Datasheet of SAW Device

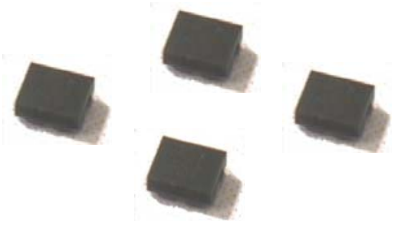
SAW Duplexer

for Band3 / Balanced / LR /1814

Murata PN: SAYEY1G74CA0B0A

■ Feature

- smallest size



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

SAYEY1G74CA0B0A (Band3 / Balanced / LR / 1814)

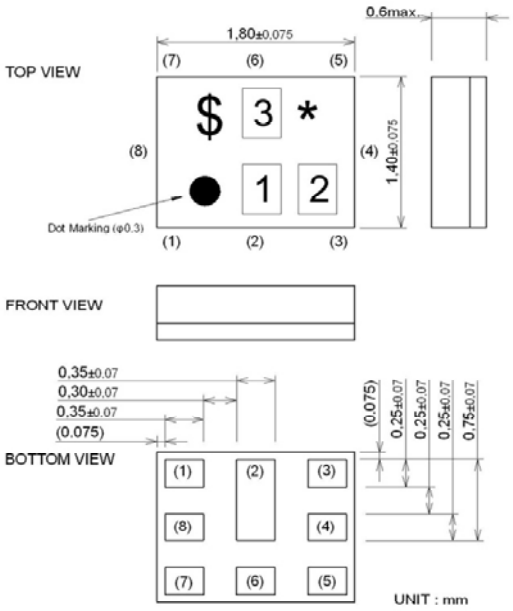
Revision No.	Date	Description
SAYEY1G74CA0B0A_rev. A	Feb-25-2014	■ Initial Release
SAYEY1G74CA0B0A_rev. B	Jul-10-2014	■ Updated Specification

- 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 : 1M ohm
- RoHS compliance : Yes

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

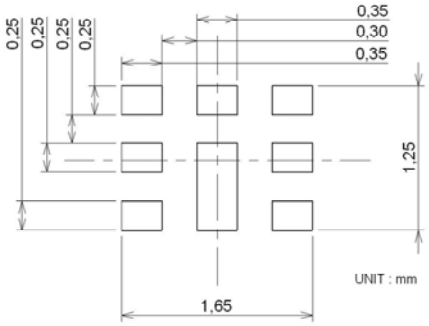


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 4
2 : P
3 : A

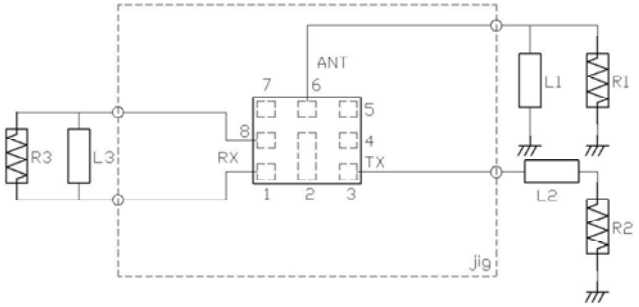
Terminal Number
(6) : ANT.
(3) : TX
(1)(8) : RX
Others : GND.

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

Land Pattern



Measurement Circuit (Top View)



R1 : 50 ohm	L1 : 3.6 nH(Ideal inductor)
	L1 : 4.7nH(LQP03TN4N7, Reference)
R2 : 50 ohm	L2 : 2 nH(Ideal inductor)
R3 : 100 ohm	L3 : 14 nH(Ideal inductor)

Electrical Characteristic < TX→ANT. >

TX → ANT.			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.	max.		
Center Frequency				1747.5		MHz	
Insertion Loss	1710. to 1785. MHz			1.9	2.5	dB	
	1712.5 to 1782.5 MHz			1.7	2.4	dB_{INT}	Any 4.5MHz
	1710. to 1785. MHz			1.9	2.3	dB	+23 to +27deg.C
	1712.5 to 1782.5 MHz			1.7	2.3	dB_{INT}	+23 to +27deg.C, Any 4.5MHz
Ripple Deviation	1710. to 1785. MHz			0.4	1.5	dB	Over any 5MHz in-band
VSWR	1710. to 1785. MHz			1.6	2.1		ANT.
	1710. to 1785. MHz			1.6	2.1		TX
Absolute Attenuation	10. to 1565.42 MHz		30	35		dB	
	1565.42 to 1573.37 MHz		39	44		dB	Wideband GPS, lower side-lobe
	1573.37 to 1577.47 MHz		39	45		dB	Regular GPS, main-lobe
	1577.47 to 1585.42 MHz		39	45		dB	Wideband GPS, upper side-lobe
	1597.55 to 1605.89 MHz		39	46		dB	GLONASS
	1605.89 to 1680. MHz		5	10		dB	
	1805. to 1880. MHz		42	47		dB	
	1920. to 1980. MHz		20	39		dB	
	2110. to 2170. MHz		24	38		dB	
	2400. to 2500. MHz		28	33		dB	
	2620. to 2690. MHz		24	29		dB	
	3420. to 3570. MHz		20	24		dB	2fo
	4900. to 5850. MHz		19	24		dB	
	5130. to 5355. MHz		20	26		dB	3fo
	6840. to 7140. MHz		15	22		dB	
	8550. to 8925. MHz		6	16		dB	
	10260. to 10710. MHz		5	15		dB	
	11970. to 12495. MHz		3	13		dB	

* 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					1842.5		MHz	
Insertion Loss	1805. to 1880. MHz				2.9	3.5	dB	
	1805. to 1880. MHz				2.9	3.3	dB	+23 to +27deg.C
Ripple Deviation	1805. to 1880. MHz				0.8	1.5	dB	Over any 5 MHz in-band
VSWR	1805. to 1880. MHz				2	2.25		ANT.
	1805. to 1880. MHz				1.9	2.2		RX
Amplitude Balance	1805. to 1880. MHz			-1.8	-1.1	1.8		
Phase Balance	1805. to 1880. MHz			162	171	198		
Absolute Attenuation	1. to 1710. MHz			30	46		dB	
	95. MHz			50	123		dB	Rx-Tx
	824. to 849. MHz			40	68		dB	B5 Tx for CA
	832. to 862. MHz			40	68		dB	B20 Tx for CA
	880. to 915. MHz			40	65		dB	B8 Tx for CA
	1710. to 1785. MHz			46	51		dB	Tx
	1785. to 1790. MHz			15	52		dB	(Rx+Tx)/2
	1920. to 6000. MHz			20	39		dB	
	2400. to 2500. MHz			40	55		dB	ISM 2.4G
	2500. to 2570. MHz			40	50		dB	B7 Tx
	4900. to 5950. MHz			40	52		dB	ISM 5G
	5415. to 5640. MHz			40	56		dB	3×LO
	7220. to 7520. MHz			30	47		dB	4×LO
	9025. to 9400. MHz			20	35		dB	5×LO
	10830. to 11280. MHz			10	20		dB	6×LO
	12635. to 12750. MHz			10	20		dB	7×LO
	6000. to 12750. MHz			8	18		dB	

* Typical value at 25±2deg.C

Electrical Characteristic < TX→RX. >

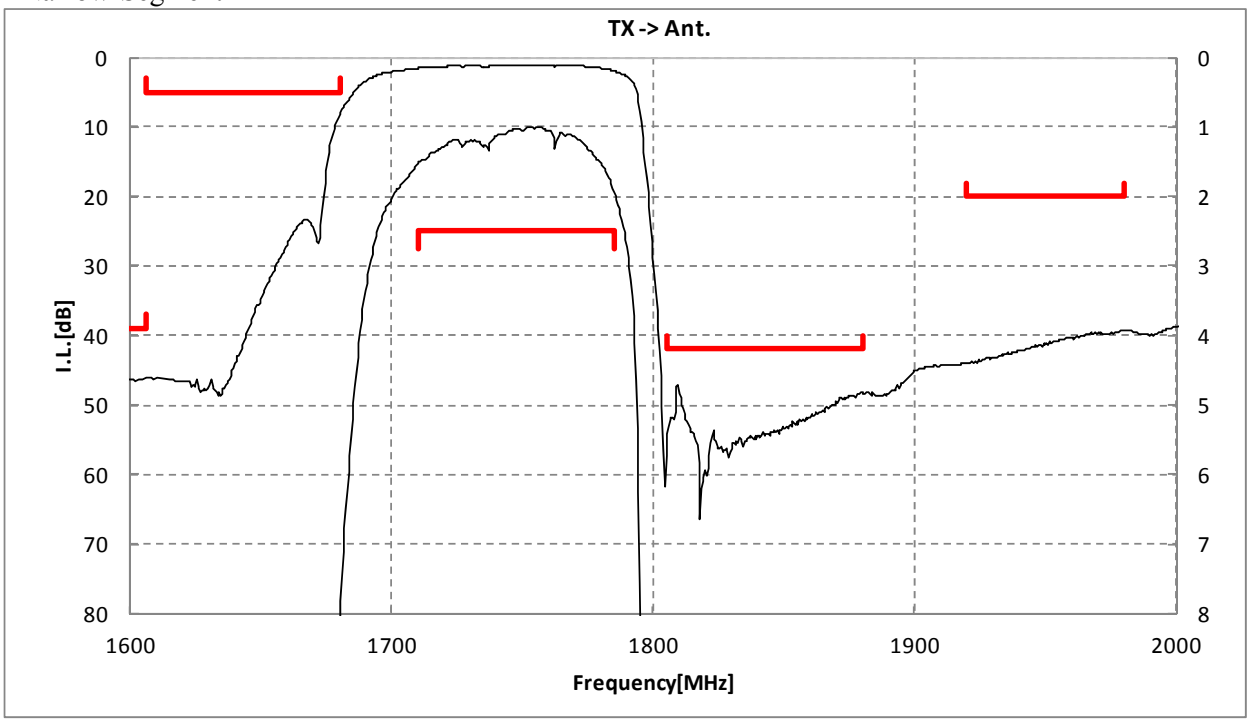
TX → RX			Characteristics (-20 to +85 deg.C)			Unit	Note
			min.	typ.	max.		
Isolation							
Differential Mode	1710. to 1785. MHz		53	56		dB	
	1712.5 to 1782.5 MHz		53	56		dB_{INT}	Any 4.5MHz
	1805. to 1880. MHz		50	53		dB	
	1807.5 to 1877.5 MHz		50	53		dB_{INT}	Any 4.5MHz
	1710. to 1785. MHz		53	56		dB	+23 to +27deg.C
	1712.5 to 1782.5 MHz		53	56		dB_{INT}	+23 to +27deg.C, Any 4.5MHz
	1805. to 1880. MHz		50	53		dB	+23 to +27deg.C
	1807.5 to 1877.5 MHz		50	53		dB_{INT}	+23 to +27deg.C, Any 4.5MHz
Common Mode	1710. to 1785. MHz		48	51		dB	
	1712.5 to 1782.5 MHz		48	51		dB_{INT}	Any 4.5MHz
	1710. to 1785. MHz		48	51		dB	+23 to +27deg.C
	1712.5 to 1782.5 MHz		48	51		dB_{INT}	+23 to +27deg.C, Any 4.5MHz

* Typical value at 25±2deg.C

Electrical Characteristic

< TX→ANT. >

Narrow-Segment

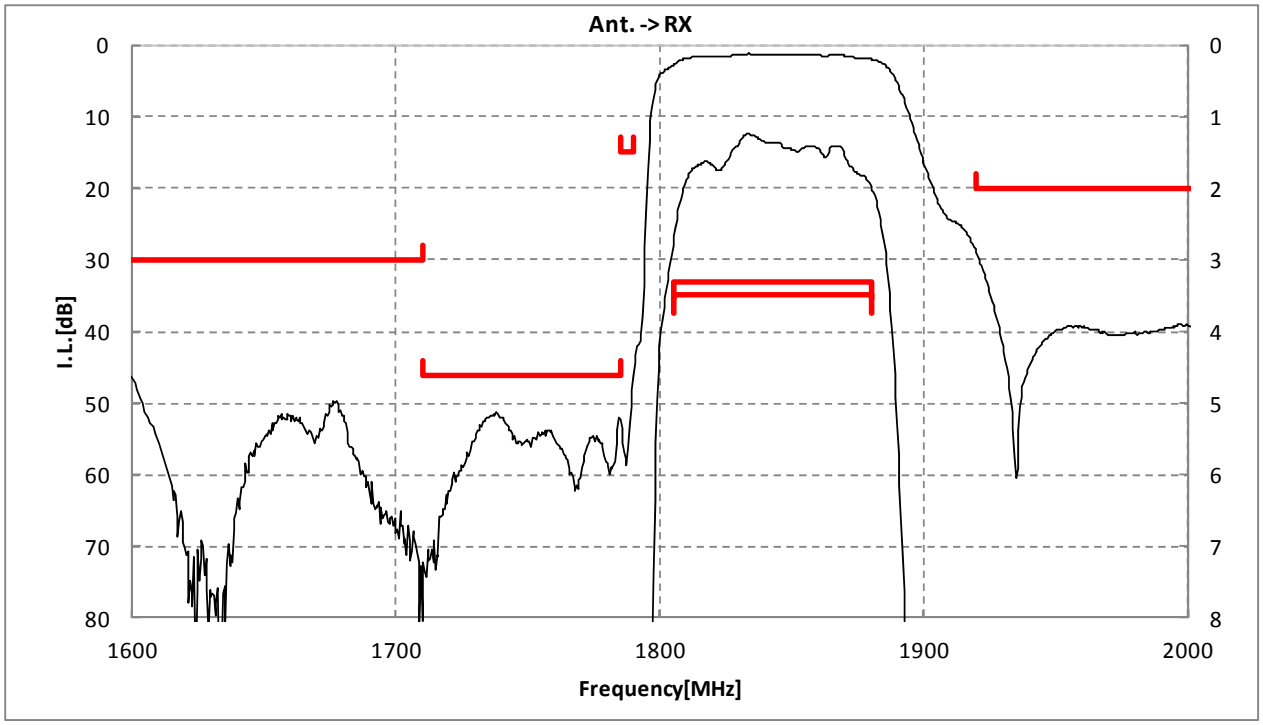


Wide-Segment

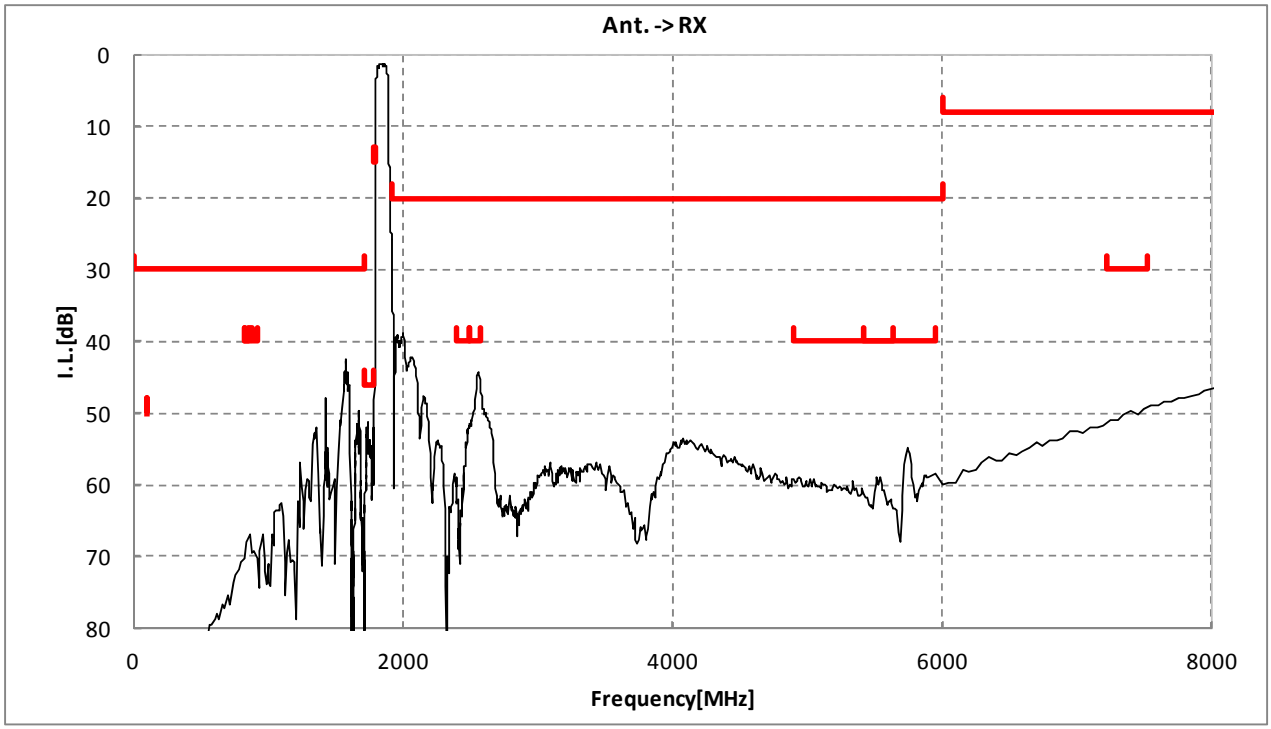
Electrical Characteristic

< ANT.→RX. >

Narrow-Segment



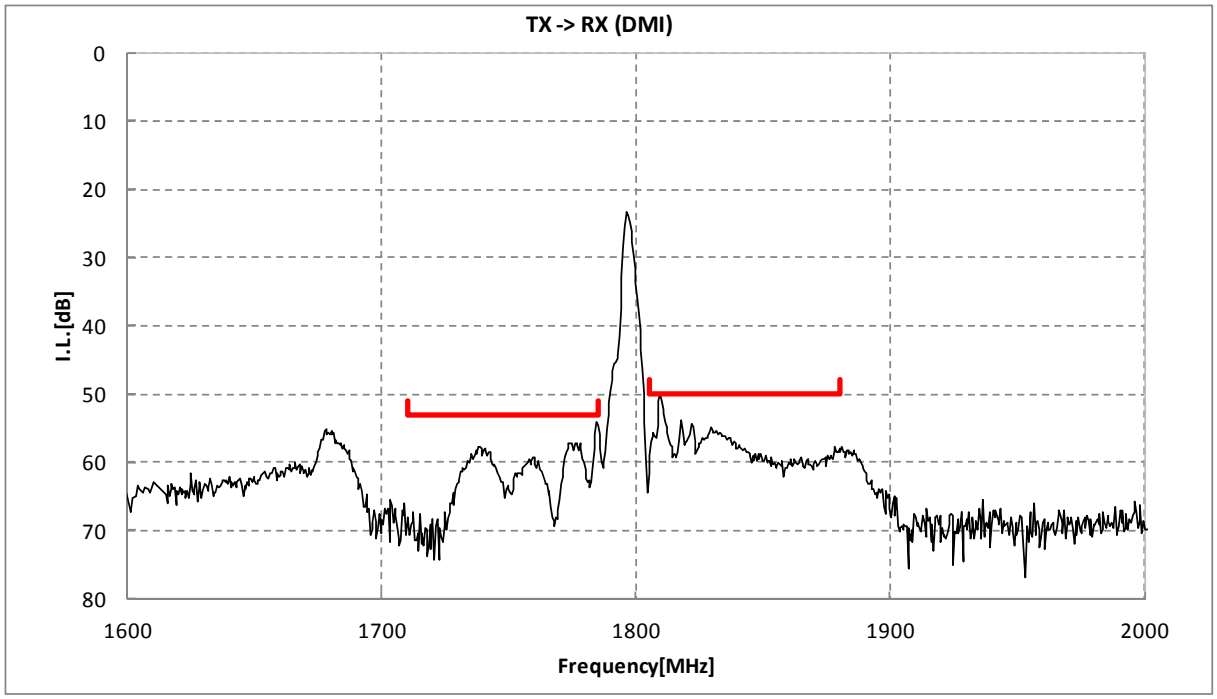
Wide-Segment



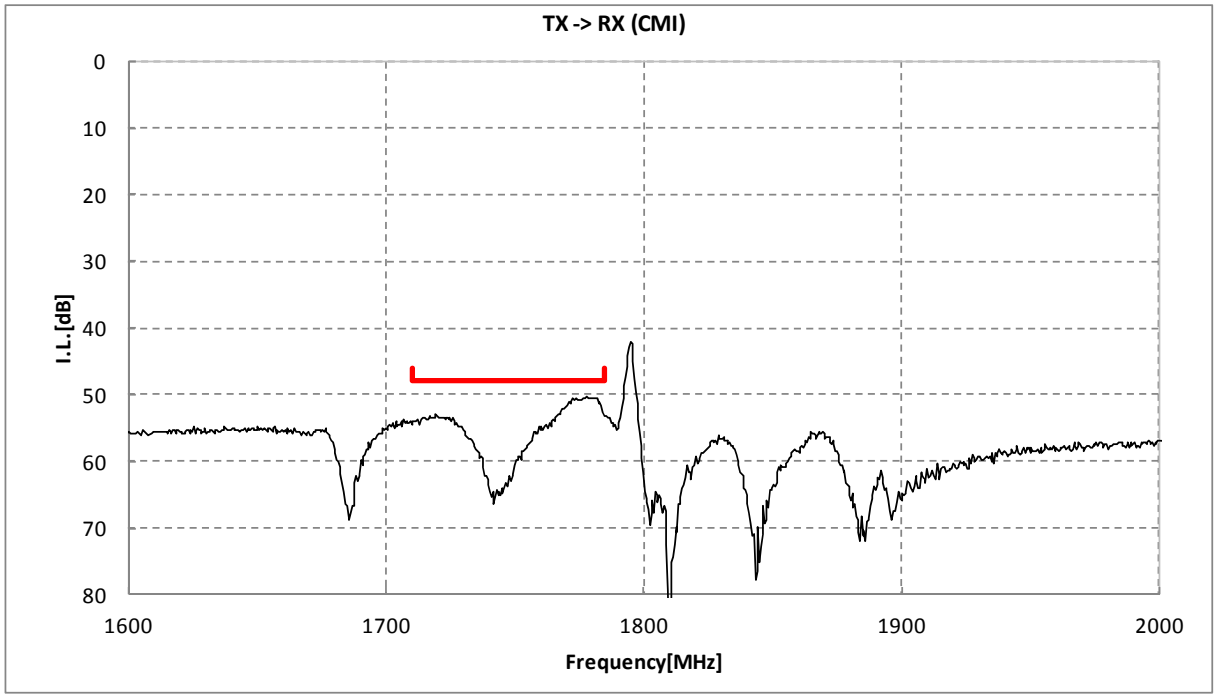
Electrical Characteristic

< TX→RX. >

Narrow-Segment



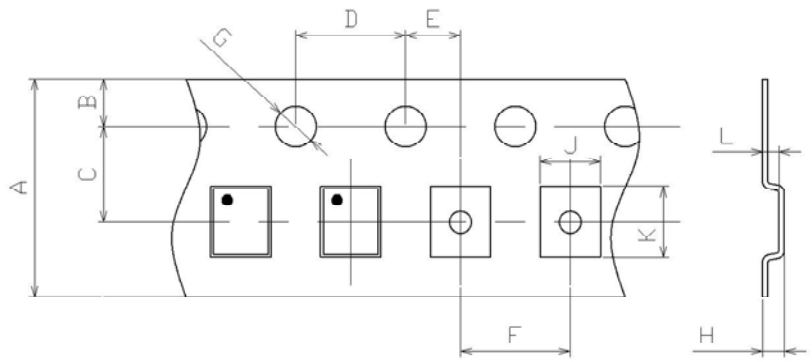
Wide-Segment



SAYEY1G74CA0B0A (Band3 / Balanced / LR / 1814)

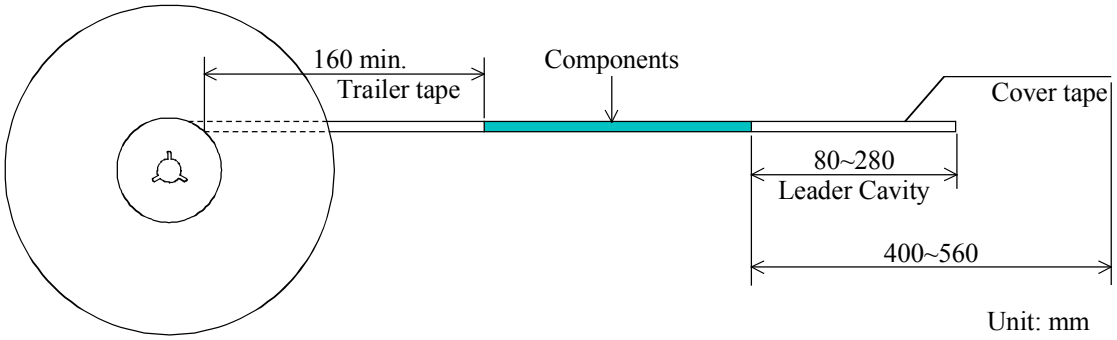
Dimensions of Tape & Reel unit: mm

Carrier Tape



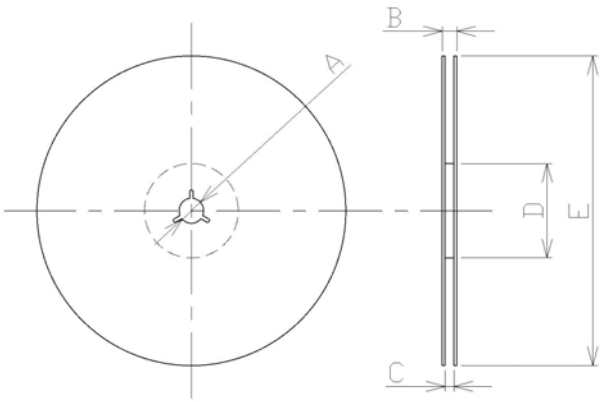
A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY1G74CA0B0AR00… 10000pcs (φ330)
SAYEY1G74CA0B0AR05… 5000pcs (φ330)
SAYEY1G74CA0B0AR1S… 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)

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.

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Important Notice (2/2)

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- 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.

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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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- improper use of engineering samples.

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