Datasheet of SAW Device

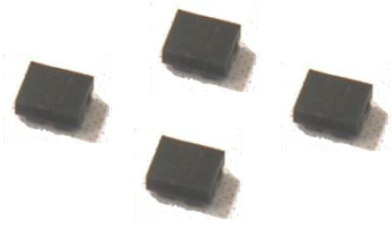
SAW Duplexer

for Band3 / Unbalanced / LR /1814

Murata PN: SAYEY1G74BC0B0A

■ Feature

- 1814 Size
- For LTE



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

SAYEY1G74BC0B0A (Band3 / Unbalanced / LR / 1814)

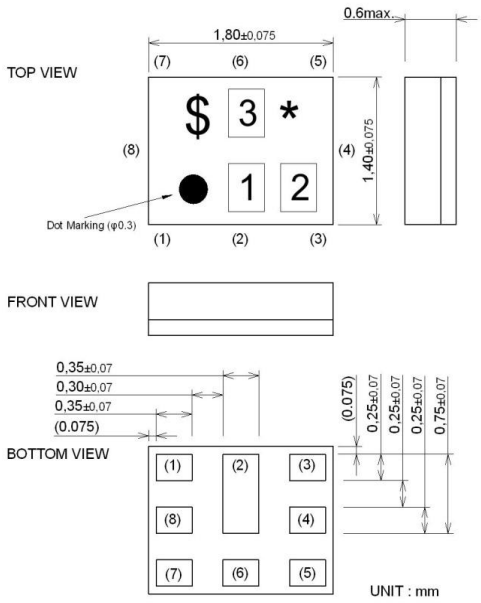
Revision No.	Date	Description
SAYEY1G74BC0B0A_rev. A	May-09-2014	■ Initial Release
SAYEY1G74BC0B0A_rev. B	Aug-26-2014	■ Updated for MP
SAYEY1G74BC0B0A_rev. C	Sep-18-2014	■ Updated Specification

- Operating temperature : -20 to +85 deg.C
- Storage temperature : -40 to +85 deg.C
- Input Power : +29 dBm 5000 h 50 deg.C
- D.C. Volatage between the terminals : 3V (25+/-2 deg.C)
- Minimum Resistance betweem the terminal : 1M ohm
- RoHS compliance : Yes

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

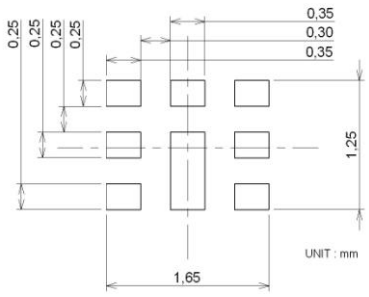


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 6
2 : W
3 : A

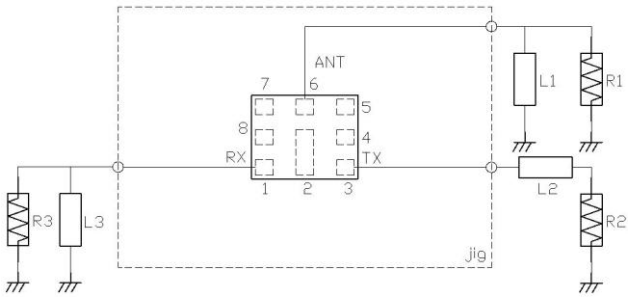
Terminal Number
(6) : Ant
(3) : TX
(1) : RX
Others : GND.

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

Land Pattern



Measurement Circuit (Top View)



R1 : 50 ohm	L1 :3.9nH(Ideal inductor)
	:4.7nH(LQP03TN4N7) <Reference>
R2 : 50 ohm	L2 :2nH(Ideal inductor)
R3 : 50 ohm	L3 :8nH(Ideal inductor)

Electrical Characteristic < TX→ANT. >

TX → ANT.					Characteristics (-20 to +85 deg.C)			Unit	Note
					min.	typ.	max.		
Center Frequency						1748		MHz	
Insertion Loss	1710.	to	1785.	MHz		2.0	2.5	dB	
	1710.	to	1785.	MHz		2.0	2.4	dB	+23 to +27deg.C
	1712.5	to	1782.5	MHz		1.8	2.4	dB_{INT}	Any 4.5MHz
	1712.5	to	1782.5	MHz		1.8	2.3	dB_{INT}	+23 to +27deg.C, Any 4.5MHz
Ripple Deviation	1710.	to	1785.	MHz		0.3	1.1	dB	Over any 5MHz in-band
VSWR	1710.	to	1785.	MHz		1.7	2.2		ANT.
	1710.	to	1785.	MHz		1.6	2.1		TX
Absolute Attenuation	10.	to	1565.42	MHz	28	34		dB	
	703.	to	748.	MHz	30	40		dB	B28 Tx CA
	716.	to	756.	MHz	35	40		dB	B28 Rx Band
	814.	to	849.	MHz	33	38		dB	B5, B26 Tx CA
	832.	to	862.	MHz	33	38		dB	B20 Tx CA
	880.	to	915.	MHz	33	37		dB	B8 Tx CA
	925.	to	960.	MHz	32	37		dB	
	1226.	to	1250.	MHz	30	34		dB	
	1496.	to	1511.	MHz	33	38		dB	B21 Rx Band
	1559.	to	1563.	MHz	36	42		dB	Compass
	1565.42	to	1573.37	MHz	37	43		dB	Wideband GPS, lower side-lobe
	1573.37	to	1577.47	MHz	38	44		dB	Regular GPS, main-lobe
	1577.47	to	1585.42	MHz	38	44		dB	Wideband GPS, upper side-lobe
	1597.55	to	1605.89	MHz	42	45		dB	GLONASS
	1605.89	to	1680.	MHz	5	14		dB	
	1805.	to	1880.	MHz	42	48		dB	Rx
	1920.	to	1980.	MHz	20	40		dB	
	2110.	to	2170.	MHz	24	38		dB	
	2400.	to	2500.	MHz	28	34		dB	ISM2.4GHz
	2620.	to	2690.	MHz	25	30		dB	
	3420.	to	3570.	MHz	20	24		dB	2fo
	4900.	to	5850.	MHz	16	25		dB	ISM5GHz
	5100.	to	5385.	MHz	18	27		dB	
	5130.	to	5355.	MHz	18	27		dB	3fo
	6840.	to	7140.	MHz	12	22		dB	
	8550.	to	8925.	MHz	6	16		dB	
	10260.	to	10710.	MHz	10	20		dB	
	11970.	to	12495.	MHz	6	16		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				1843		MHz	
Insertion Loss	1805. to 1880.	MHz		2.6	3.5	dB	
	1805. to 1880.	MHz		2.6	3.4	dB	+23 to +27deg.C
	1807.5 to 1877.5	MHz		2.2	3.3	dB_{INT}	Any 4.5MHz
	1807.5 to 1877.5	MHz		2.2	3.2	dB_{INT}	+23 to +27deg.C, Any 4.5MHz
Ripple Deviation	1805. to 1880.	MHz		0.7	1.7	dB	Over any 5 MHz in-band
VSWR	1805. to 1880.	MHz		1.7	2.3		ANT.
	1805. to 1880.	MHz		1.6	2.2		RX
Absolute Attenuation	1. to 1710.	MHz	30	39		dB	
	95.	MHz	50	109		dB	Rx-Tx
	718. to 748.	MHz	40	55		dB	B28-B Tx for CA
	814. to 849.	MHz	40	53		dB	B26 Tx for CA
	832. to 862.	MHz	40	51		dB	B20 Tx for CA
	880. to 915.	MHz	40	51		dB	B8 Tx for CA
	1447. to 1463.	MHz	30	41		dB	B21 Tx for CA
	1615. to 1690.	MHz	40	47		dB	2Tx - Rx
	1710. to 1785.	MHz	43	50		dB	Tx
	1785. to 1790.	MHz	24	49		dB	(Rx+Tx)/2
	1920. to 6000.	MHz	25	39		dB	
	2400. to 2500.	MHz	40	48		dB	ISM 2.4GHz
	2500. to 2570.	MHz	36	43		dB	B7 Tx
	2570. to 3515.	MHz	40	45		dB	
	3515. to 3760.	MHz	40	50		dB	Rx+Tx and 2x LO
	3760. to 13025.	MHz	15	27		dB	
	4900. to 5950.	MHz	31	39		dB	ISM 5GHz
	5205. to 5660.	MHz	32	39		dB	3×LO, Rx + 2Tx
	7220. to 7520.	MHz	27	35		dB	4×LO
	9025. to 9400.	MHz	20	33		dB	5×LO
	10830. to 11280.	MHz	15	27		dB	6×LO
	12635. to 12750.	MHz	15	33		dB	7×LO
	6000. to 12750.	MHz	15	27		dB	

* Typical value at 25±2deg.C

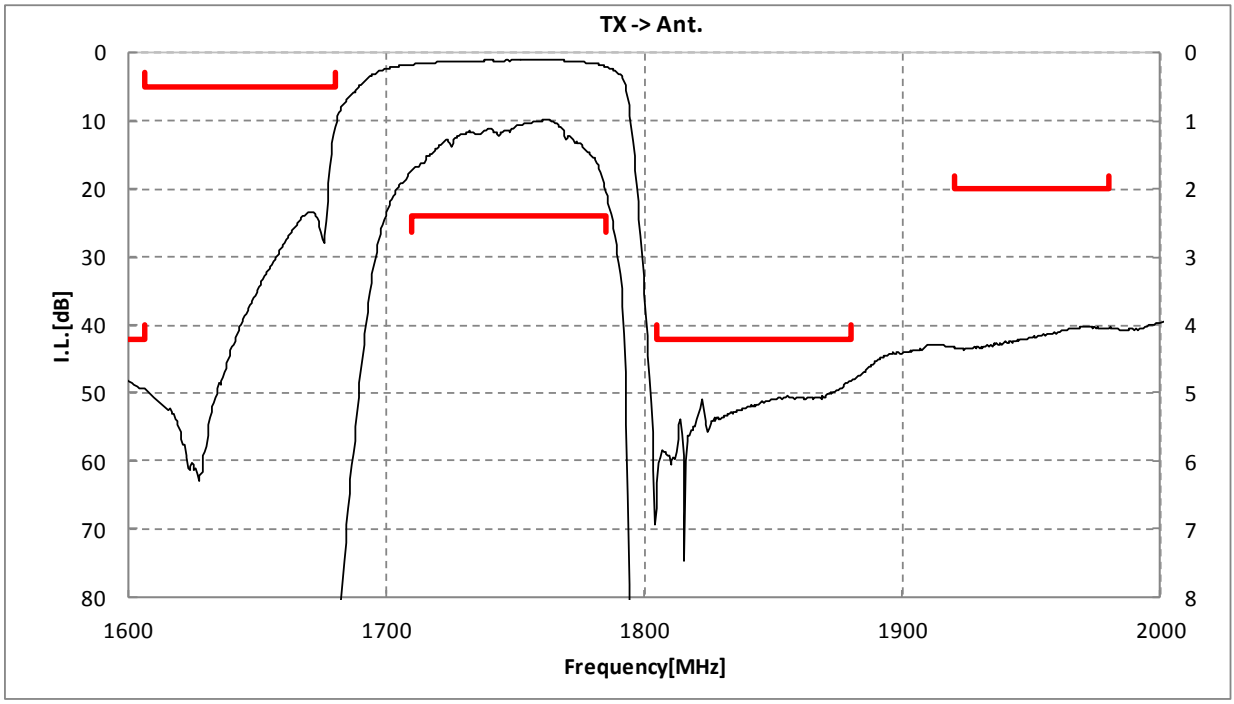
Electrical Characteristic < TX→RX. >

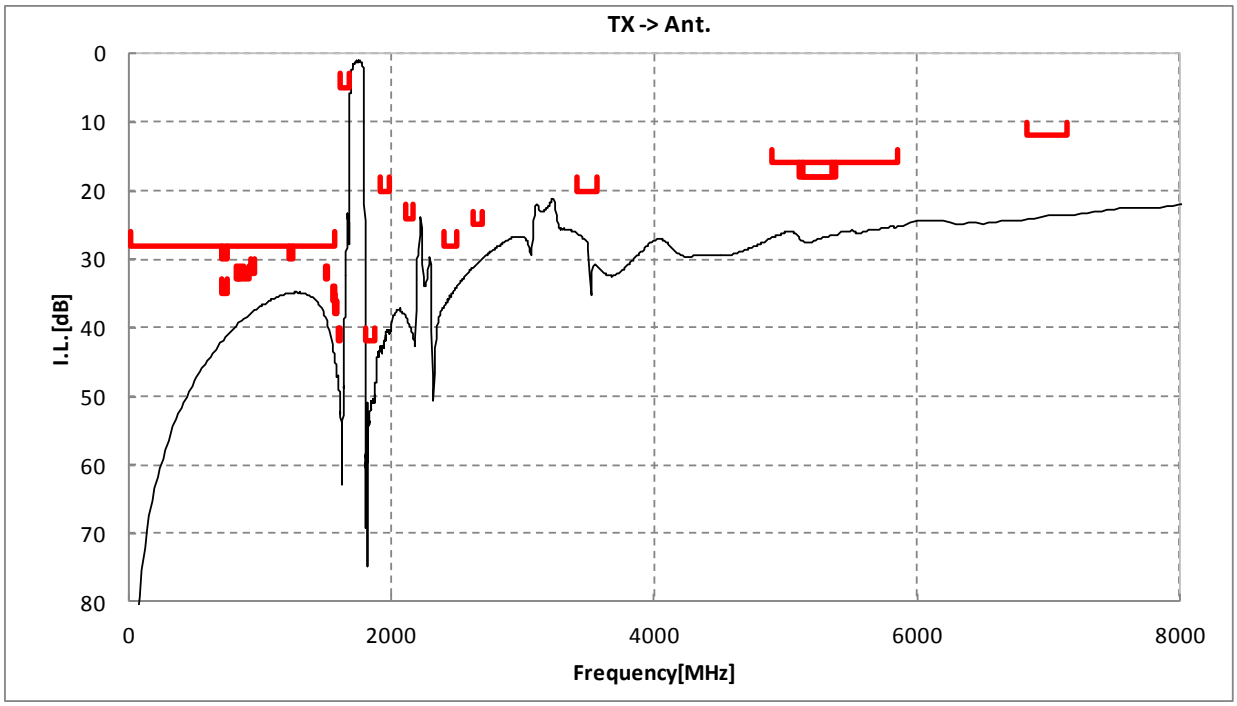
TX → RX		Characteristics (-20 to +85 deg.C) min.	typ.	max.	Unit	Note
Isolation						
	1710. to 1785. MHz	53	55		dB	
	1712.5 to 1782.5 MHz	53	57		dB_{INT}	Any 4.5MHz
	1805. to 1880. MHz	50	53		dB	
	1807.5 to 1877.5 MHz	50	54		dB_{INT}	Any 4.5MHz

* Typical value at 25±2deg.C

Electrical Characteristic

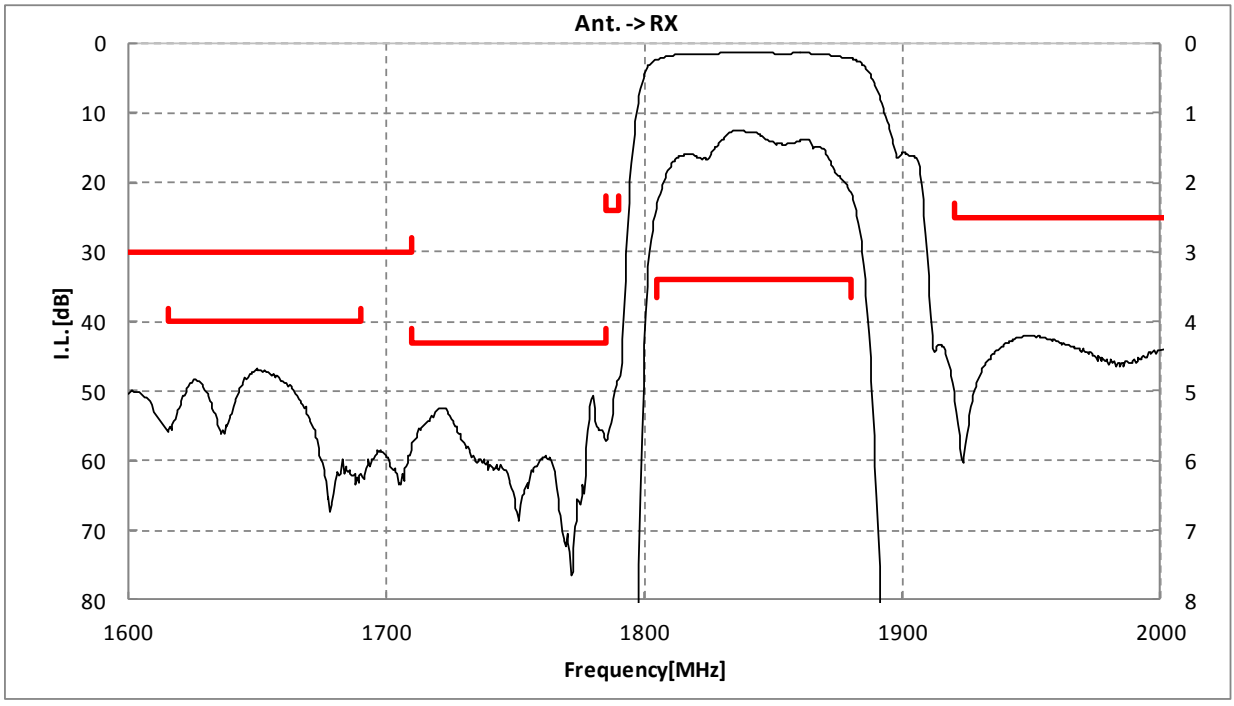
< TX→ANT. >

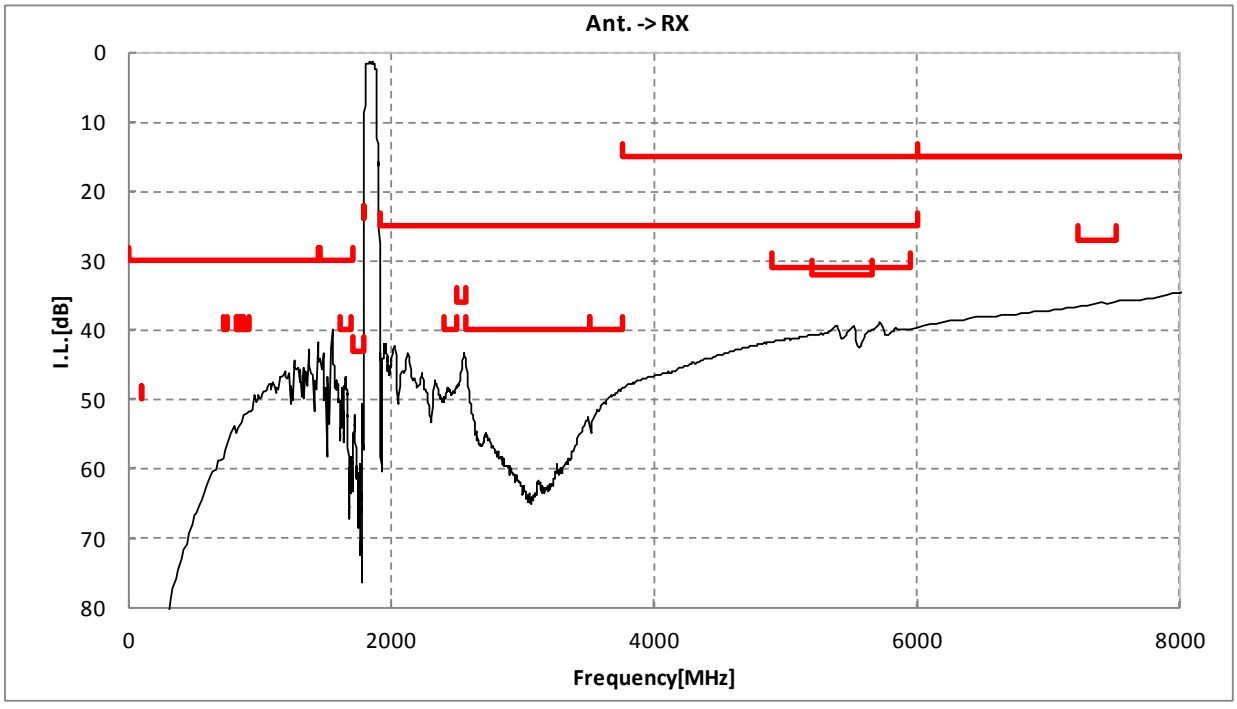




Electrical Characteristic

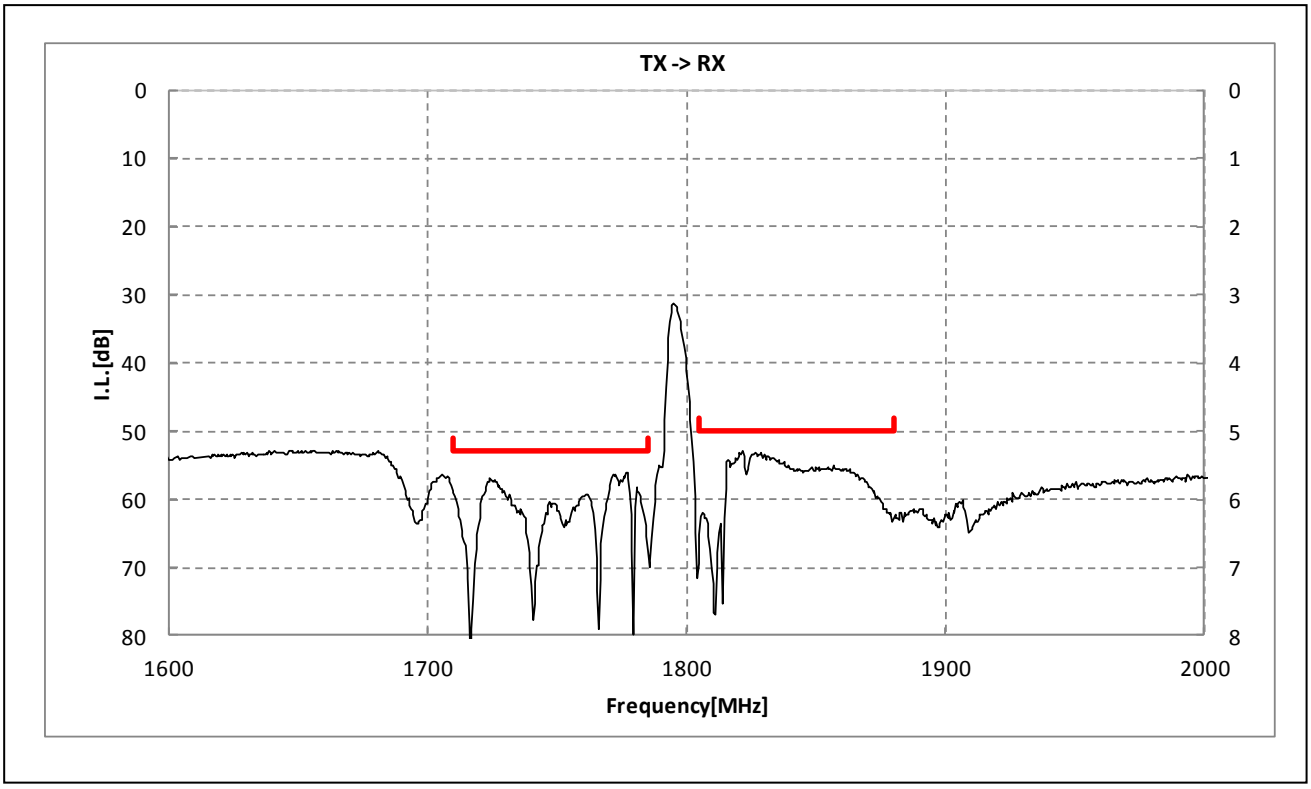
< ANT.→RX. >

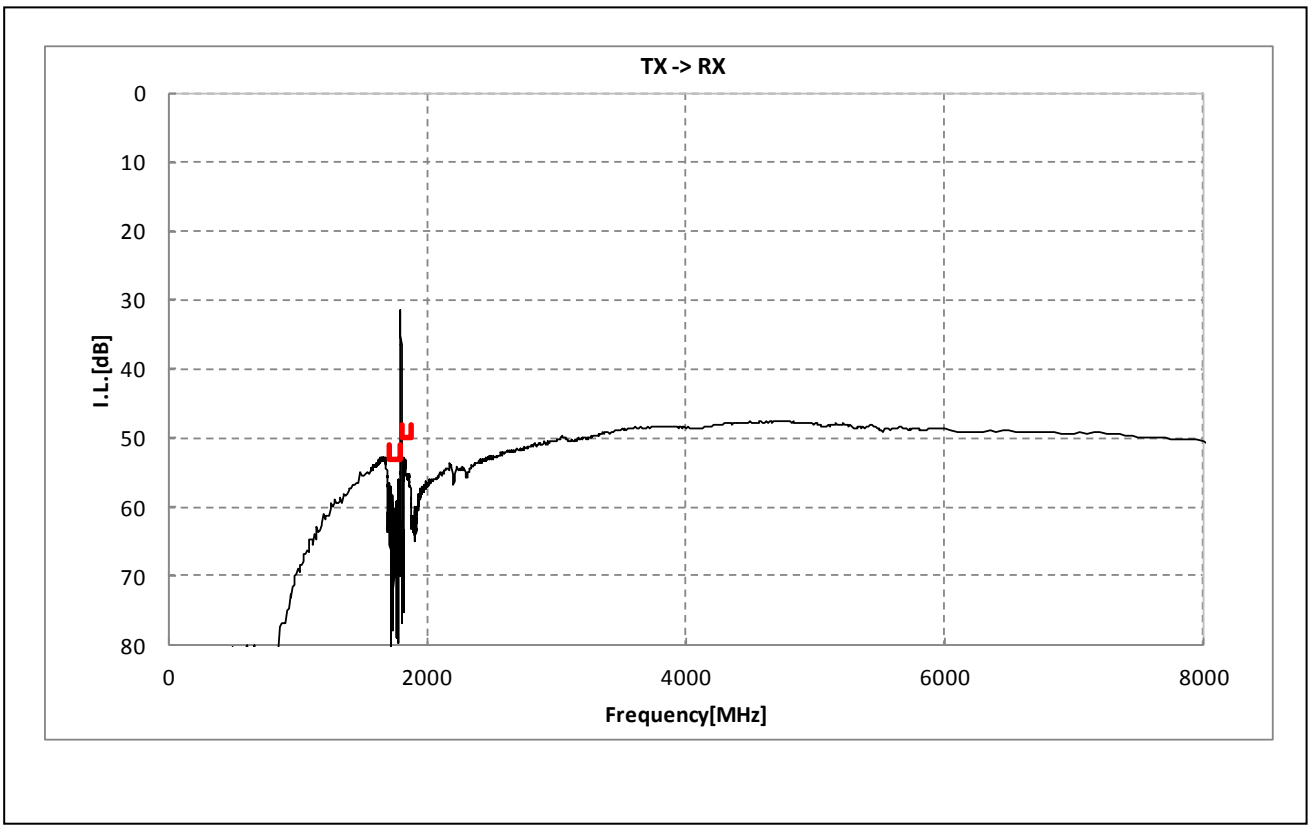




Electrical Characteristic

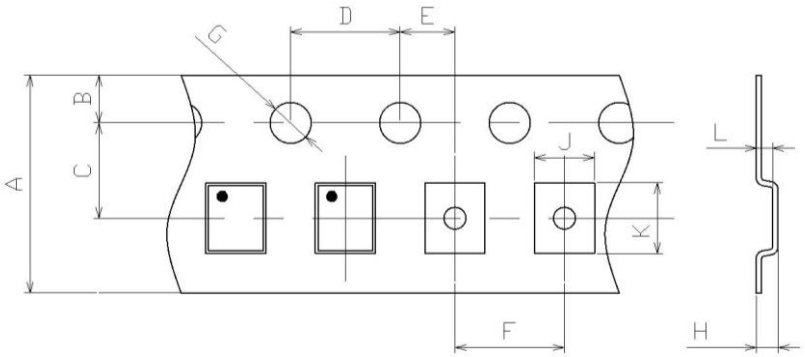
< TX→RX. >





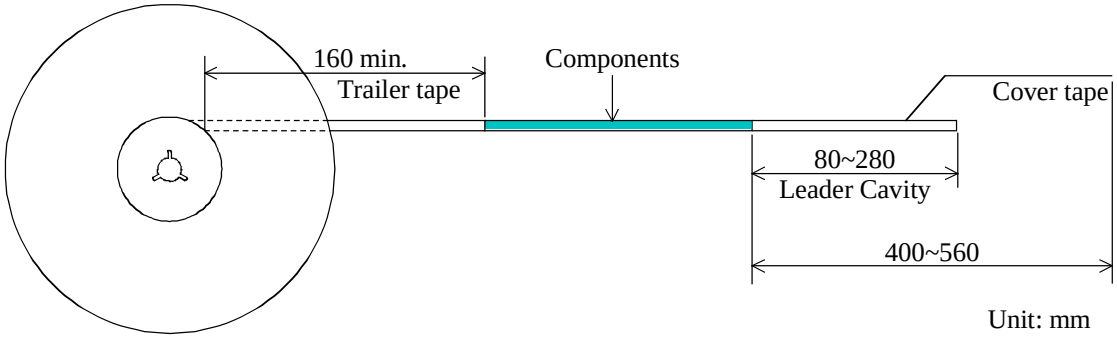
Dimensions of Tape & Reel unit: mm

Carrier Tape

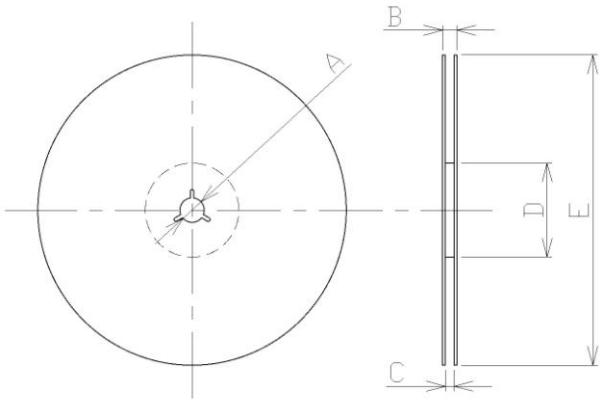


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY1G74BC0B0AR00… 10000pcs (φ330)
SAYEY1G74BC0B0AR05… 5000pcs (φ330)
SAYEY1G74BC0B0AR1S… 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

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- 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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