Datasheet of SAW Device

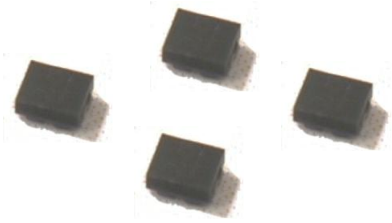
SAW Duplexer

for Band12 / Unbalanced / LR /1814

Murata PN: SAYEY707MBA0F0A

■ Feature

- Low I.L.
- Deep TX/RX Isolation
- Good 3f Linearity



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

SAYEY707MBA0F0A (Band12 / Unbalanced / LR / 1814)

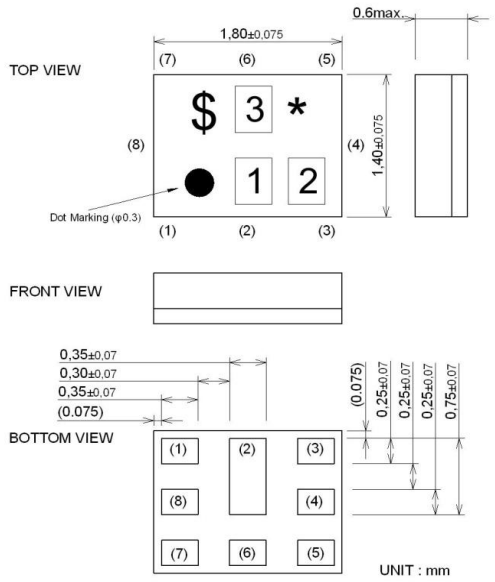
Revision No.	Date	Description
SAYEY707MBA0F0A_rev. A	Mar-05-2014	■ Initial Release
SAYEY707MBA0F0A_rev. B	Mar-31-2014	■ Updated by new version
SAYEY707MBA0F0A_rev. C	Jul-04-2014	■ Updated for final version

- 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 terminals : 10M ohm
- RoHS compliance : Yes

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

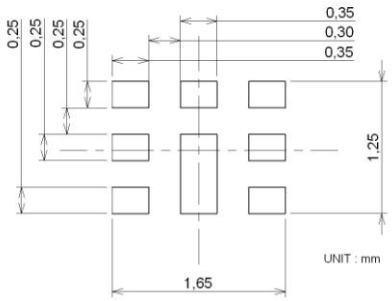


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 6
2 : N
3 : A

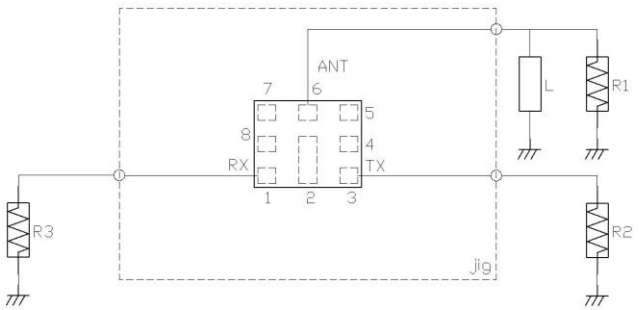
Terminal Number
(6) : ANT.
(3) : TX
(1) : RX
Others : GND.

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

Land Pattern



Measurement Circuit (Top View)



R1 : 50 ohm	L : 12 nH(Ideal inductor) : 12nH(LQP03TN12NH02, Reference)
R2 : 50 ohm	
R3 : 50 ohm	

SAYEY707MBA0F0A (Band12 / Unbalanced / LR / 1814)

Electrical Characteristic < TX→ANT. >

Matching Impedance (nominal)

- : ANT. Port : 50 ohm // 12 nH(Ideal inductor), 12 nH(LQP03TN12NH02, Reference)
- : TX Port : 50 ohm
- : RX Port : 50 ohm

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.		
Center Frequency					707.5		MHz	
Insertion Loss	699.25	to	715.75 MHz		1.9	2.4	dB	
	701.5	to	713.5 MHz		1.5	2.2	dB_{INT}	Any 4.5MHz
Ripple Deviation	699.25	to	715.75 MHz		0.8	2.0	dB	
VSWR	699.25	to	715.75 MHz		1.6	2.0		ANT.
	699.25	to	715.75 MHz		1.7	2.0		TX
Absolute Attenuation	10.	to	685. MHz	30	40		dB	
	722.	to	729. MHz	2	10		dB	Ch56
	729.25	to	745.75 MHz	45	57		dB	RX
	746.	to	768. MHz	30	42		dB	
	768.	to	805. MHz	25	41		dB	
	824.	to	849. MHz	30	41		dB	B5 TX
	869.	to	894. MHz	36	41		dB	
	1398.	to	1432. MHz	30	41		dB	2f
	1559.	to	1563. MHz	32	38		dB	COMPASS
	1565.42	to	1573.37 MHz	32	38		dB	Lower GPS
	1573.37	to	1577.47 MHz	32	38		dB	Regular GPS
	1577.47	to	1585.42 MHz	32	38		dB	Upper GPS
	1597.55	to	1605.89 MHz	32	38		dB	GLONASS
	1710.	to	1755. MHz	30	36		dB	B4 TX
	1805.	to	1880. MHz	30	35		dB	DCS RX
	1930.	to	1990. MHz	29	34		dB	
	2097.	to	2155. MHz	29	34		dB	3f, B1 RX
	2155.	to	2170. MHz	29	34		dB	B1 RX
	2400.	to	2484. MHz	25	35		dB	ISM2.4
	2816.	to	2864. MHz	12	21		dB	4f
	4900.	to	5950. MHz	5	10		dB	ISM 5G
	685.	to	690. MHz	5	23		dB	

* Typical value at 25±2deg.C

SAYEY707MBA0F0A (Band12 / Unbalanced / LR / 1814)

Electrical Characteristic < ANT.→RX. >

Matching Impedance (nominal)

- : ANT. Port : 50 ohm // 12 nH(Ideal inductor), 12 nH(LQP03TN12NH02, Reference)
- : TX Port : 50 ohm
- : RX Port : 50 ohm

ANT. → RX			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.	max.		
Center Frequency				737.5		MHz	
Insertion Loss	729.25 to 745.75 MHz			1.8	2.4	dB	
	731.5 to 743.5 MHz			1.7	2.2	dB_{INT}	Any 4.5MHz
Ripple Deviation	729.25 to 745.75 MHz			0.5	2.0	dB	
VSWR	729.25 to 745.75 MHz			1.7	2.0		ANT.
	729.25 to 745.75 MHz			1.7	2.0		RX
Absolute Attenuation	10. to 699. MHz		40	55		dB	Out-of-band rejection
	30. to 30. MHz		50	106		dB	RX-TX
	699.25 to 715.75 MHz		45	56		dB	TX
	716. to 722. MHz		0.5	16.0		dB	Average attenuation
	776. to 793. MHz		24	29		dB	Upper 700 MHz Tx jammer
	793. to 805. MHz		35	55		dB	PS mobile transmitters
	824. to 849. MHz		40	56		dB	BC0 TX jammer
	1710. to 1755. MHz		40	50		dB	B4 TX
	1850. to 1920. MHz		40	49		dB	B2 TX
	2187. to 2238. MHz		40	47		dB	3f
	2400. to 2500. MHz		40	45		dB	ISM2.4
	4900. to 5950. MHz		36	41		dB	ISM 5G
	6561. to 6714. MHz		30	49		dB	9f
	7290. to 7460. MHz		25	37		dB	10f
	8019. to 8206. MHz		15	28		dB	11f
	8748. to 8952. MHz		10	25		dB	12f
	9477. to 9698. MHz		5	22		dB	13f
	10206. to 10444. MHz		5	15		dB	14f
	10935. to 11190. MHz		5	11		dB	15f
	11664. to 11936. MHz		5	12		dB	16f
	12393. to 12682. MHz		5	15		dB	17f

* Typical value at 25±2deg.C

Electrical Characteristic < TX→RX. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 12 nH(Ideal inductor), 12 nH(LQP03TN12NH02, Reference)
- - : TX Port : 50 ohm
- - : RX Port : 50 ohm

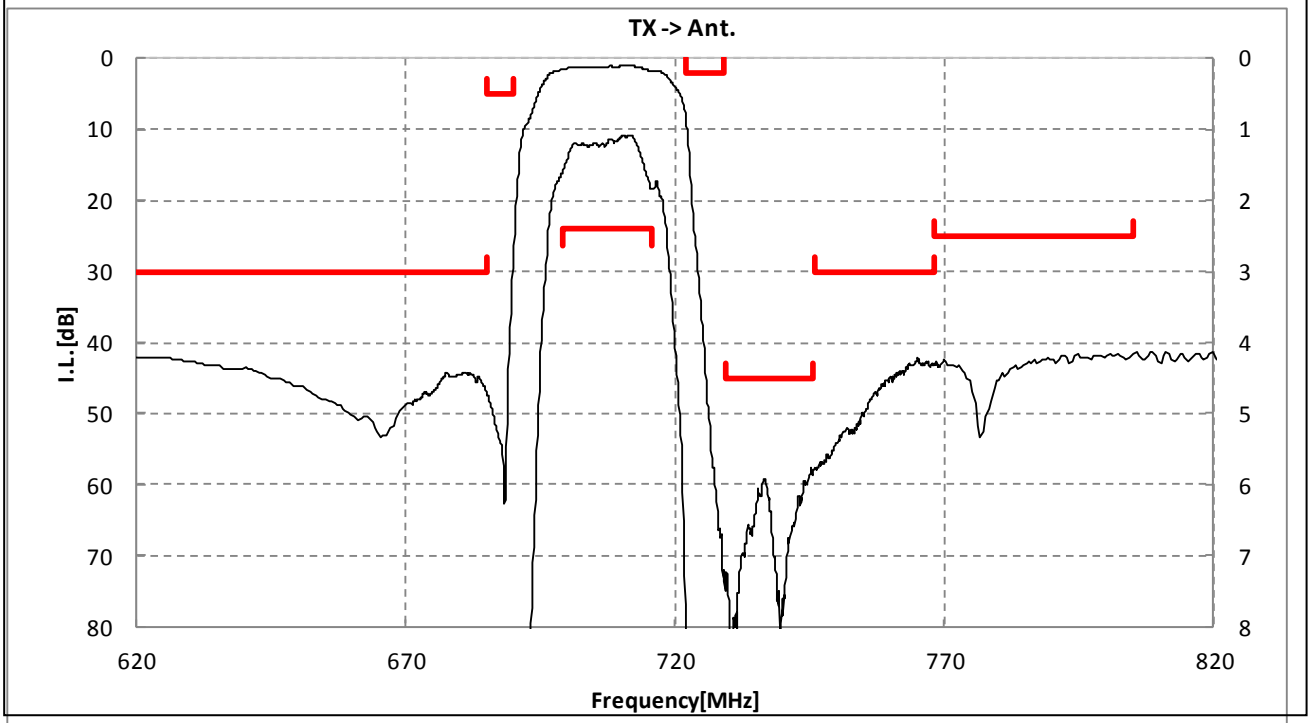
TX → RX		Characteristics (-20 to +85 deg.C) min.	typ.	max.	Unit	Note
Isolation						
	699.25 to 715.75 MHz	57	60		dB	
	701.5 to 713.5 MHz	58	62		dB_{INT}	Any 4.5MHz
	729.25 to 745.75 MHz	55	61		dB	
	731.5 to 743.5 MHz	56	65		dB_{INT}	Any 4.5MHz
	1398. to 1432. MHz	30	62		dB	2f
	2097. to 2198. MHz	30	55		dB	3f
	2792. to 2864. MHz	30	52		dB	4f

* Typical value at 25±2deg.C

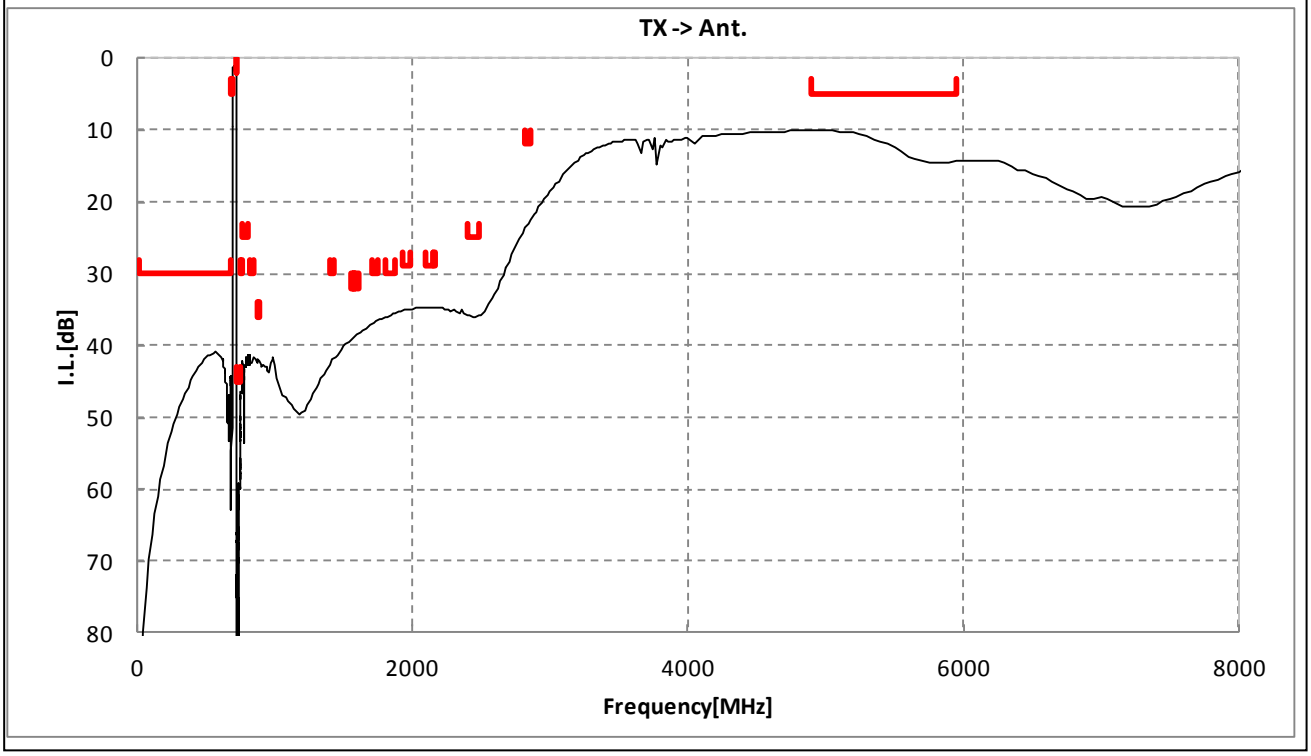
Electrical Characteristic

< TX→ANT. >

Narrow-Segment



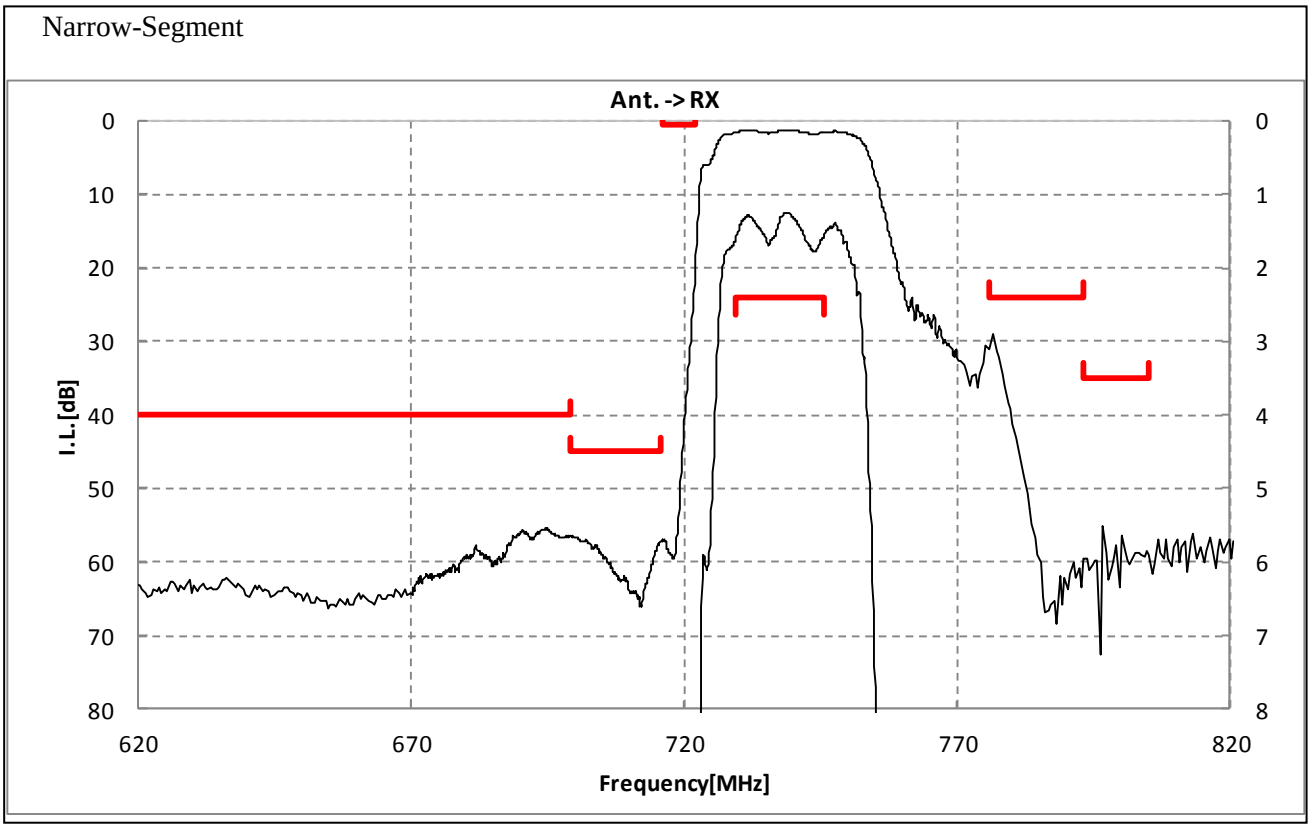
Wide-Segment



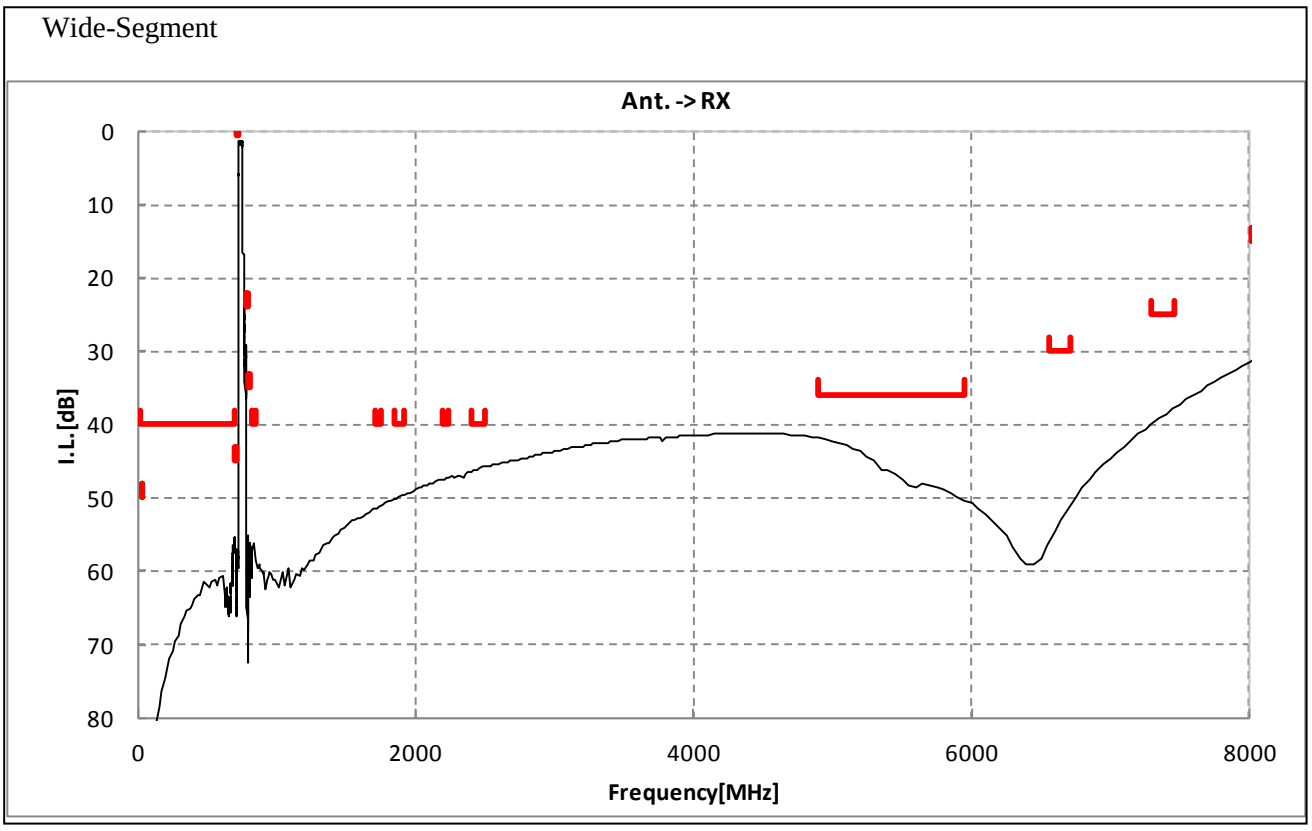
Electrical Characteristic

< ANT.→RX. >

Narrow-Segment



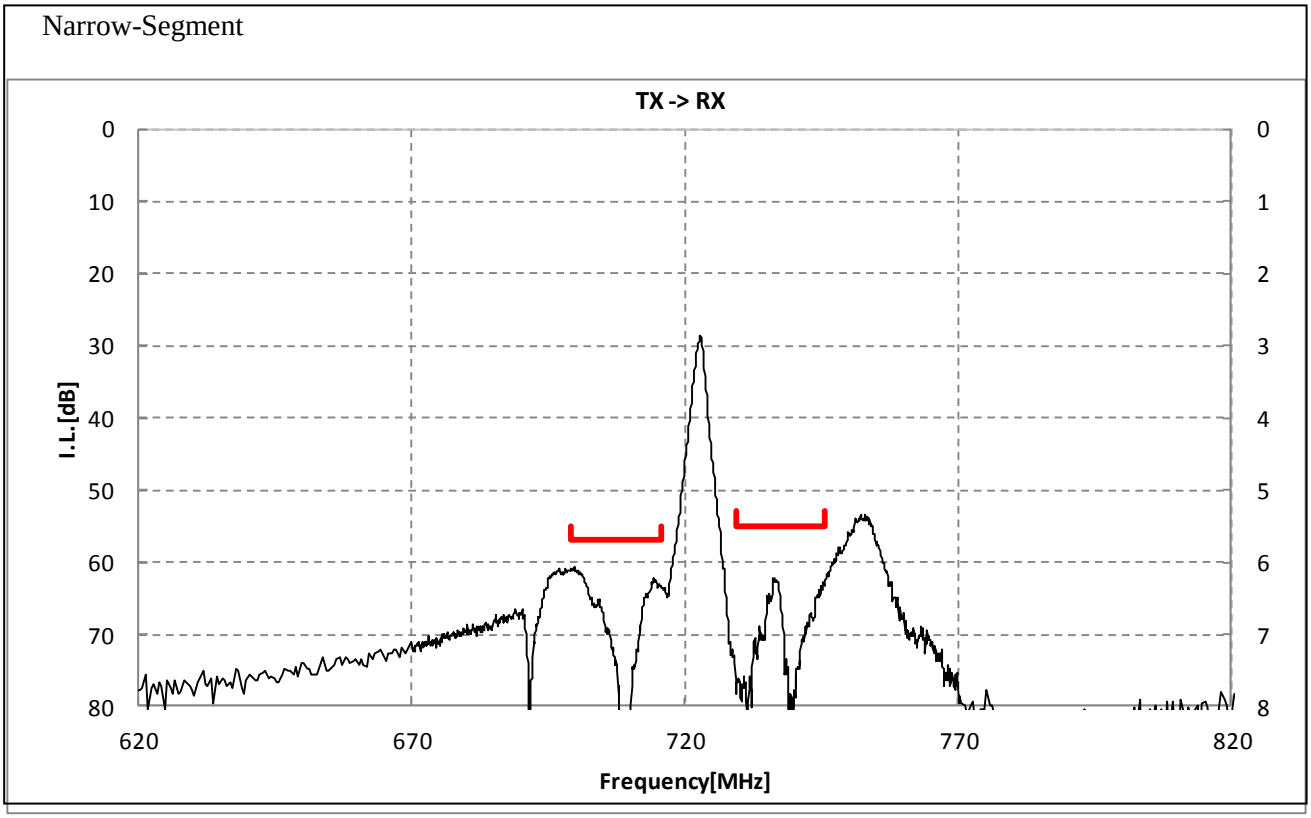
Wide-Segment



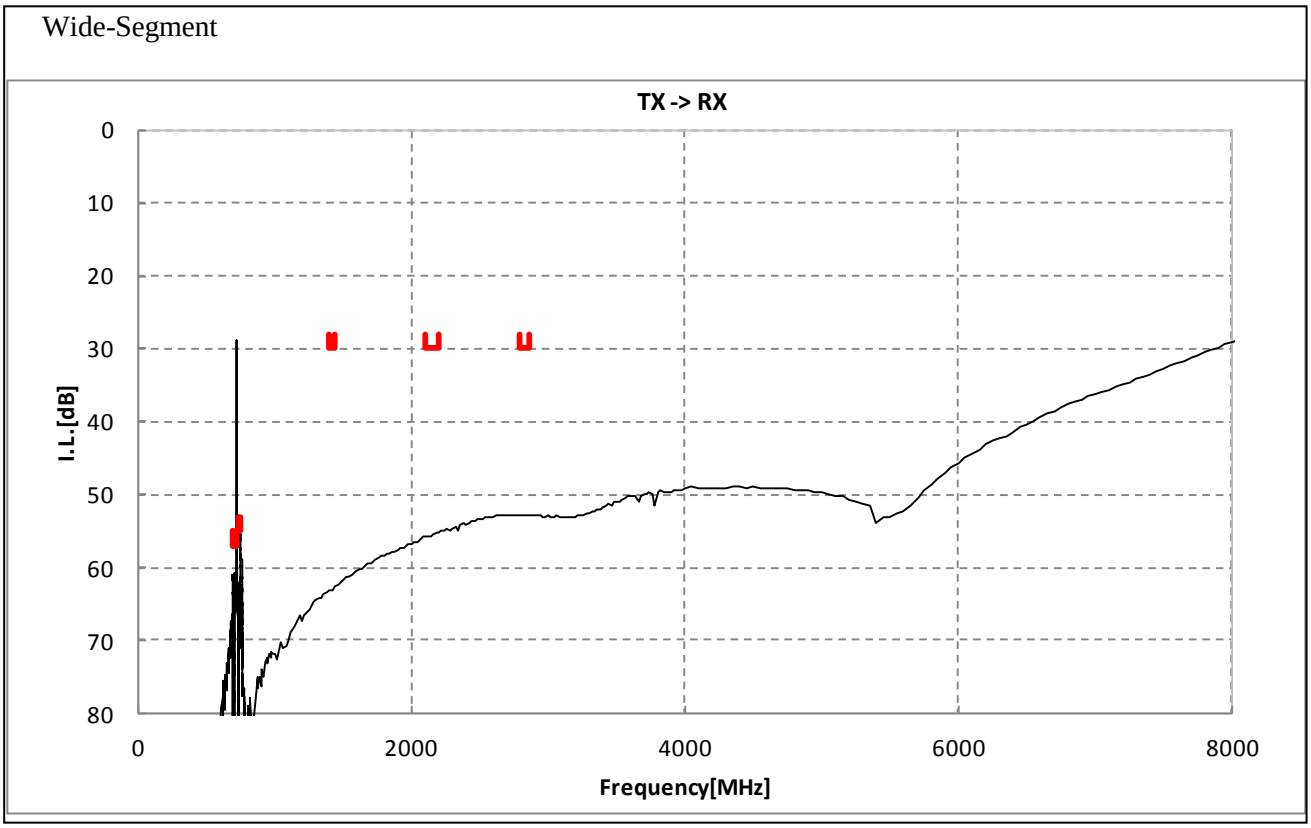
Electrical Characteristic

< TX→RX. >

Narrow-Segment

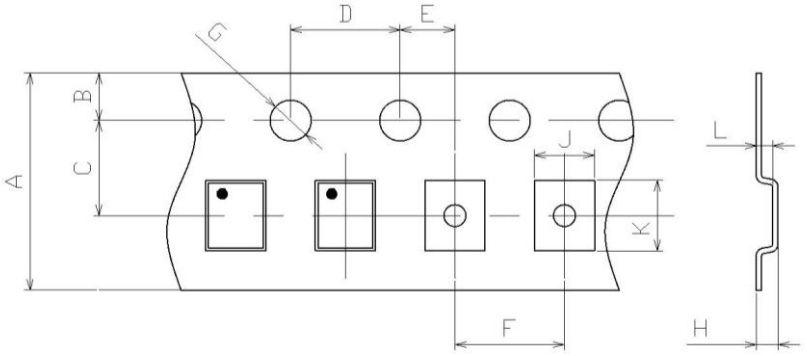


Wide-Segment



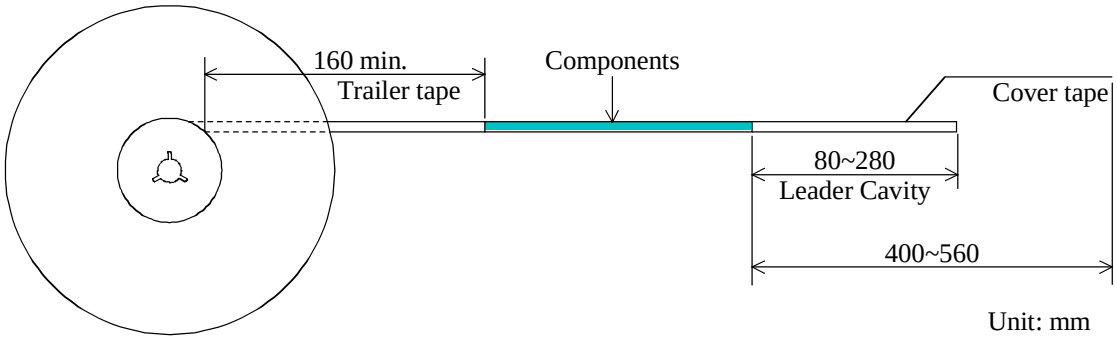
Dimensions of Tape & Reel unit: mm

Carrier Tape



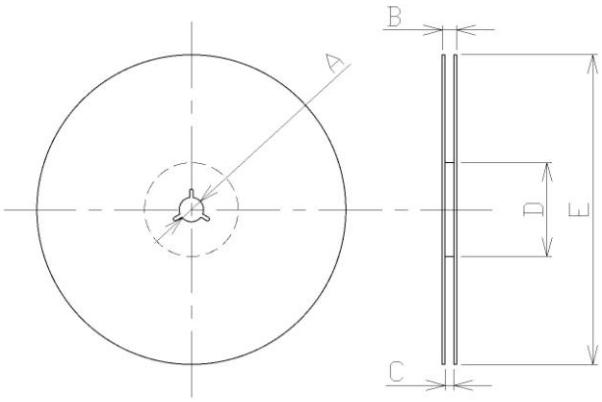
A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

Tape



Unit: mm

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

SAYEY707MBA0F0AR00… 10000pcs (φ330)
SAYEY707MBA0F0AR05… 5000pcs (φ330)
SAYEY707MBA0F0AR1S… Sample Order (φ178)

Marking Code

Table A: Month Code

2009 2013 2017	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2010 2014 2018	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2011 2015 2019	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c̄	d	e	f	g	h	j	k	l	m
2012 2016 2020	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.
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.

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- 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.

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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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The product shall not be used in any other application/model than that of claimed to Murata.

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- improper use of engineering samples.

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