Datasheet of SAW Device

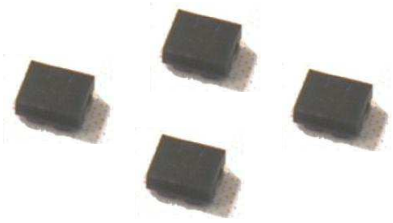
SAW Duplexer

for Band13 / Unbalanced / LR /1814

Murata PN: SAYEY751MBA0F0A

■ Feature

- small size
- better RX Isolation than 2016size



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

SAYEY751MBA0F0A (Band13 / Unbalanced / LR / 1814)

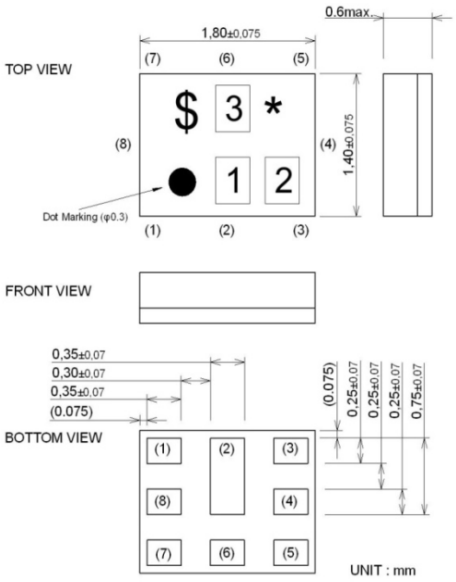
Revision Number	Date	Description
SAYEY751MBA0F0A_rev. A	Dec-04-2013	■ Initial Release
SAYEY751MBA0F0A_rev. B	Feb-28-2014	■ Updated the spec value at I.L.&ISO
SAYEY751MBA0F0A_rev. C	Mar-31-2014	■ Updated correction of errors / for MP
SAYEY751MBA0F0A_rev. D	Nov-10-2015	■ Updated SPEC
SAYEY751MBA0F0A_rev. E	Aug-26-2016	■ Updated General Information

- Operating temperature : -20 to +85 deg.C
- Storage temperature : -40 to +85 deg.C
- Input Power : +29 dBm 5000 h +55 deg.C
- D.C. Volatage between the terminals : 3V (25+/-2 deg.C)
- Minimum Resistance betweem the terminal : 10M ohm
- RoHS compliance : Yes

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

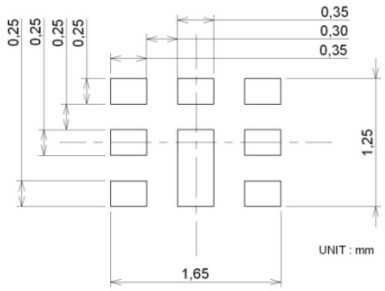


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 5
2 : Z
3 : A

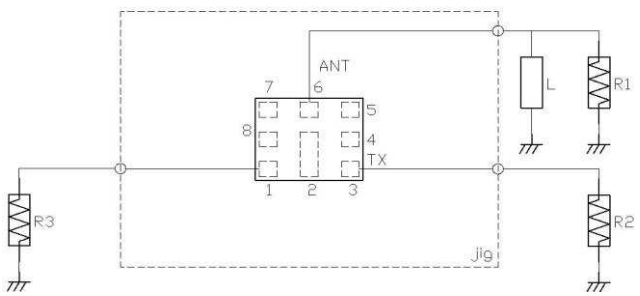
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L :15nH(Ideal inductor)
	:15nH(LQP03TN15N) <Reference>
R2 : 50 ohm	
R3 : 50 ohm	

Electrical Characteristic < TX→ANT. >

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Center Frequency					782		MHz	
Insertion Loss	777. to 787.	MHz			1.7	2.2	dB	
	777. to 787.	MHz			1.7	2.0	dB	+23 to +27deg.C
Ripple Deviation	777. to 787.	MHz			0.6	1.5	dB	
	777. to 787.	MHz			0.6	1.0	dB	+23 to +27deg.C
	777. to 787.	MHz			0.5	1.4	dB	Any 5MHz
	777. to 787.	MHz			0.5	1.0	dB	+23 to +27deg.C Any 5MHz
VSWR	777. to 787.	MHz			1.2	2.0		TX
	777. to 787.	MHz			1.3	2.0		ANT.
	777. to 787.	MHz			1.2	2.0		+23 to +27deg.C TX
	777. to 787.	MHz			1.3	2.0		+23 to +27deg.C ANT
Absolute Attenuation	10. to 716.	MHz		30	41		dB	
	716. to 728.	MHz		40	47		dB	FLO
	728. to 746.	MHz		30	52		dB	
	746. to 756.	MHz		45	58		dB	Attenuation in RX Band
	758. to 767.5	MHz		15	42		dB	
	758. to 767.5	MHz		28	42		dB	+23 to +27deg.C
	767.5 to 768.	MHz		11	40		dB	
	767.5 to 768.	MHz		23	40		dB	+23 to +27deg.C
	768. to 769.	MHz		6.0	27.0		dB	
	769. to 770.	MHz		4.0	17.0		dB	
	770. to 771.	MHz		3.0	10.0		dB	
	771. to 772.	MHz		2.5	5.8		dB	
	793. to 805.	MHz		1.0	1.7		dB	
	869. to 894.	MHz		30	43		dB	
	1554. to 1565.	MHz		45	54		dB	2f
	1565. to 1585.	MHz		45	55		dB	GPS
	1597. to 1607.	MHz		45	55		dB	GLONASS
	1710. to 1755.	MHz		30	57		dB	B4 TX CA
	1805. to 1880.	MHz		30	56		dB	DCS 1800
	1850. to 1910.	MHz		30	55		dB	B2 TX CA
	1930. to 1990.	MHz		30	53		dB	PCS
	2110. to 2170.	MHz		30	50		dB	IMT
	2331. to 2361.	MHz		35	48		dB	3f
	2400. to 2484.	MHz		35	47		dB	ISM
	3108. to 3148.	MHz		15	42		dB	4f
	4900. to 5950.	MHz		20	25		dB	5G WLAN

* 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				751		MHz	
Insertion Loss	746. to 756.	MHz		1.7	2.4	dB	
	746. to 756.	MHz		1.7	2.0	dB	+23 to +27deg.C
Ripple Deviation	746. to 756.	MHz		0.5	1.4	dB	
	746. to 756.	MHz		0.5	1.0	dB	+23 to +27deg.C
	746. to 756.	MHz		0.5	1.4	dB	Any 5MHz
	746. to 756.	MHz		0.5	1.0	dB	+23 to +27deg.C, Any 5MHz
VSWR	746. to 756.	MHz		1.6	2.2		ANT.
	746. to 756.	MHz		1.7	2.4		RX
	746. to 756.	MHz		1.6	2.0		+23 to +27deg.C ANT
	746. to 756.	MHz		1.7	2.1		+23 to +27deg.C RX
Absolute Attenuation	1. to 686.	MHz	40	67		dB	RX - TX
	31.	MHz	50	105		dB	
	686. to 728.	MHz	30	40		dB	
	771. to 772.	MHz	14	26		dB	
	777. to 787.	MHz	50	63		dB	TX
	787. to 6048.	MHz	35	41		dB	
	1710. to 1755.	MHz	40	58		dB	B4 TX CA
	1850. to 1910.	MHz	40	56		dB	B2 TX CA
	2238. to 2268.	MHz	40	54		dB	3f
	2400. to 2500.	MHz	40	54		dB	ISM2.4
	4900. to 5950.	MHz	35	41		dB	ISM 5G
	6714. to 6804.	MHz	30	40		dB	9f
	7460. to 7560.	MHz	25	40		dB	10f
	8206. to 8316.	MHz	20	38		dB	11f
	8952. to 9072.	MHz	20	41		dB	12f
	9698. to 9828.	MHz	15	43		dB	13f
	10444. to 10584.	MHz	15	45		dB	14f
	11190. to 11340.	MHz	15	47		dB	15f
	11936. to 12096.	MHz	15	42		dB	16f
	12682. to 12750.	MHz	15	35		dB	17f

* Typical value at 25±2deg.C

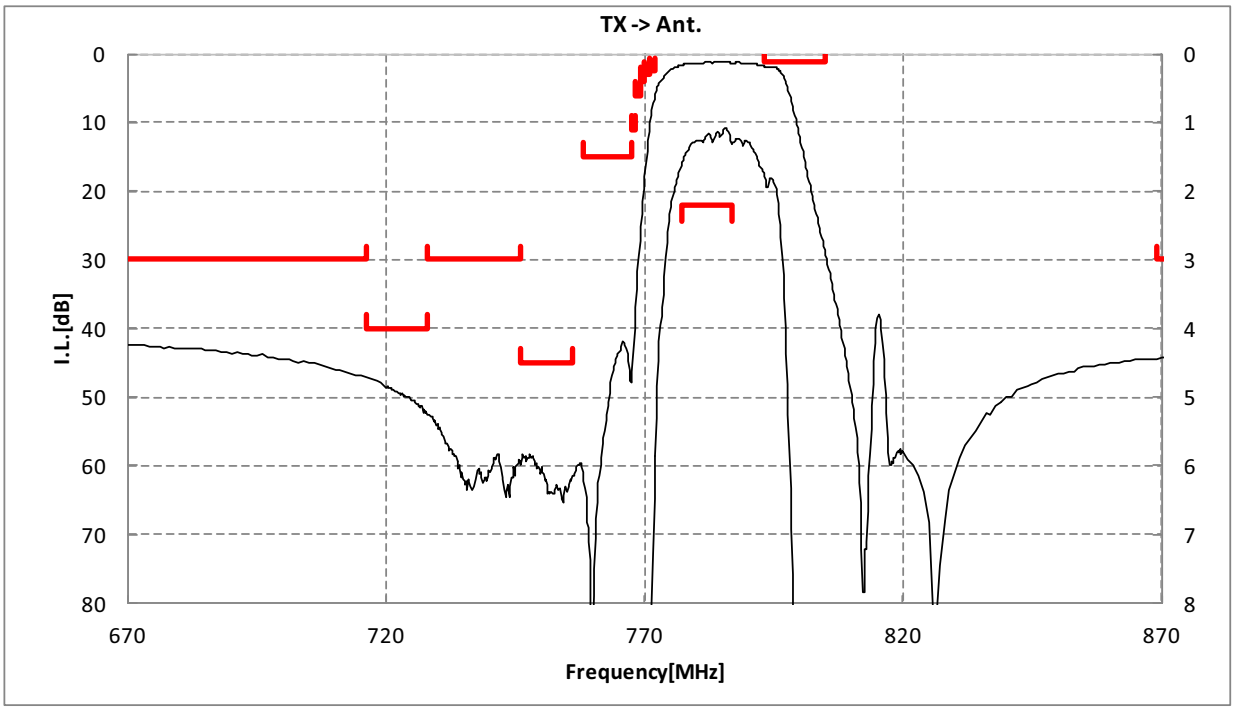
Electrical Characteristic < TX→RX. >

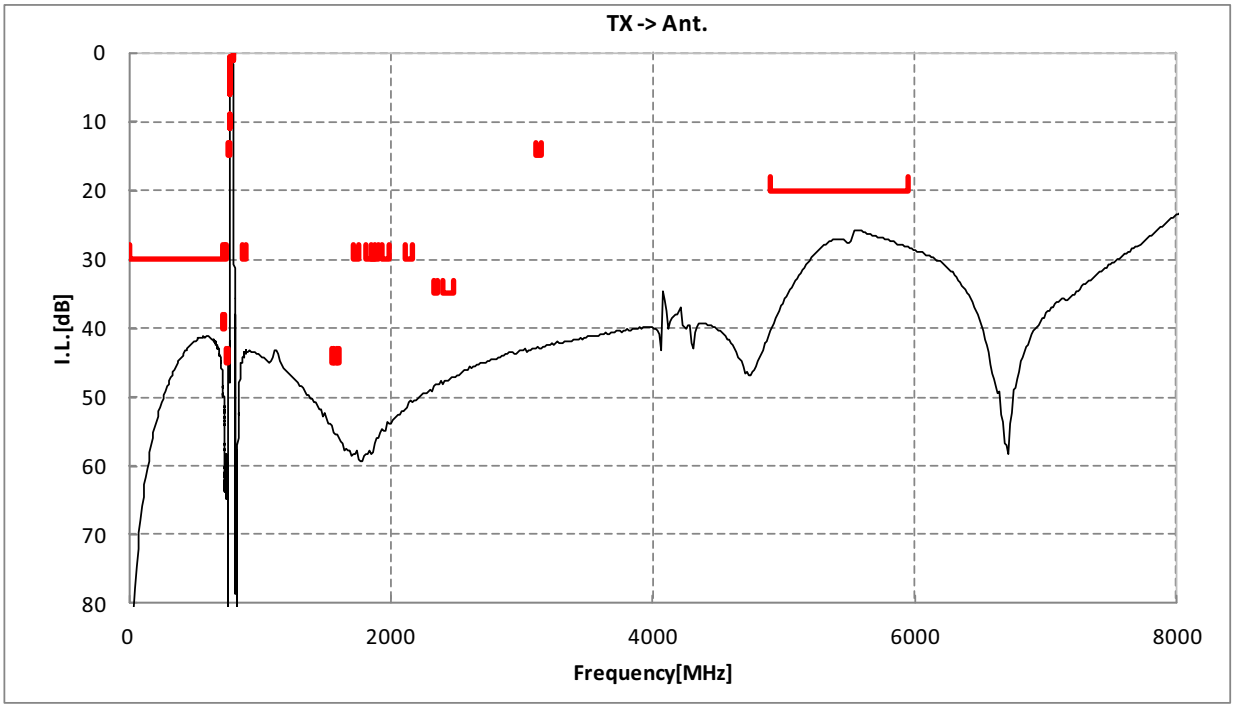
TX → RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Isolation							MHz	
Isolation	777.	to	787. MHz	59	63		dB	
	746.	to	749. MHz	55	65		dB	
	749.	to	752. MHz	55	67		dB	
	752.	to	756. MHz	55	62		dB	
	1552.	to	1574. MHz	30	58		dB	2TX
	2328.	to	2361. MHz	30	53		dB	3TX
	3104.	to	3148. MHz	30	50		dB	4TX

* Typical value at 25±2deg.C

Electrical Characteristic

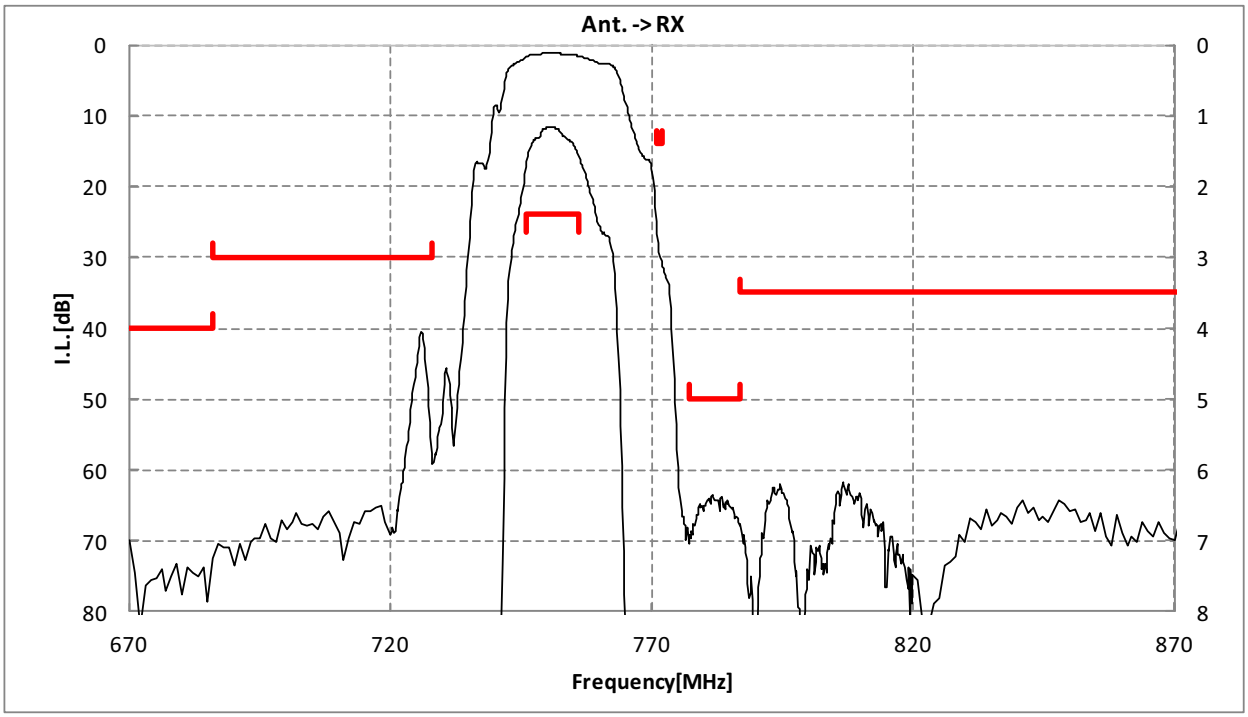
< TX→ANT. >

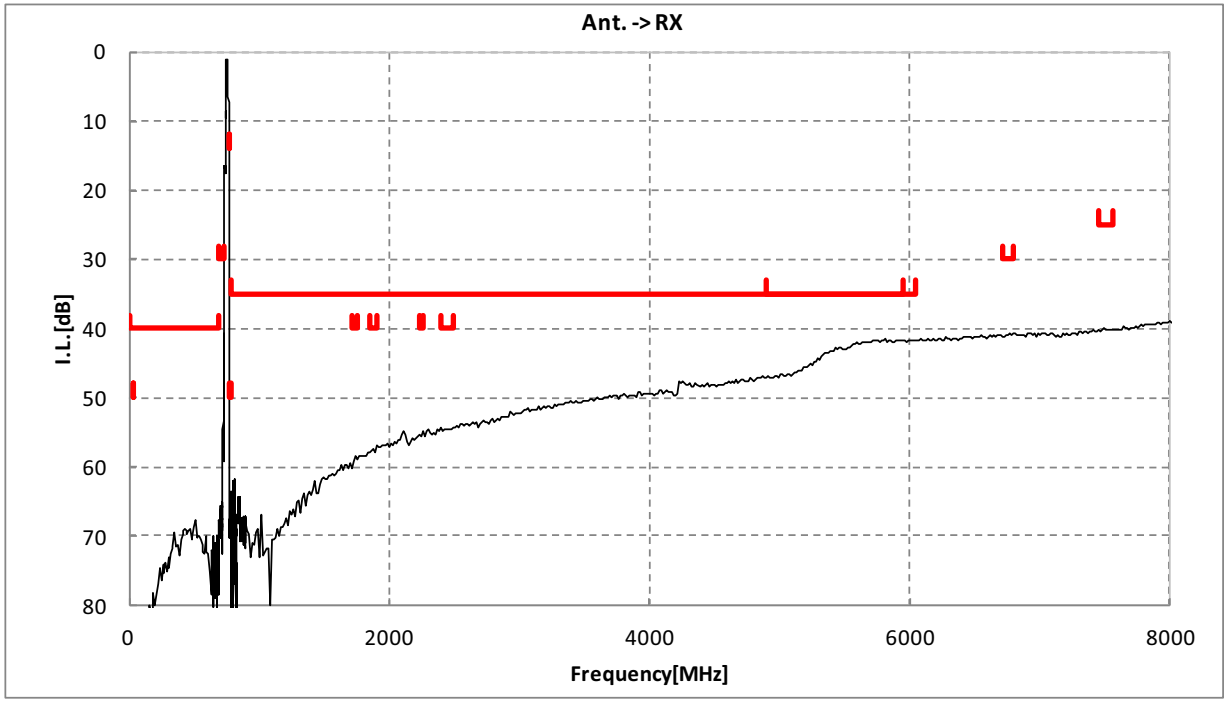




Electrical Characteristic

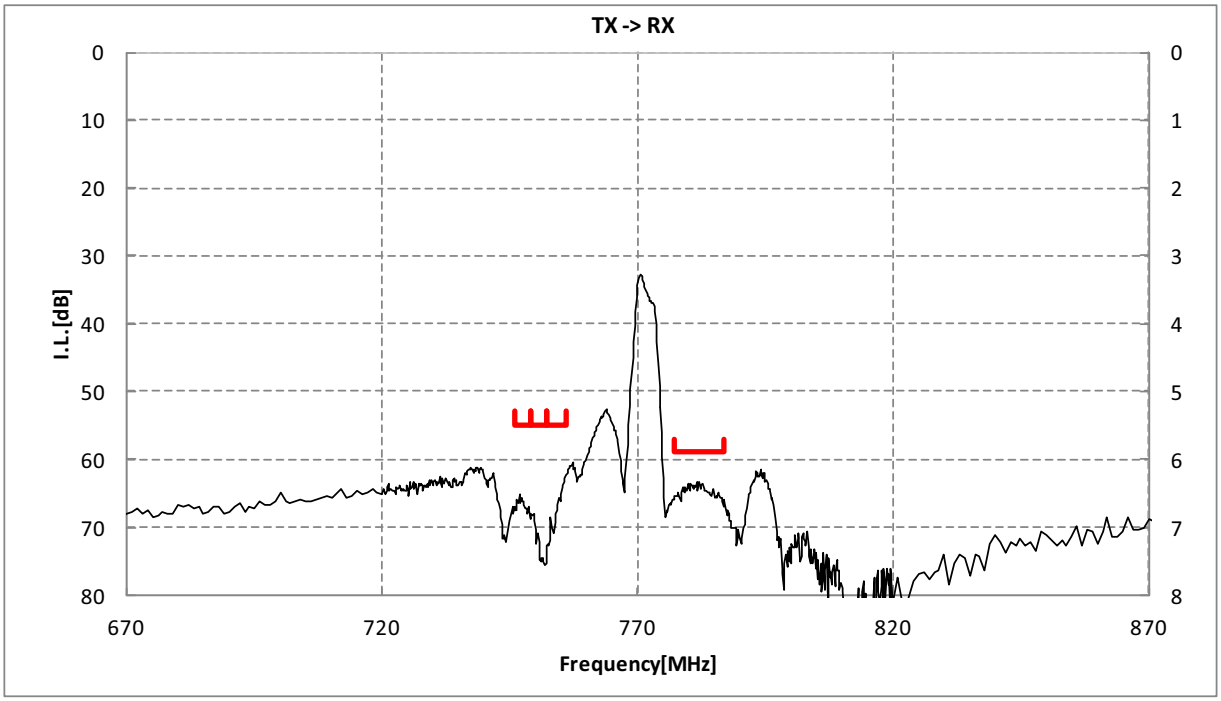
< ANT.→RX >

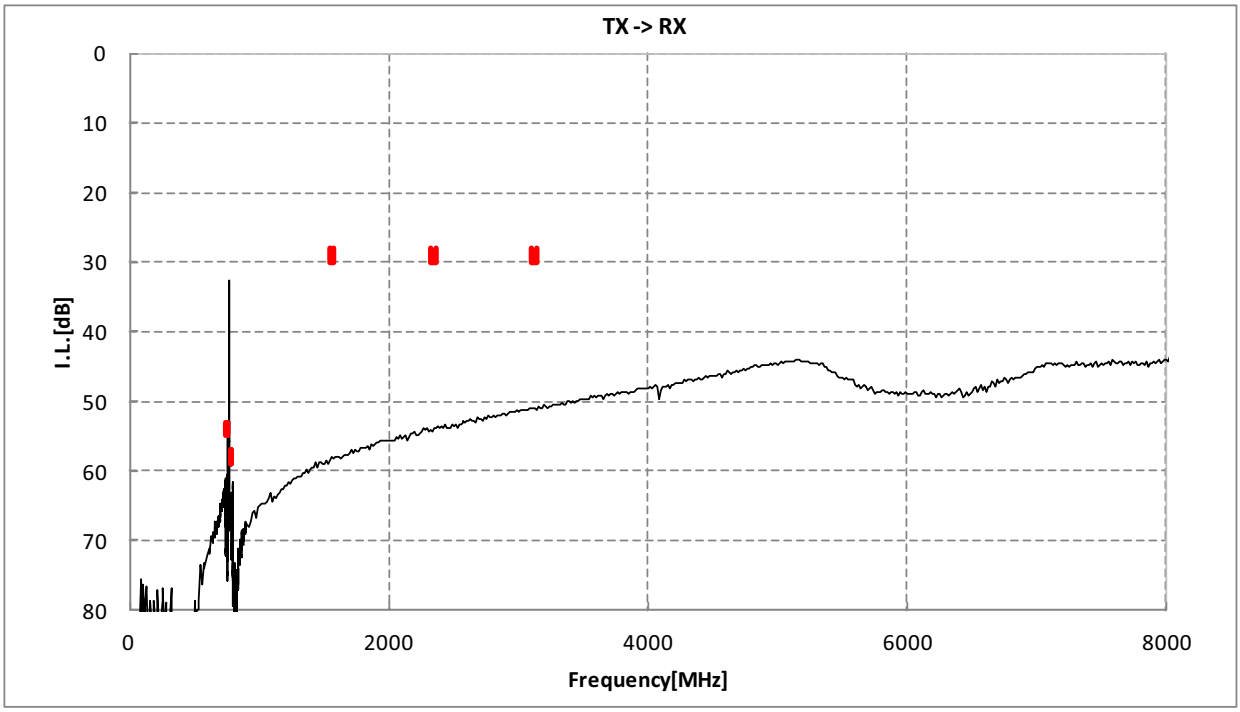




Electrical Characteristic

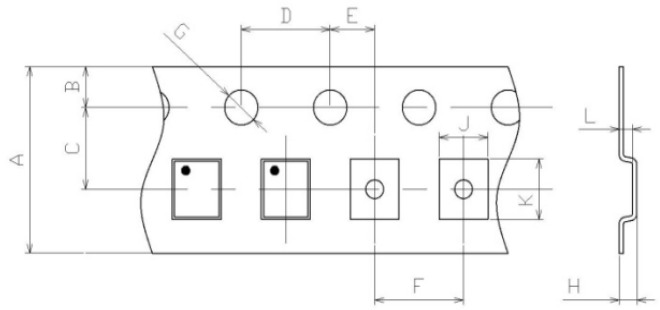
< TX→RX. >





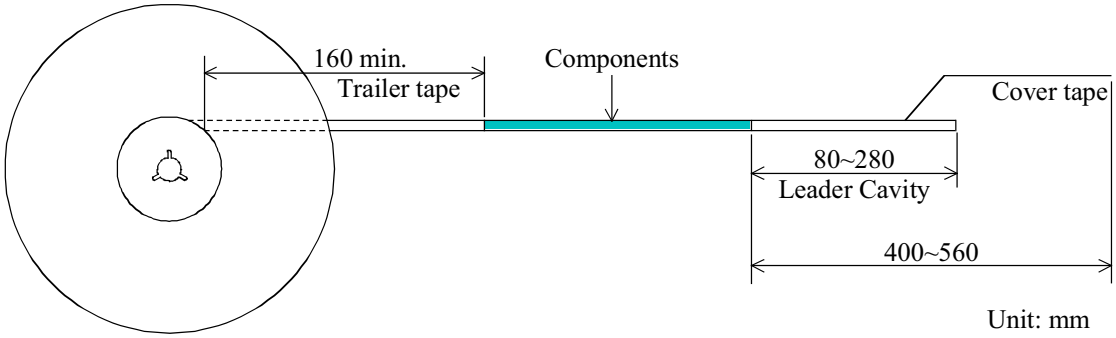
Dimensions of Tape & Reel unit: mm

Carrier Tape

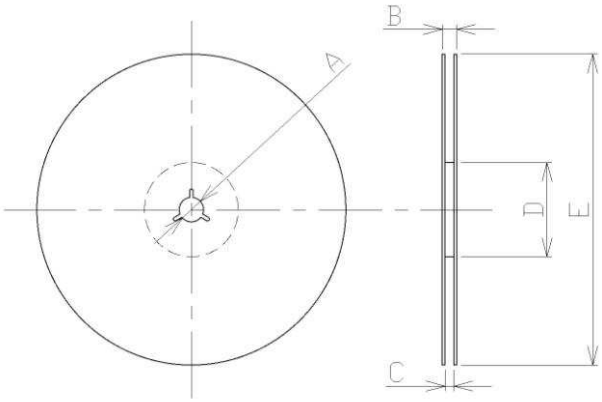


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY751MBA0F0AR00… 10000pcs (φ330)
SAYEY751MBA0F0AR1S… 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.

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 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.

Important Notice (2/2)

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.

- 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.

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.