Datasheet of SAW Device

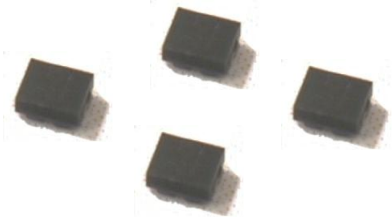
SAW Duplexer

for Band4 / Balanced / LR /1814

Murata PN: SAYEY1G73CA0F0A

■ Feature

- Smallest Size
- Low I.L.
- High Isolation



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

SAYEY1G73CA0F0A (Band4 / Balanced / LR / 1814)

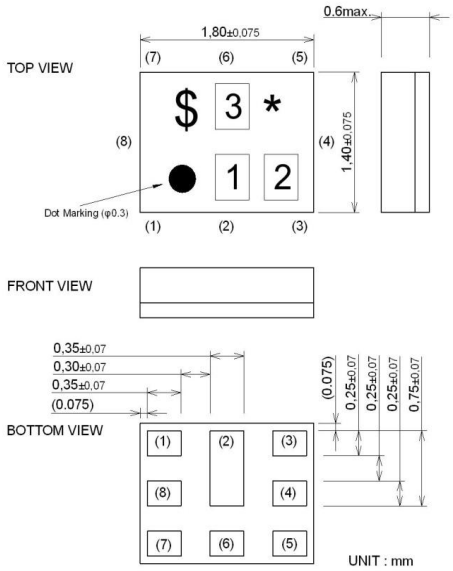
Revision No.	Date	Description
SAYEY1G73CA0F0A_rev. A	Oct-18-2013	■ Initial Release
SAYEY1G73CA0F0A_rev. B	Mar-03-2014	■ Updated RX Impedance
SAYEY1G73CA0F0A_rev. C	Mar-27-2014	■ Updated for MP

- 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

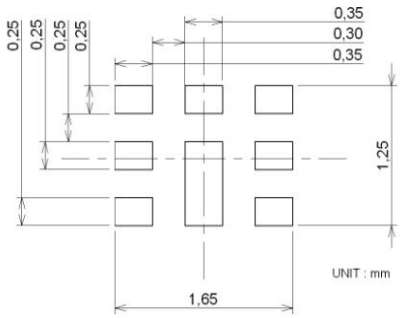


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 4
2 : W
3 : A

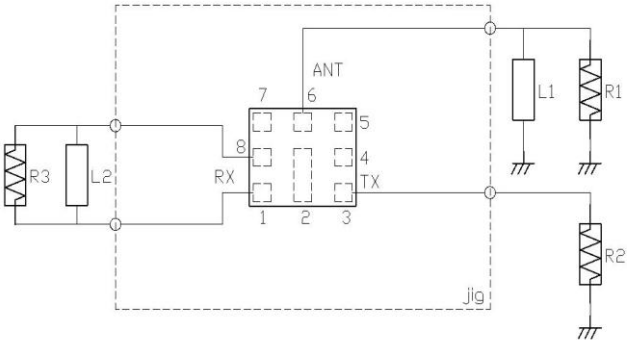
Terminal Number
(6) : ANT.
(3) : TX
(1)(8) : RX
Others : GND.

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

Land Pattern



Measurement Circuit (Top View)



R1 : 50 ohm	L1 : 3.3 nH(Ideal inductor)
R2 : 50 ohm	
R3 : 100 ohm	L2 : 10 nH(Ideal inductor)

SAYEY1G73CA0F0A (Band4 / Balanced / LR / 1814)

Electrical Characteristic < TX→ANT. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 3.3 nH(Ideal inductor), 3.6 nH(LQP0603TN3N6, Reference)
- - : TX Port : 50 ohm
- - : RX Port : 100 ohm // 10 nH(Ideal inductor)

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.	max.		
Center Frequency					1732.5		MHz	
Insertion Loss	1710.	to 1755.	MHz		1.4	1.9	dB	
	1712.5	to 1752.5	MHz		1.3	1.8	dB_{INT}	Any 4.5MHz
Ripple Deviation	1710.	to 1755.	MHz		0.3	0.8	dB	Any 5MHz
	1710.	to 1755.	MHz		0.6	1.2	dB	
VSWR	1710.	to 1755.	MHz		1.3	2.0		TX
	1710.	to 1755.	MHz		1.4	2.0		ANT.
Absolute Attenuation	10.	to 699.	MHz	30	47		dB	
	699.	to 716.	MHz	30	46		dB	B12/17 TX
	728.	to 764.	MHz	40	45		dB	700MHz RX rejection
	777.	to 787.	MHz	30	45		dB	B13 TX
	824.	to 849.	MHz	30	44		dB	B5 TX
	851.	to 894.	MHz	38	43		dB	B5 RX
	1226.	to 1250.	MHz	35	40		dB	GPS L2
	1559.	to 1563.	MHz	42	46		dB	COMPASS
	1565.42	to 1573.37	MHz	40	48		dB	Lower GPS
	1573.37	to 1577.46	MHz	45	49		dB	Regular GPS
	1577.46	to 1585.42	MHz	40	49		dB	Upper GPS
	1597.55	to 1605.89	MHz	41	50		dB	GLONASS
	1805.	to 1880.	MHz	42	47		dB	DCS RX
	1930.	to 1990.	MHz	41	46		dB	PCS RX
	2110.	to 2155.	MHz	44	50		dB	RX
	2400.	to 2500.	MHz	35	44		dB	ISM2.4
	3410.	to 3520.	MHz	20	38		dB	2f
	4905.	to 5950.	MHz	5	11		dB	ISM 5G, 3f
	6830.	to 7030.	MHz	3	9		dB	4f
	8540.	to 8785.	MHz	12	18		dB	5f
	10250.	to 10540.	MHz	15	30		dB	6f
	11960.	to 12295.	MHz	2	10		dB	7f

* Typical value at 25±2deg.C

SAYEY1G73CA0F0A (Band4 / Balanced / LR / 1814)

Electrical Characteristic < ANT.→RX. >

Matching Impedance (nominal)

- : ANT. Port : 50 ohm // 3.3 nH(Ideal inductor), 3.6 nH(LQP0603TN3N6, Reference)
- : TX Port : 50 ohm
- : RX Port : 100 ohm // 10 nH(Ideal inductor)

ANT. → RX					Characteristics (-20 to +85 deg.C)			Unit	Note
					min.	typ.	max.		
Center Frequency						2132.5		MHz	
Insertion Loss	2110.	to	2155.	MHz		1.8	2.2	dB	
	2112.5	to	2152.5	MHz		1.8	2.2	dB_{INT}	Any 4.5MHz
Amplitude Balance	2110.	to	2155.	MHz	-1.8	-0.9	+1.8	dB	
	2110.	to	2155.	MHz	-1.8	-0.9	+1.8	dB	+23 to +27deg.C
Phase Balance	2110.	to	2155.	MHz	165	173	195	deg.	
	2110.	to	2155.	MHz	165	173	195	deg.	+23 to +27deg.C
Ripple Deviation	2110.	to	2155.	MHz		0.2	0.9	dB	Any 5MHz
	2110.	to	2155.	MHz		0.5	1.2	dB	
VSWR	2110.	to	2155.	MHz		1.7	2.0		RX
	2110.	to	2155.	MHz		1.6	2.0		ANT.
Absolute Attenuation	10.	to	699.	MHz	35	86		dB	
	699.	to	716.	MHz	45	86		dB	B12 TX
	777.	to	787.	MHz	40	82		dB	B13 TX
	824.	to	849.	MHz	40	79		dB	B5 TX
	1710.	to	1755.	MHz	45	59		dB	TX
	1755.	to	2025.	MHz	15	40		dB	
	2305.	to	2315.	MHz	30	35		dB	WCS TX
	2400.	to	2484.	MHz	30	42		dB	ISM2.4
	2484.	to	6475.	MHz	35	46		dB	
	10540.	to	10785.	MHz	35	42		dB	

* Typical value at 25±2deg.C

SAYEY1G73CA0F0A (Band4 / Balanced / LR / 1814)

Electrical Characteristic < TX→RX. >

Matching Impedance (nominal)

- - : ANT. Port : 50 ohm // 3.3 nH(Ideal inductor), 3.6 nH(LQP0603TN3N6, Reference)
- - : TX Port : 50 ohm
- - : RX Port : 100 ohm // 10 nH(Ideal inductor)

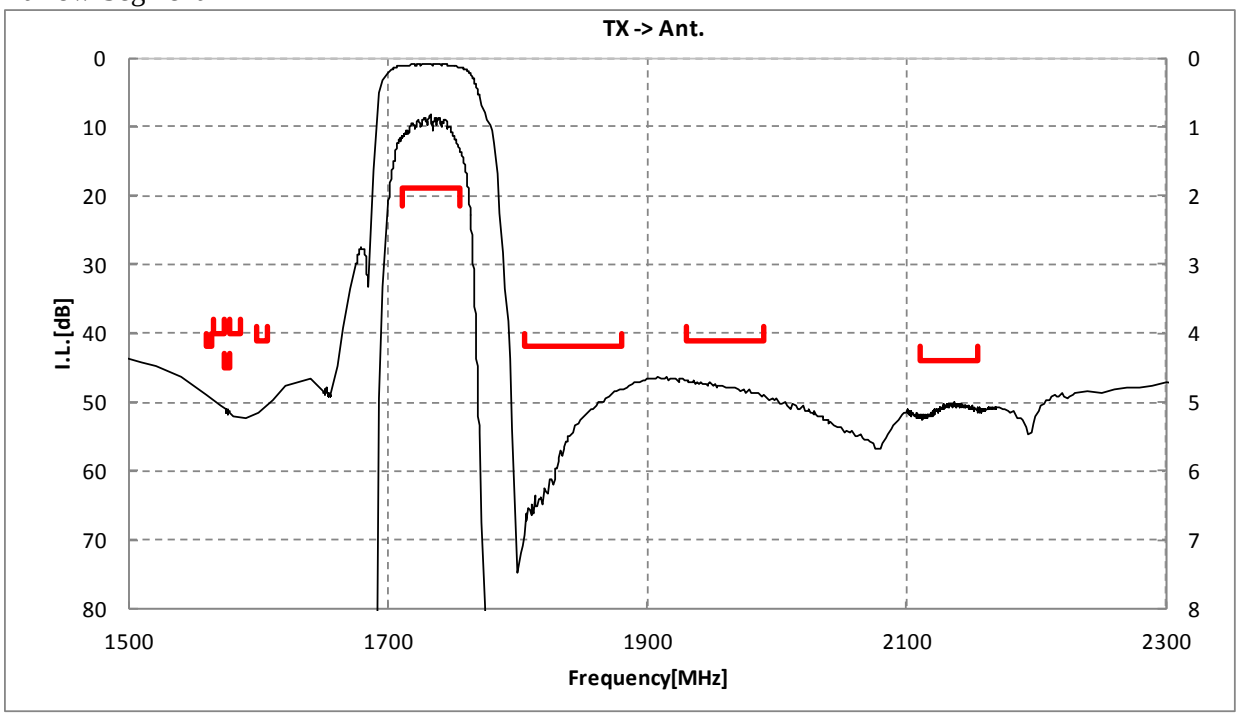
TX → RX					Characteristics (-20 to +85 deg.C)			Unit	Note
					min.	typ.	max.		
Isolation									
Differential Mode	1574.	to	1577.	MHz	40	66		dB	
	1710.	to	1755.	MHz	55	62		dB	
	1712.5	to	1752.5	MHz	55	63		dB_{INT}	Any 4.5MHz
	2110.	to	2155.	MHz	53	58		dB	
	2112.5	to	2152.5	MHz	53	58		dB_{INT}	Any 4.5MHz
	3410.	to	3520.	MHz	20	62		dB	
	5120.	to	5275.	MHz	20	61		dB	
Common Mode	1710.	to	1755.	MHz	50	52		dB	
	1712.5	to	1752.5	MHz	50	53		dB_{INT}	Any 4.5MHz

* Typical value at 25±2deg.C

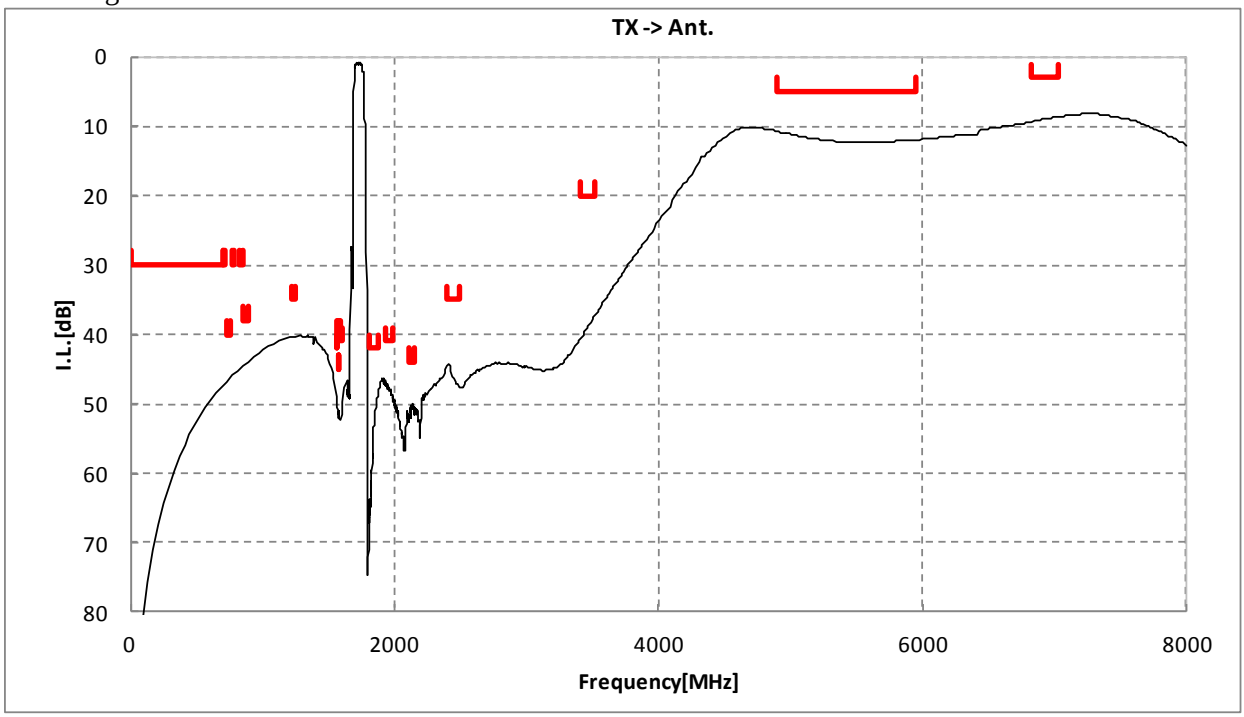
Electrical Characteristic

< TX→ANT. >

Narrow-Segment



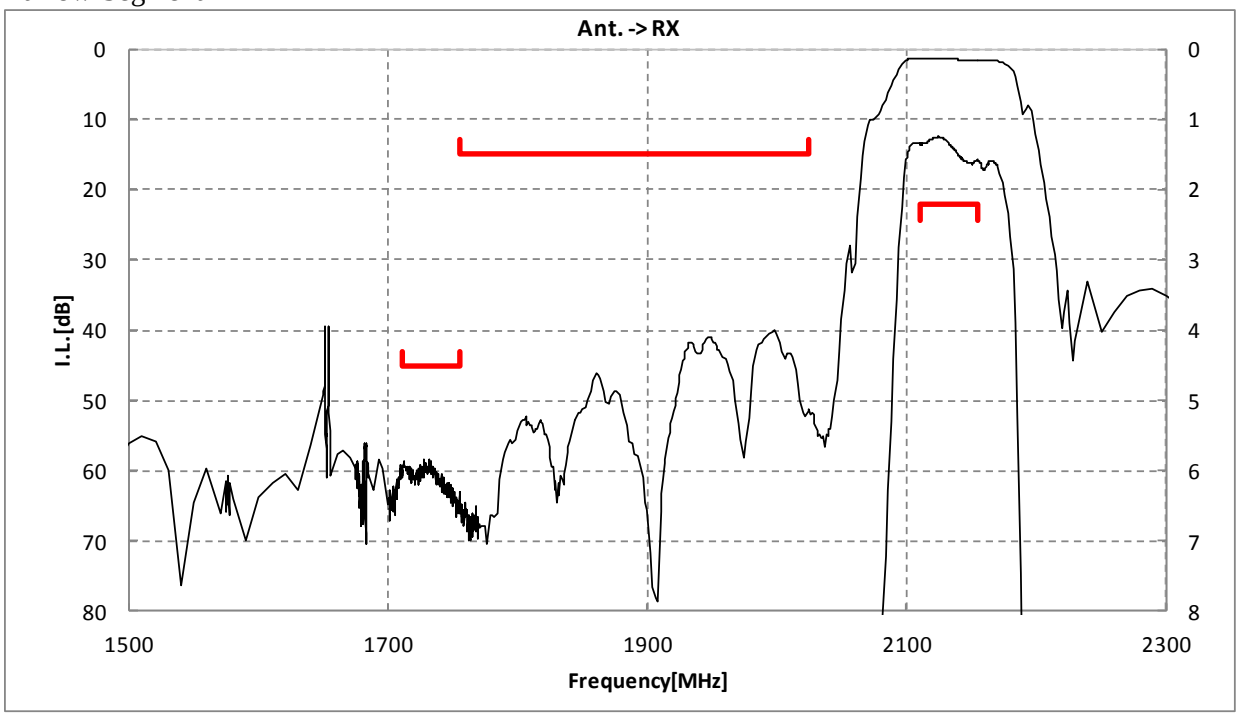
Wide-Segment



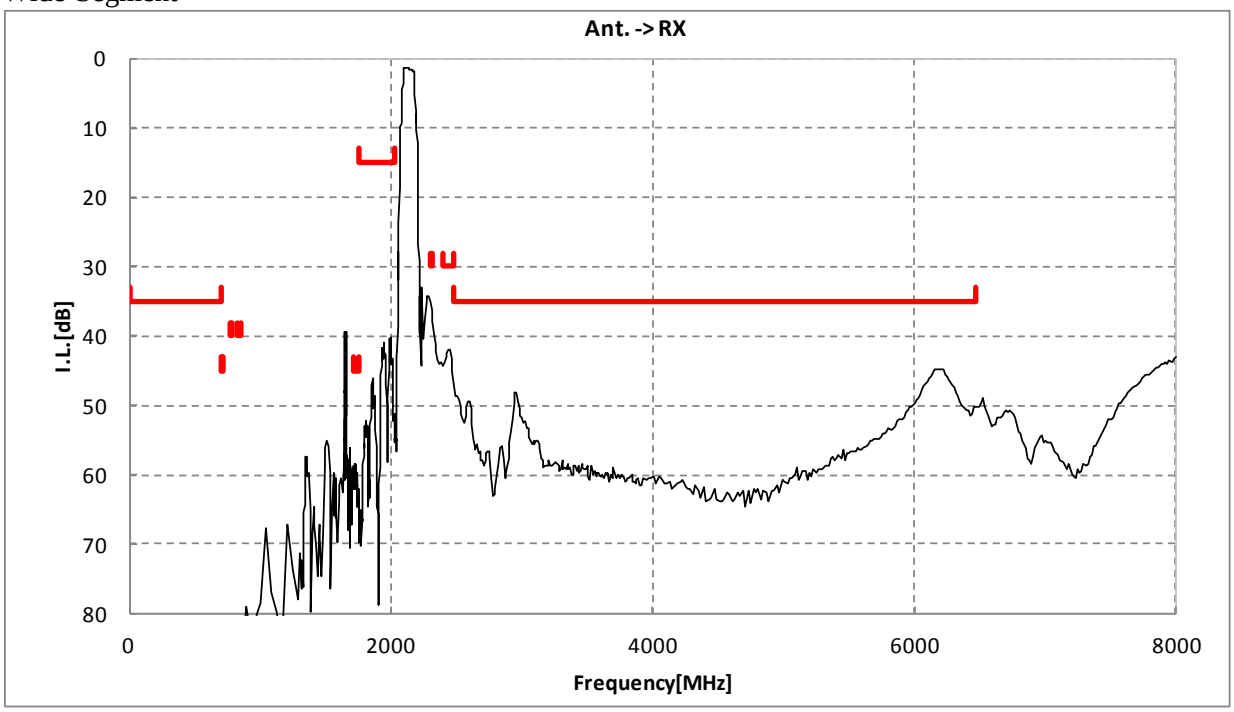
Electrical Characteristic

< ANT.→RX. >

Narrow-Segment



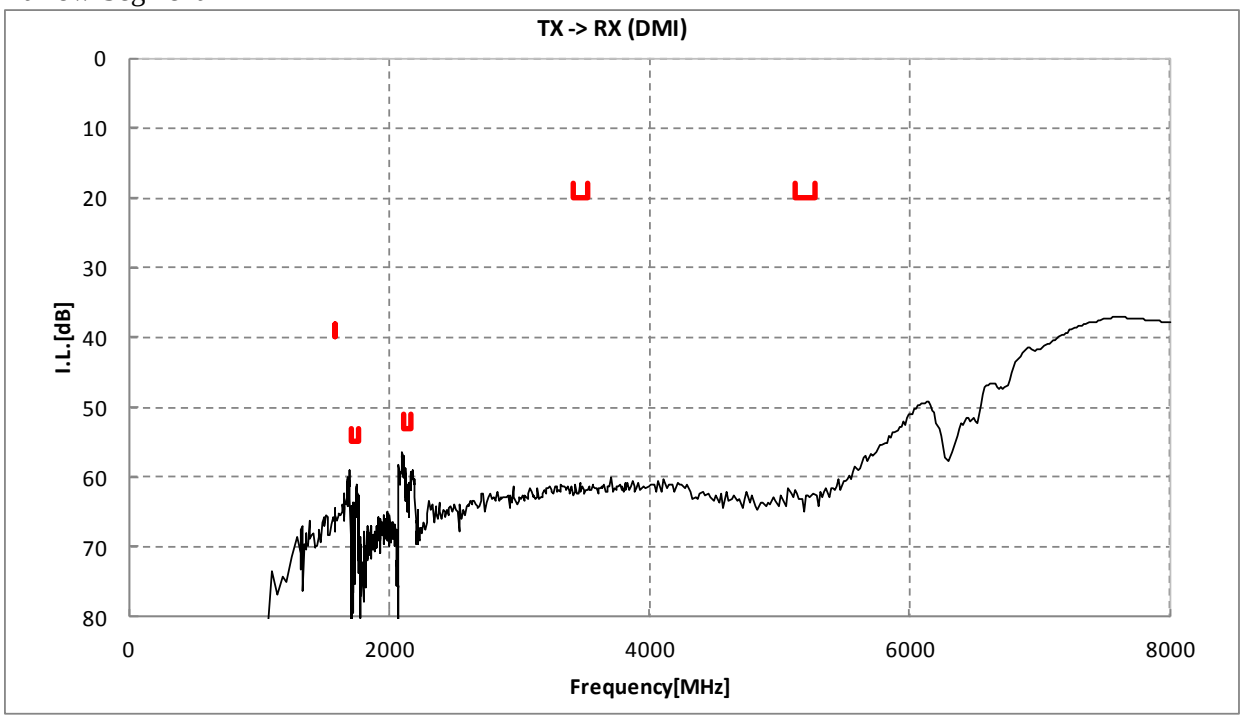
Wide-Segment



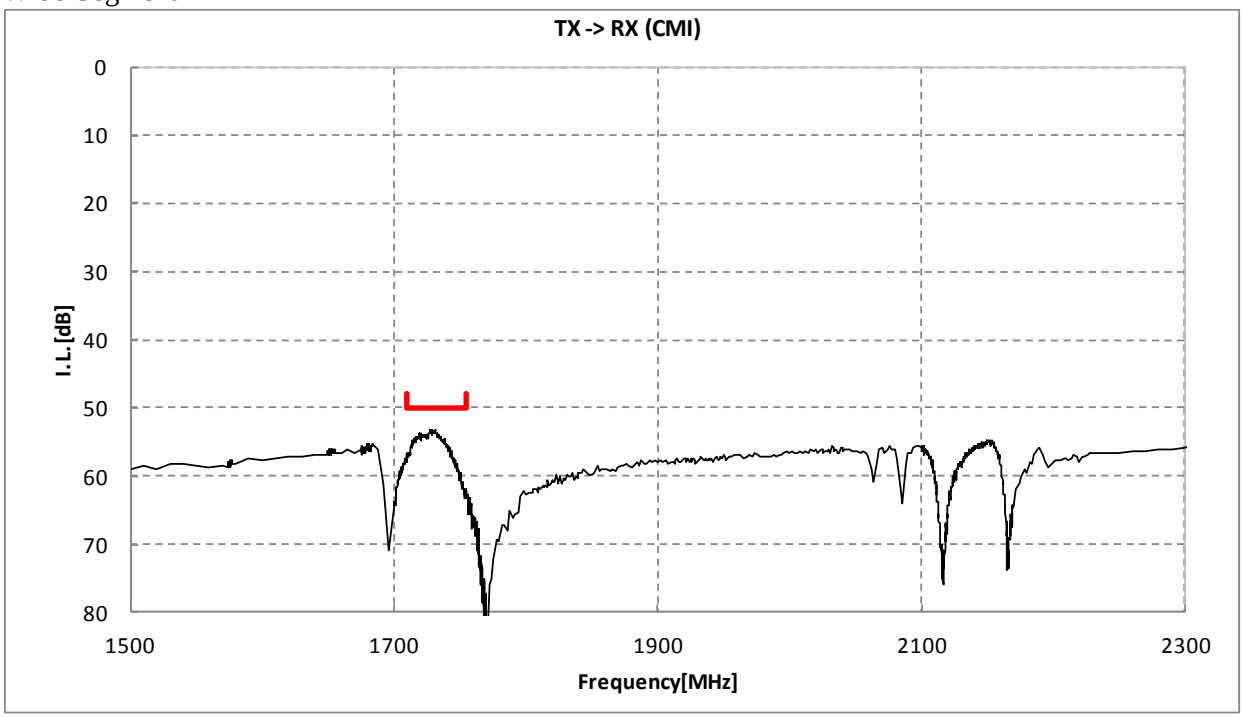
Electrical Characteristic

< TX→RX. >

Narrow-Segment



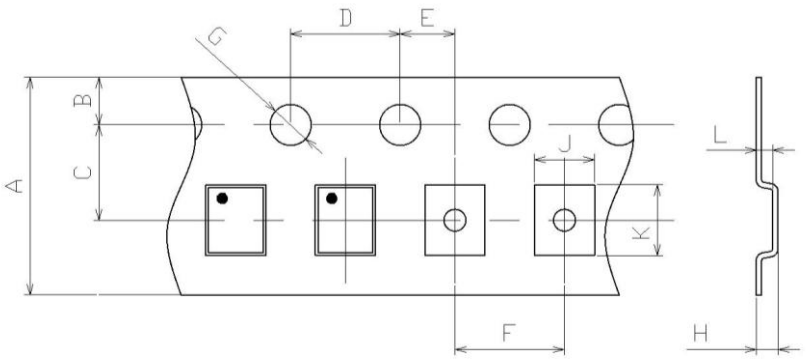
Wide-Segment



SAYEY1G73CA0F0A (Band4 / Balanced / LR / 1814)

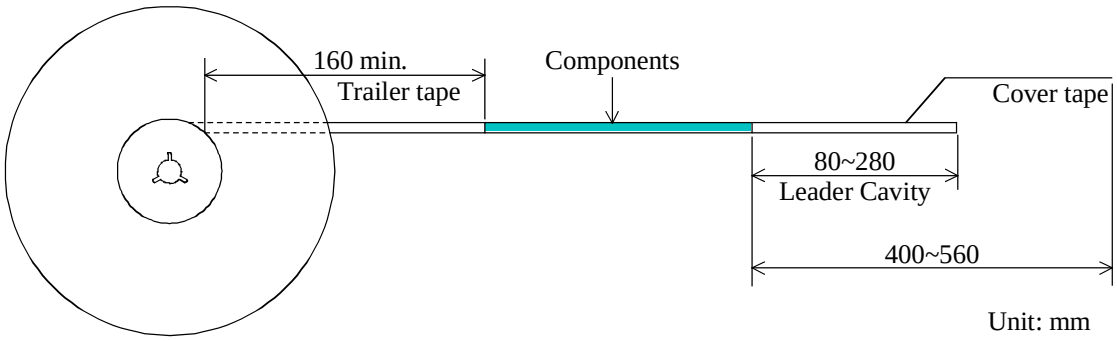
Dimensions of Tape & Reel unit: mm

Carrier Tape



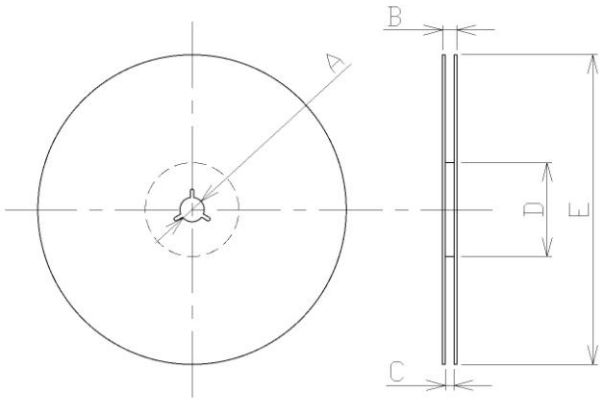
A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY1G73CA0F0AR00… 10000pcs (φ330)
SAYEY1G73CA0F0AR05… 5000pcs (φ330)
SAYEY1G73CA0F0AR1S… sample Order (φ178/330)

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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Important Notice (2/2)

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

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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.

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- deviation or lapse in function of engineering sample,
- improper use of engineering samples.

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