Datasheet of SAW Device

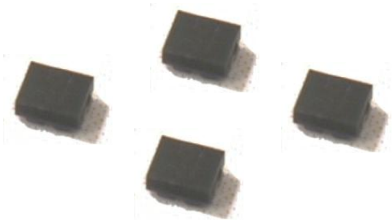
SAW Duplexer

for Band20 / Unbalanced / LR /1814

Murata PN: SAYEY806MBA0F0A

■ Feature

- ➢
- ➢
- ➢



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

SAYEY806MBA0F0A (Band20 / Unbalanced / LR / 1814)

Revision No.	Date	Description
SAYEY806MBA0F0A_rev. A	Nov-08-2013	■ Initial Release
SAYEY806MBA0F0A_rev. B	Jan-30-2014	■ Updated Electrical Characteristics

- Operating temperature : -20 to +85 deg.C
- Storage temperature : -40 to +85 deg.C
- Maximum Input Power Level for short term(*) : +29.0dBm at CW tone
  +28.7dBm at LTE modulation(**)
- Power Capacity : +29.0dBm +50deg.C 5000h at CW tone
- D.C. Volatage between the terminals : 3V (25+/-2 deg.C)
- Minimum Resistance betweem the terminals : 10M ohm
- RoHS compliance : Yes

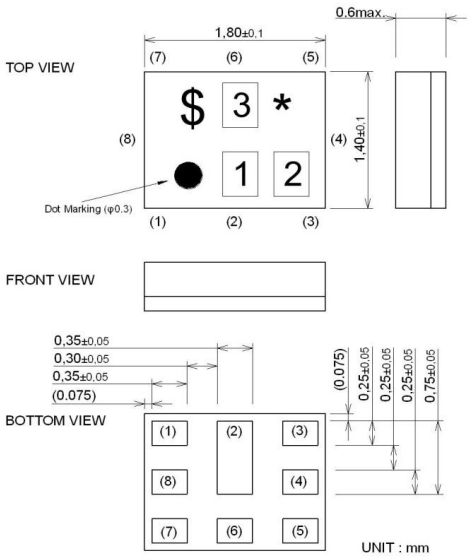
(*) -30 to 85 deg.C

(**) CBW 5MHz, RB(24, 1), QPSK

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

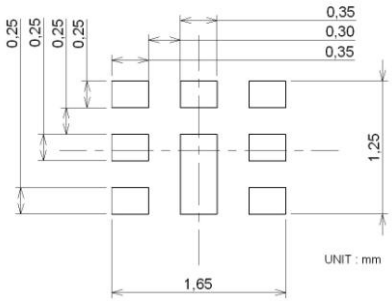


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 6
2 : H
3 : A

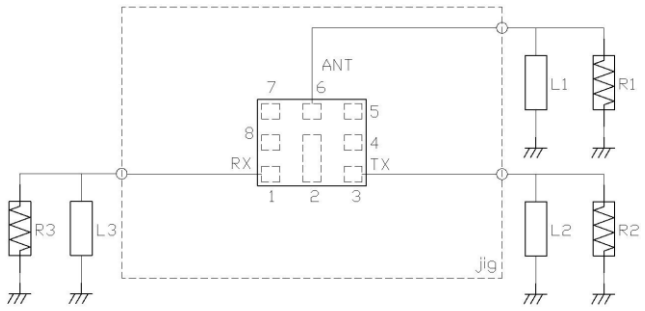
Terminal Number
(6) : ANT.
(3) : TX
(1) : RX
Others : GND.

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

Land Pattern



Measurement Circuit (Top View)



R1 : 50 ohm	L1 : 9 nH(Ideal inductor)
R2 : 50 ohm	L2 : 25 nH(Ideal inductor)
R3 : 50 ohm	L3 : 7 nH(Ideal inductor)

Electrical Characteristic < TX→ANT. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 9 nH(Ideal inductor)
- - : TX Port : 50 ohm // 25 nH(Ideal inductor)
- - : RX Port : 50 ohm // 7 nH(Ideal inductor)

Item				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.		
Center Frequency					847		MHz	
Insertion Loss	832.25	to	861.75 MHz		1.8	2.5	dB	
	834.5	to	859.5 MHz		1.5	2	dB_{INT}	Any 4.5MHz
Ripple Deviation	832.	to	862. MHz		0.73	1.8	dB	
VSWR	832.	to	862. MHz		1.7	2		ANT.
	832.	to	862. MHz		1.6	2		TX
Absolute Attenuation	10.	to	771. MHz	35	39		dB	
	771.	to	791. MHz	40	43		dB	
	791.25	to	820.75 MHz	45	54		dB	RX
	793.5	to	818.5 MHz	45	54		dB	
	821.	to	827. MHz	2.4	7.2		dB	
	925.	to	960. MHz	38	41		dB	B8 RX
	1559.	to	1563. MHz	43	46		dB	COMPASS
	1565.42	to	1573.37 MHz	40	46		dB	Lower GPS
	1573.37	to	1577.47 MHz	43	46		dB	Regular GPS
	1577.47	to	1585.42 MHz	40	46		dB	Upper GPS
	1597.55	to	1605.89 MHz	43	46		dB	GLONASS
	1664.	to	1724. MHz	25	47		dB	2f
	1805.	to	1880. MHz	30	50		dB	B3 TX
	1884.5	to	1919.6 MHz	30	51		dB	
	2110.	to	2170. MHz	30	56		dB	B1 TX
	2400.	to	2500. MHz	45	56		dB	ISM2.4
	2496.	to	2586. MHz	40	48		dB	3f
	2570.	to	2620. MHz	40	48		dB	B38
	2620.	to	2690. MHz	30	51		dB	B7 TX
	3328.	to	3448. MHz	20	47		dB	4f
	4160.	to	4310. MHz	20	43		dB	5f
	4900.	to	5950. MHz	20	40		dB	ISM 5G, 6f

* Typical value at 25±2deg.C

SAYEY806MBA0F0A (Band20 / Unbalanced / LR / 1814)

Electrical Characteristic < ANT.→RX. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 9 nH(Ideal inductor)
- - : TX Port : 50 ohm // 25 nH(Ideal inductor)
- - : RX Port : 50 ohm // 7 nH(Ideal inductor)

Item				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.		
Center Frequency					806		MHz	
Insertion Loss	791.25	to	820.75 MHz		2.5	3.6	dB	
	793.5	to	818.5 MHz		1.9	2.5	dB_{INT}	Any 4.5MHz
Ripple Deviation	791.	to	821. MHz		1.5	3	dB	
VSWR	791.	to	821. MHz		1.7	2		ANT.
	791.	to	821. MHz		1.7	2		RX
Absolute Attenuation	10.	to	760. MHz	35	42		dB	
			41. MHz	50	125		dB	TX - RX
	760.	to	770. MHz	10	43		dB	
	832.25	to	861.75 MHz	45	57		dB	TX
	880.	to	915. MHz	40	50		dB	B8 TX
	1710.	to	1785. MHz	40	56		dB	B3 TX
	2373.	to	2463. MHz	40	62		dB	3f
	2400.	to	2500. MHz	40	62		dB	ISM2.4
	2500.	to	2570. MHz	40	65		dB	B7 TX
	4900.	to	5950. MHz	40	48		dB	ISM 5G
	6328.	to	6568. MHz	25	54		dB	8f
	7119.	to	7389. MHz	30	48		dB	9f
	7910.	to	8210. MHz	20	43		dB	10f
	8701.	to	9031. MHz	15	43		dB	11f
	9492.	to	9852. MHz	15	43		dB	12f
	10283.	to	10673. MHz	15	43		dB	13f
	11074.	to	11494. MHz	15	43		dB	14f
	11865.	to	12315. MHz	10	43		dB	15f
	12656.	to	12750. MHz	10	43		dB	16f

* Typical value at 25±2deg.C

SAYEY806MBA0F0A (Band20 / Unbalanced / LR / 1814)

Electrical Characteristic < TX→RX. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 9 nH(Ideal inductor)
- - : TX Port : 50 ohm // 25 nH(Ideal inductor)
- - : RX Port : 50 ohm // 7 nH(Ideal inductor)

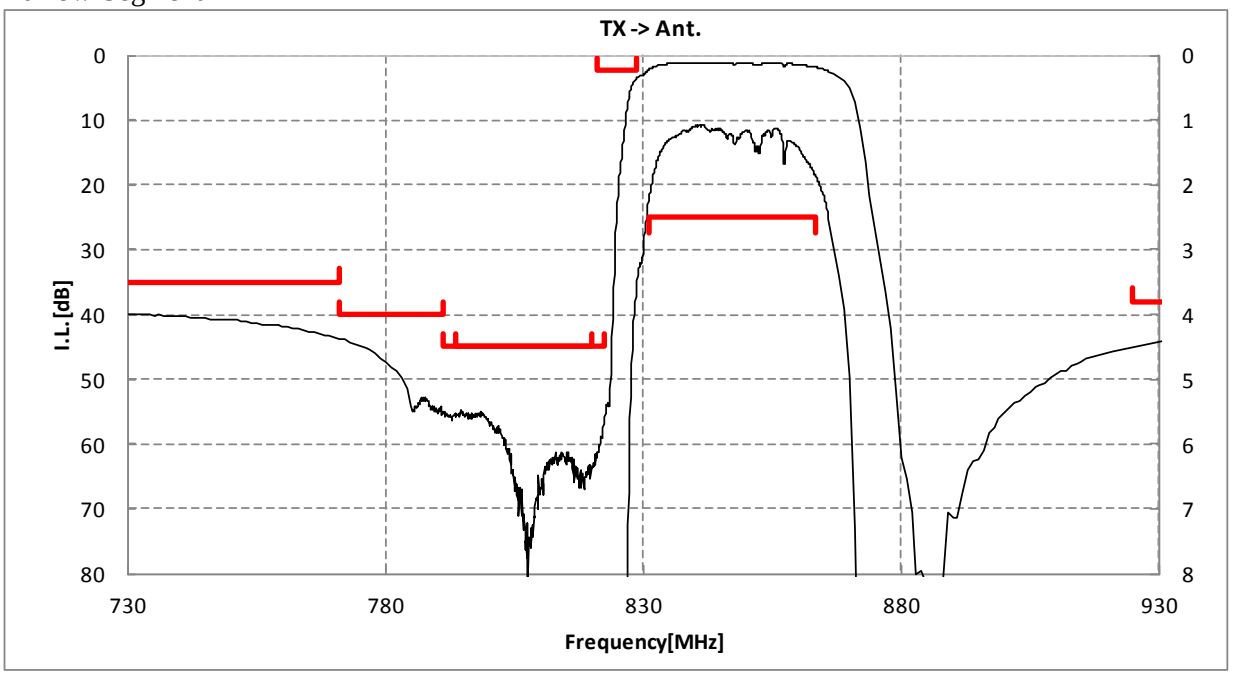
Item		Characteristics (-20 to +85 deg.C)			Unit	Note
		min.	typ.	max.		
Isolation						
Isolation	832.25 to 861.75 MHz	53	57		dB	TX
	834.5 to 859.5 MHz	57	58		dB_{INT}	TX, Any 4.5MHz
	791.25 to 820.75 MHz	53	56		dB	RX
	793.5 to 818.5 MHz	53	56		dB_{INT}	RX, Any 4.5MHz
	1574. to 1577. MHz	40	58		dB	
	1664. to 1724. MHz	20	57		dB	
	2496. to 2586. MHz	20	54		dB	

* Typical value at 25±2deg.C

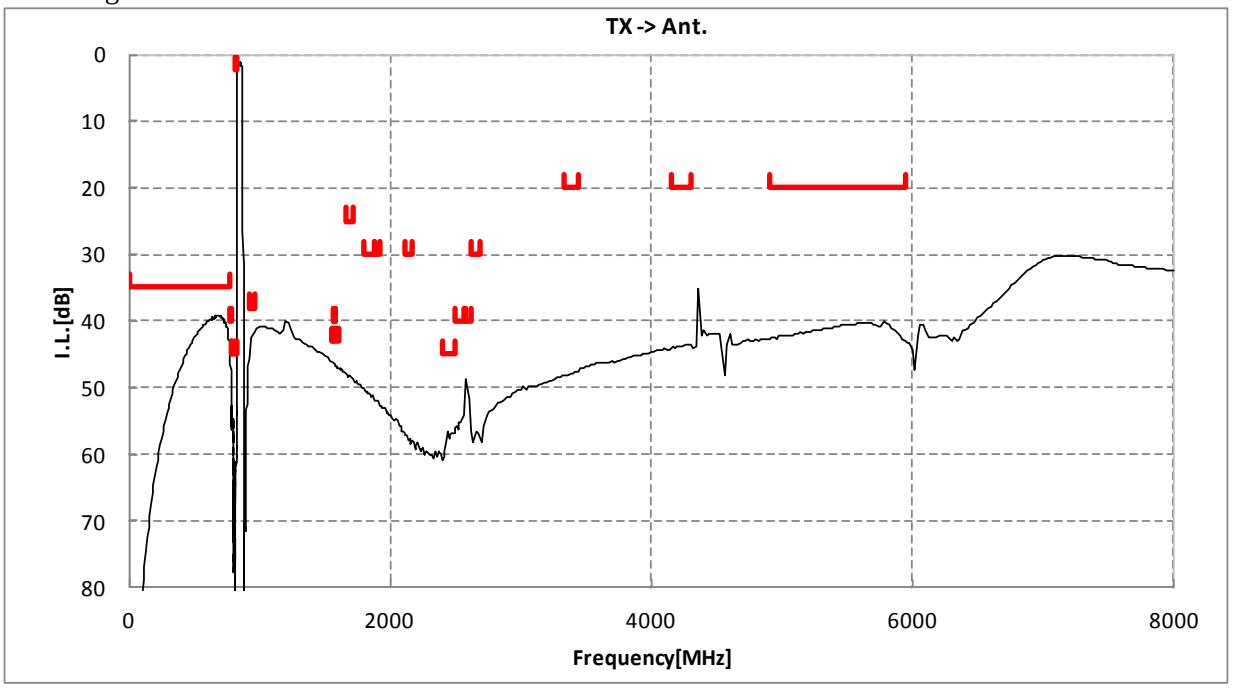
Electrical Characteristic

< TX→ANT. >

Narrow-Segment



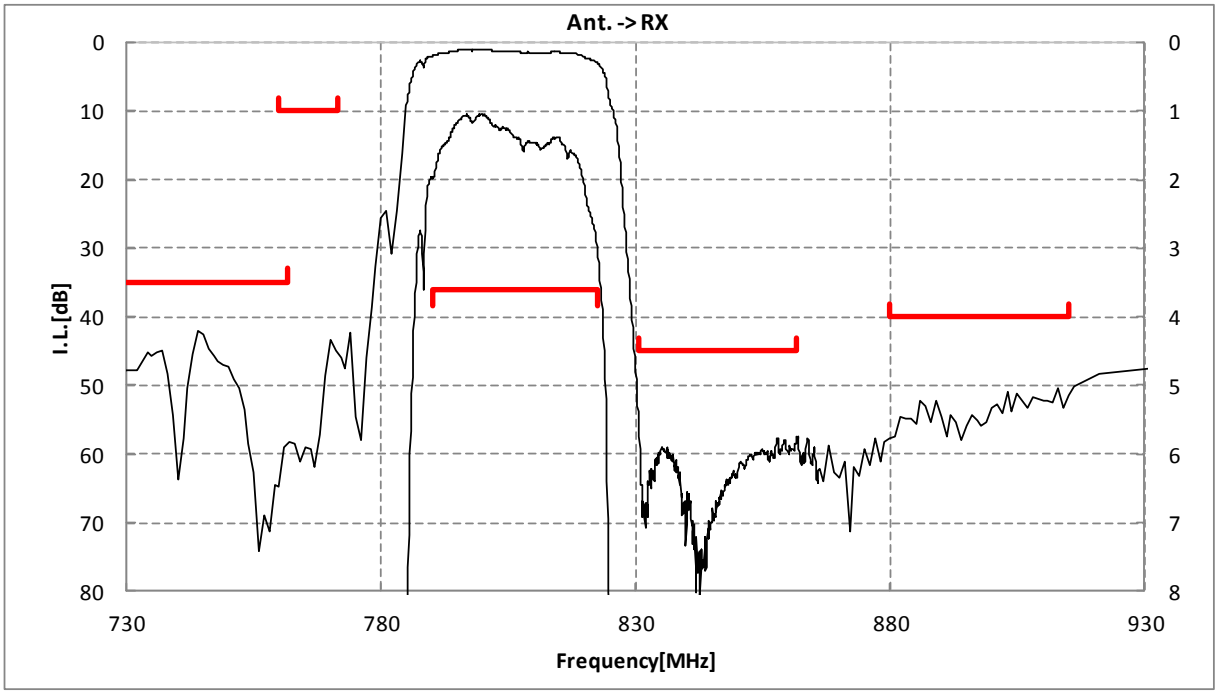
Wide-Segment



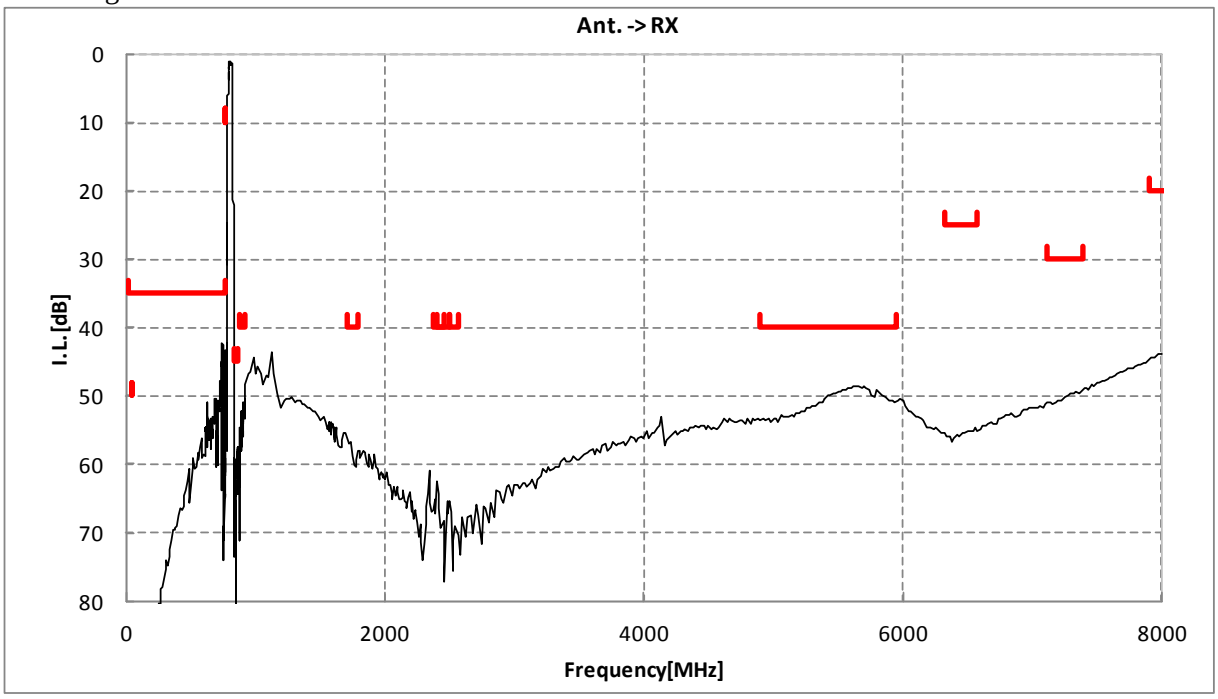
Electrical Characteristic

< ANT.→RX. >

Narrow-Segment



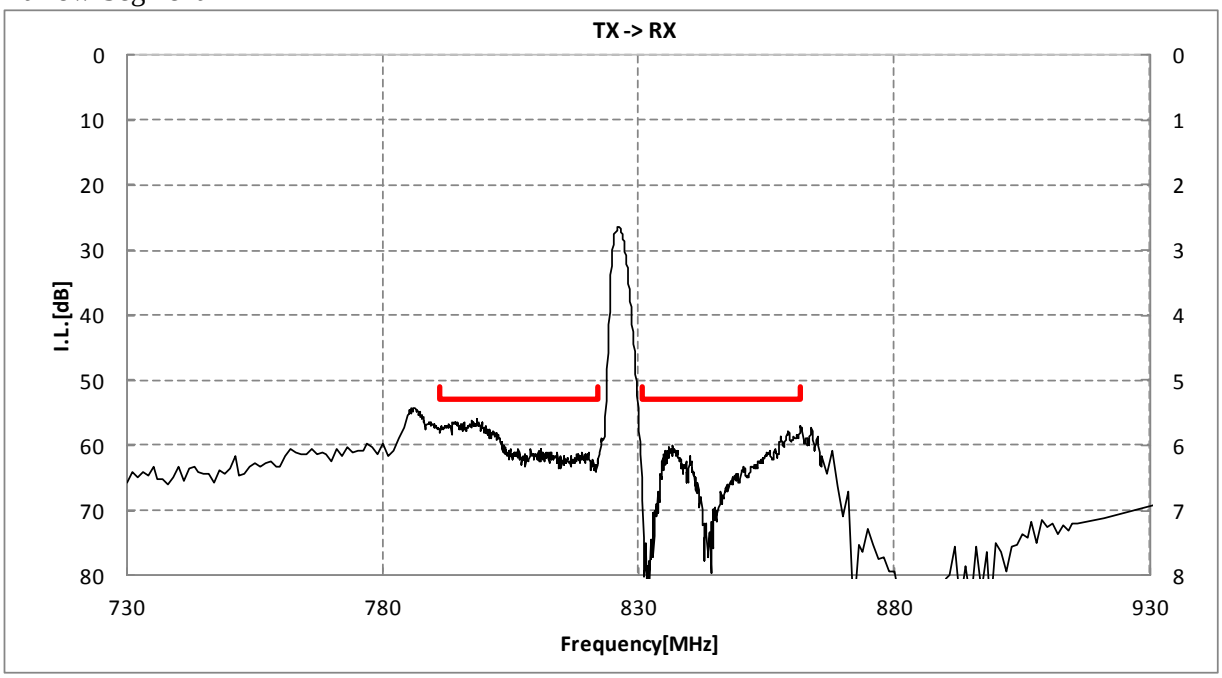
Wide-Segment



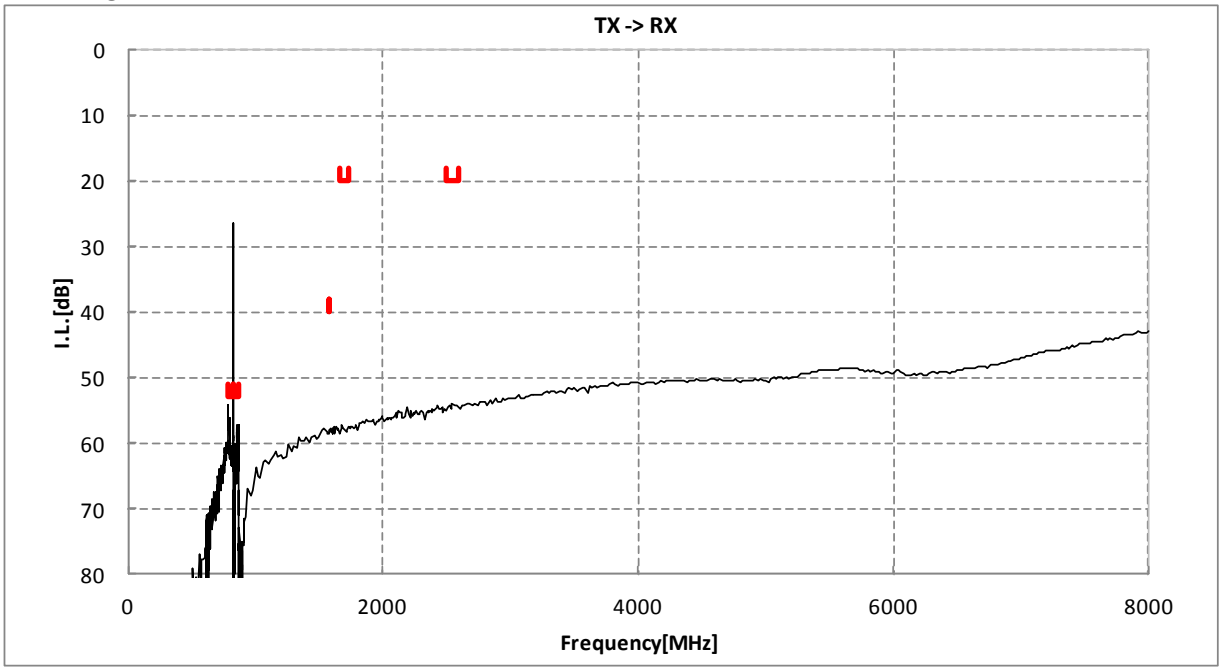
Electrical Characteristic

< TX→RX. >

Narrow-Segment



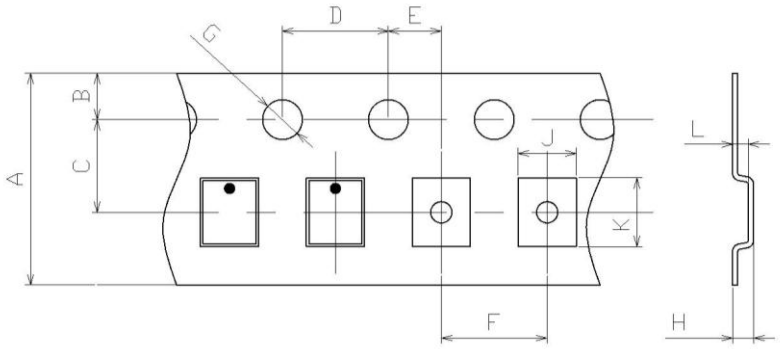
Wide-Segment



SAYEY806MBA0F0A (Band20 / Unbalanced / LR / 1814)

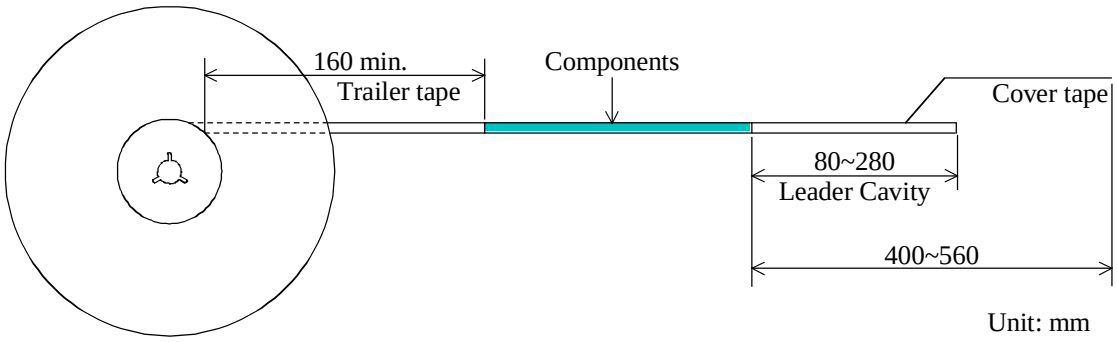
Dimensions of Tape & Reel unit: mm

Carrier Tape



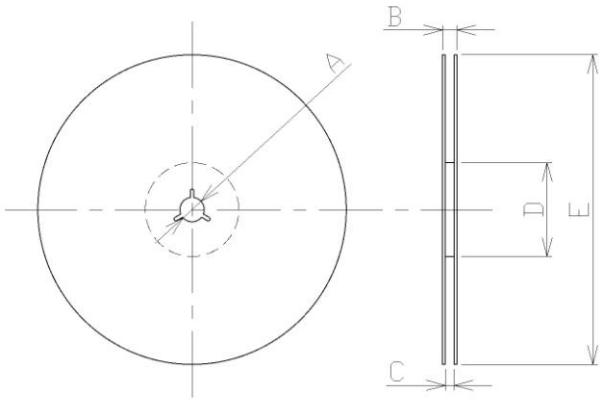
A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY806MBA0F0AR00… 10000pcs (φ330)
SAYEY806MBA0F0AR05… 5000pcs (φ330)
SAYEY806MBA0F0AR1S… sample Order (φ178)

SAYEY806MBA0F0A (Band20 / Unbalanced / LR / 1814)

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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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.

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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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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.
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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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