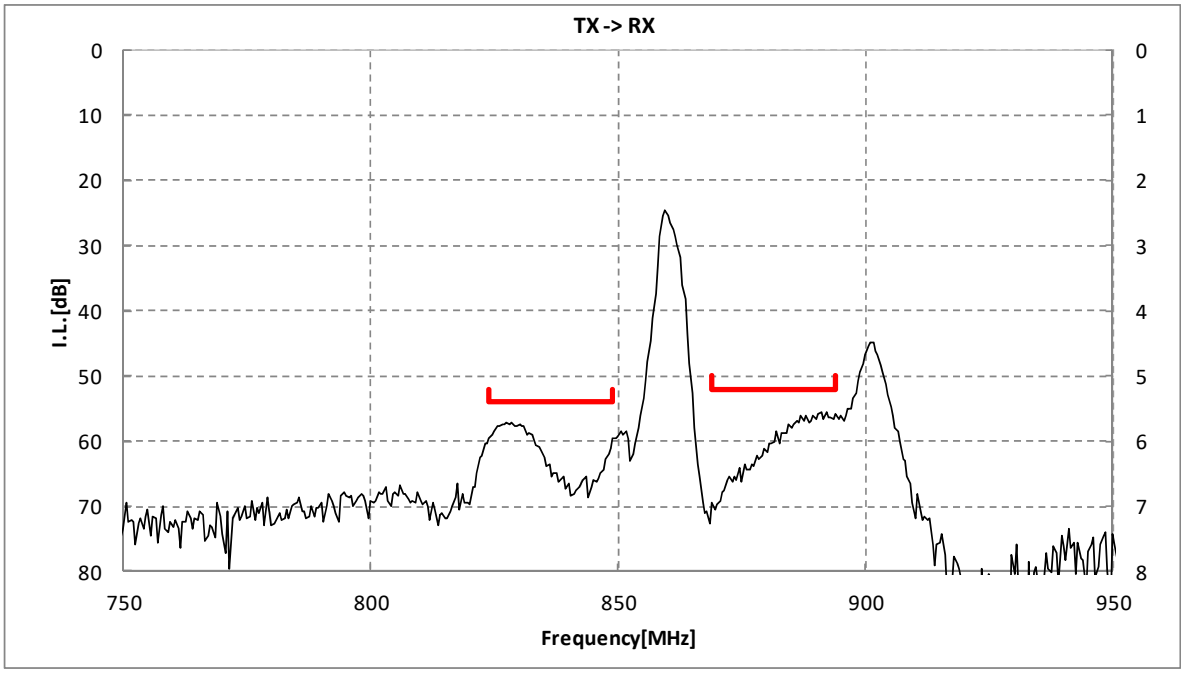
< ANT. → RX >

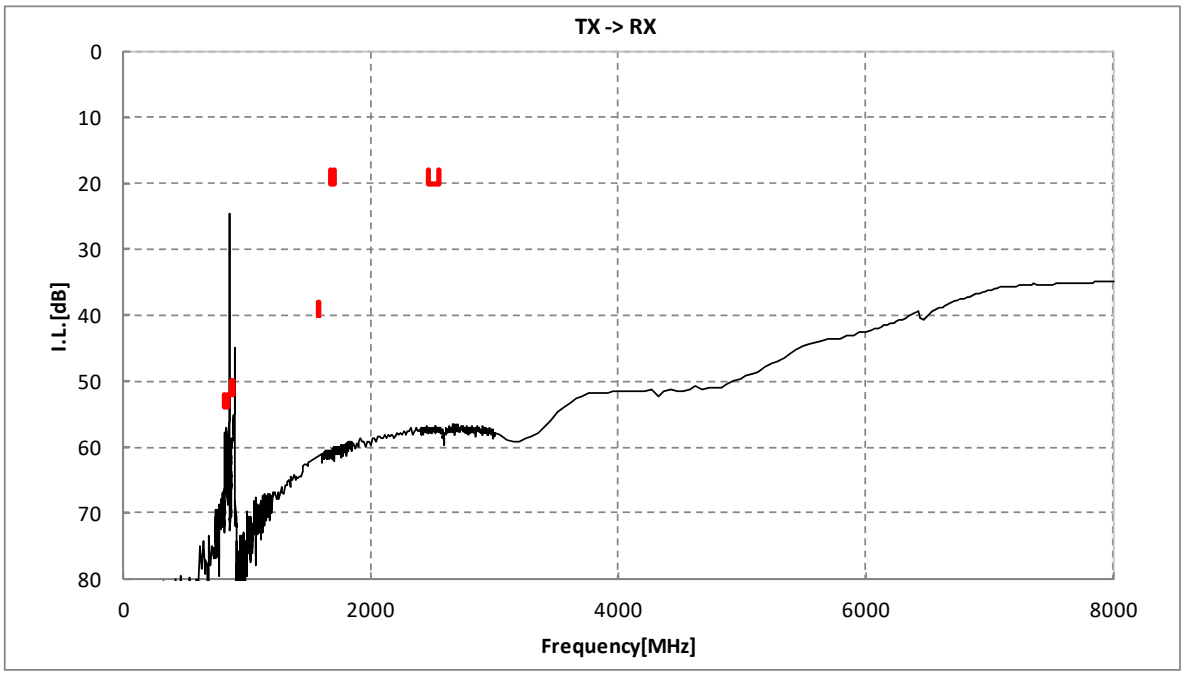




Electrical Characteristic

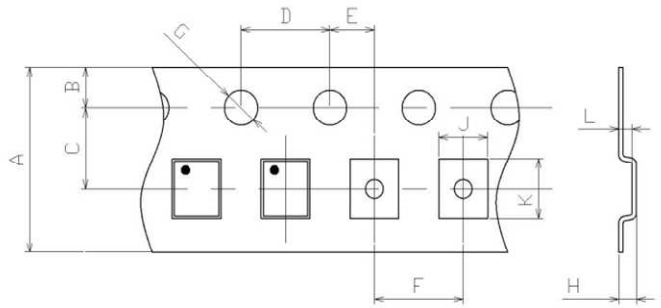
< TX → RX >





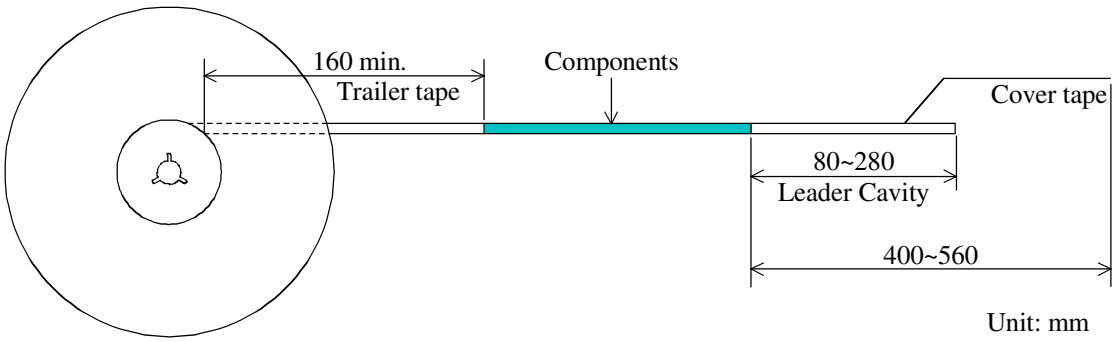
Dimensions of Tape & Reel unit: mm

Carrier Tape

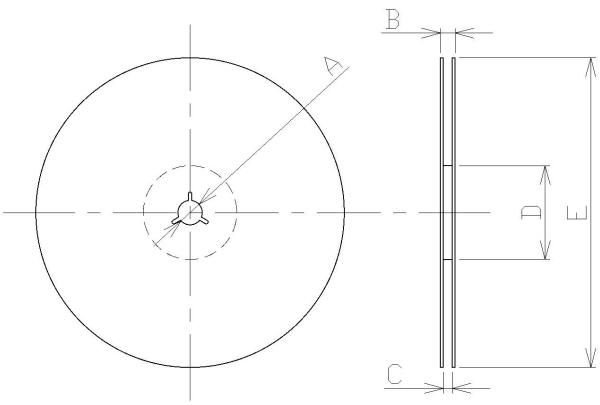


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY836MBA0F0AR00… 10000pcs (φ330)
SAYEY836MBA0F0AR1S… Sample Order (φ178/330)

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 specified in the front page of this product specifications (the "Product" or "Products") 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 Product 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.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

The Product shall not be used for any application which requires especially high reliability or accuracy in order to prevent defect which incurs high possibility of damage to the third party's life, body or property such as the applications listed below as item (a) to (j) (the “Prohibited Application”). You acknowledge and agree that, if you use our Products in the Prohibited Applications, we will not be responsible for any damage caused by such use.

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 THE PROHIBITED APPLICATIONS.

(a) Aircraft equipment.
(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.

For the avoidance of doubt, the Product is not automotive grade, and will not support such requests for automotive as below, also not support other specific requests for automotive.

- 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.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our Products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

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

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.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.
We reject any liability or product warranty for engineering samples.
In particular we disclaim liability for damages caused by

・the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the Product to be sold by you,

・deviation or lapse in function of engineering sample,

・improper use of engineering samples.

We disclaim any liability for consequential and incidental damages.
If you can’t agree the above contents, you should inquire our sales.

单击下面可查看定价，库存，交付和生命周期等信息

>>Murata(村田)