Datasheet of SAW Device

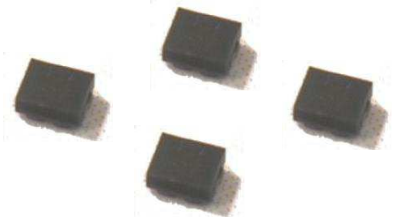
SAW Duplexer

for Band8 / Balanced / LR /1814

Murata PN: SAYEY897MCA0B0A

■ Feature

- LTE-A
- TC-SAW
- Low Insertion Loss



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

SAYEY897MCA0B0A (Band8 / Balanced / LR / 1814)

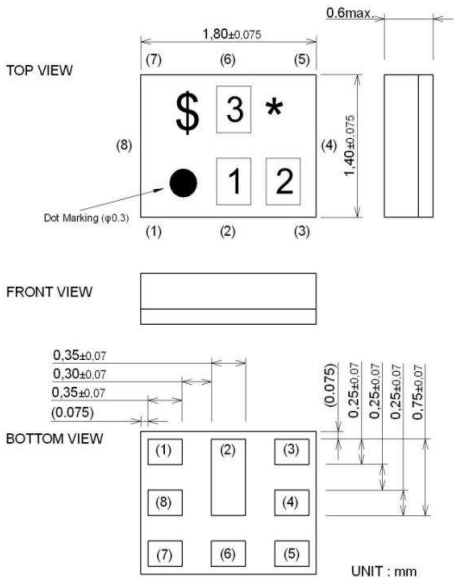
Revision Number	Date	Description
SAYEY897MCA0B0A_rev. A	Apr-04-2014	■ Initial Release
SAYEY897MCA0B0A_rev. B	May-12-2014	■ Updated specification
SAYEY897MCA0B0A_rev. C	Jun-05-2014	■ Updated for MP
SAYEY897MCA0B0A_rev. D	Apr-28-2015	■ Updated Minimum Resistance
SAYEY897MCA0B0A_rev. E	Sep-01-2015	■ Updated Feature
SAYEY897MCA0B0A_rev. F	Sep-14-2015	■ Updated General information,Feature
SAYEY897MCA0B0A_rev. G	Sep-06-2016	■ Updated General Information
SAYEY897MCA0B0A_rev. H	Mar-21-2017	■ Updated General Information

- 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 between the terminals : 10M ohm
- RoHS compliance : Yes
- ESD (ElectroStatic Discharge) sensitive device

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

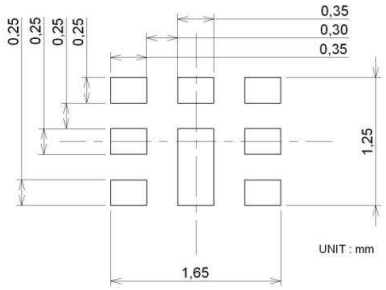


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 6
2 : Y
3 : A

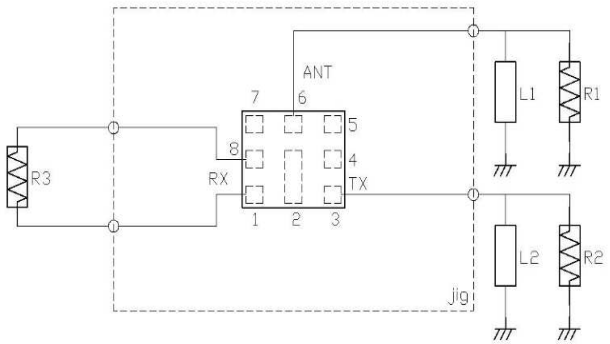
Terminal Number
(6) : Ant
(3) : TX
(1)(8) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :9.1nH(Ideal inductor)
	:9.1nH(LQP03TN9N1) <Reference>
R2 : 50 ohm	L2 :24nH(Ideal inductor)
R3 : 100 ohm	

Electrical Characteristic < TX→ANT. >

TX → ANT.		Characteristics (-20 to +85 deg.C)			Unit	Note
		min.	typ.*	max.		
Center Frequency			897.5		MHz	
Insertion Loss	880. to 915. MHz		2.1	3.0	dB	
	880.25 to 914.75 MHz		2.1	3.0	dB	
	882.5 to 912.5 MHz		1.7	2.2	dB_{INT}	Any 4.5MHz
Ripple Deviation	880. to 915. MHz		1.3	2.3	dB	
VSWR	880. to 915. MHz		1.6	2.0		TX
	880. to 915. MHz		1.6	2.0		ANT.
Absolute Attenuation	10. to 716. MHz	30	37		dB	
	716. to 728. MHz	35	37		dB	
	728. to 821. MHz	30	37		dB	
	832. to 862. MHz	30	38		dB	B20 TX CA
	925. to 960. MHz	44	55		dB	RX
	1559. to 1563. MHz	33	38		dB	Compass
	1565.42 to 1573.37 MHz	33	38		dB	Wideband GPS lower side
	1573.37 to 1577.47 MHz	33	38		dB	Regular GPS main lobe
	1577.47 to 1585.42 MHz	33	38		dB	Wideband GPS upper side
	1597.55 to 1605.89 MHz	33	41		dB	GLONASS
	1710. to 1785. MHz	30	48		dB	B3 TX CA
	1760. to 1840. MHz	38	47		dB	2f
	1840. to 1880. MHz	38	45		dB	
	1920. to 1980. MHz	30	40		dB	B1 TX CA
	2110. to 2170. MHz	27	41		dB	B1 RX
	2400. to 2500. MHz	32	37		dB	ISM2.4
	2434. to 2494. MHz	32	37		dB	WLAN coexistence
	2620. to 2745. MHz	30	35		dB	3f
	3520. to 3660. MHz	20	31		dB	4f
	4400. to 4575. MHz	20	29		dB	5f
	4900. to 5950. MHz	15	21		dB	ISM 5G, 6f
	6160. to 6405. MHz	15	21		dB	7f
	7040. to 7320. MHz	12	20		dB	8f
	7920. to 8235. MHz	12	17		dB	9f
	8800. to 9150. MHz	12	18		dB	10f
	9680. to 10065. MHz	12	18		dB	11f
	10560. to 10980. MHz	7.0	14.0		dB	12f
	11440. to 11895. MHz	5.0	11.0		dB	13f
	12320. to 12750. MHz	5.0	10.0		dB	14f

* 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			942.5		MHz	
Insertion Loss	925. to 960. MHz		2.4	3.8	dB	
	925.25 to 959.75 MHz		2.3	3.5	dB	
	927.5 to 957.5 MHz		1.9	2.7	dB_{INT}	Any 4.5MHz
Ripple Deviation	925. to 960. MHz		1.1	3.0	dB	
VSWR	925. to 960. MHz		1.9	2.3		RX
	925. to 960. MHz		1.9	2.3		ANT.
Amplitude Balance	925. to 960. MHz	-1.0	0.2	1.0	dB	
Phase Balance	925. to 960. MHz	170	184	190	deg.	
Absolute Attenuation	0.2 to 880. MHz	45	66		dB	
	45. MHz	50	114		dB	RX-TX
	835. to 870. MHz	40	66		dB	2TX-RX
	880. to 915. MHz	45	56		dB	TX rejection
	902.5 to 910. MHz	30	63		dB	(RX+TX)/2
	980. to 1045. MHz	25	31		dB	
	1427. to 1448. MHz	40	68		dB	B11 TX CA
	1710. to 1785. MHz	40	65		dB	B3 TX CA
	1805. to 1920. MHz	40	65		dB	RX+TX and 2f
	1920. to 1980. MHz	40	65		dB	B1 TX CA
	1980. to 13025. MHz	15	45		dB	
	2400. to 2500. MHz	40	63		dB	ISM2.4
	2500. to 2570. MHz	40	63		dB	B7 TX CA
	2685. to 2790. MHz	40	63		dB	RX+2TX
	2775. to 2880. MHz	40	62		dB	3f
	2880. to 3700. MHz	35	60		dB	
	3700. to 3840. MHz	40	60		dB	4f
	4625. to 4800. MHz	40	57		dB	5f
	4900. to 5950. MHz	40	55		dB	ISM 5G
	6475. to 6720. MHz	20	54		dB	7f
	7400. to 7680. MHz	15	47		dB	8f
	8325. to 8640. MHz	15	43		dB	9f
	9250. to 9600. MHz	15	44		dB	10f
	10175. to 10560. MHz	15	48		dB	11f
	11100. to 11520. MHz	15	49		dB	12f
	12025. to 12480. MHz	15	38		dB	13f

* Typical value at 25±2deg.C

SAYEY897MCA0B0A (Band8 / Balanced / LR / 1814)

Electrical Characteristic < TX→RX. >

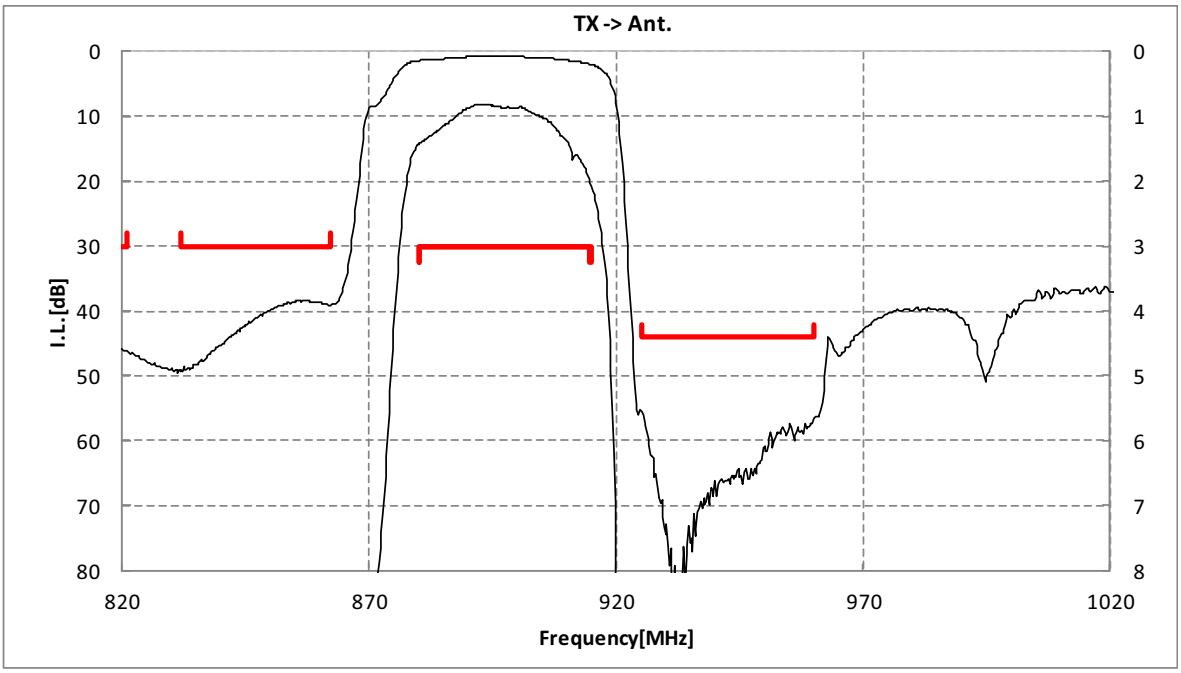
TX → RX		Characteristics (-20 to +85 deg.C)			Unit	Note
		min.	typ.*	max.		
Isolation						
Differential Mode	882.5 to 912.5 MHz	55	60		dB_{INT}	Any 4.5MHz, TX
	927.5 to 957.5 MHz	55	61		dB_{INT}	Any 4.5MHz, RX
Common Mode	880. to 915. MHz	50	53		dB	TX
	882.5 to 912.5 MHz	50	53		dB_{INT}	Any 4.5MHz, TX

* Typical value at 25±2deg.C

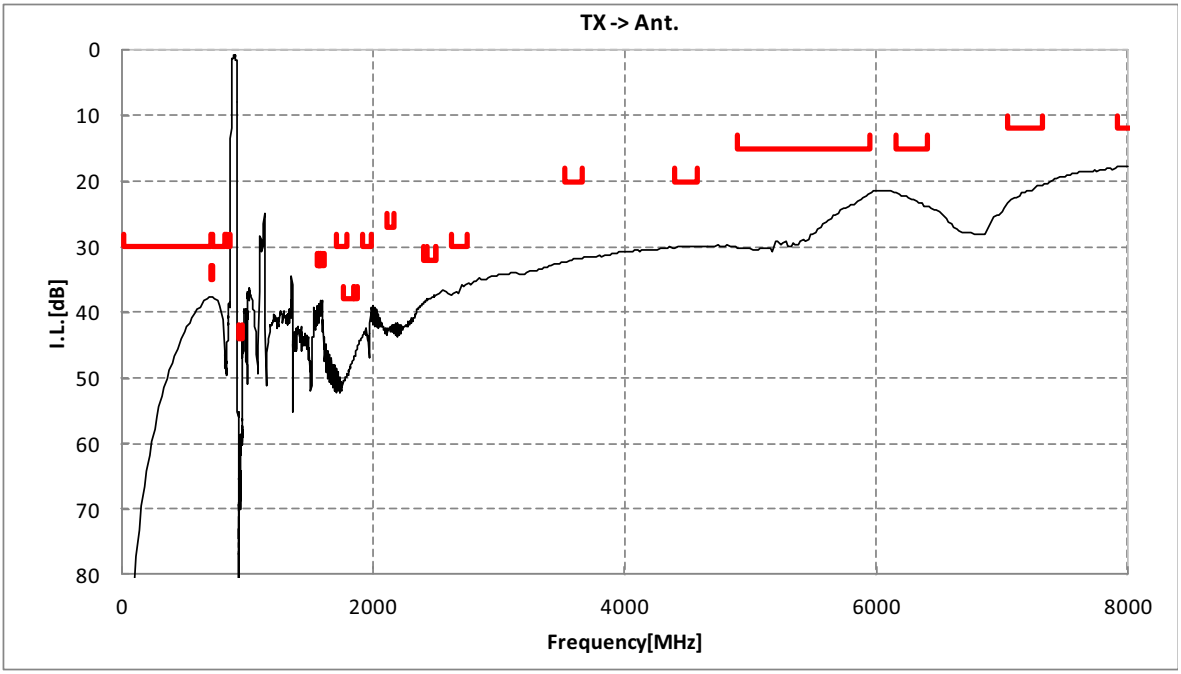
Electrical Characteristic

< TX→ANT. >

Narrow-Segment



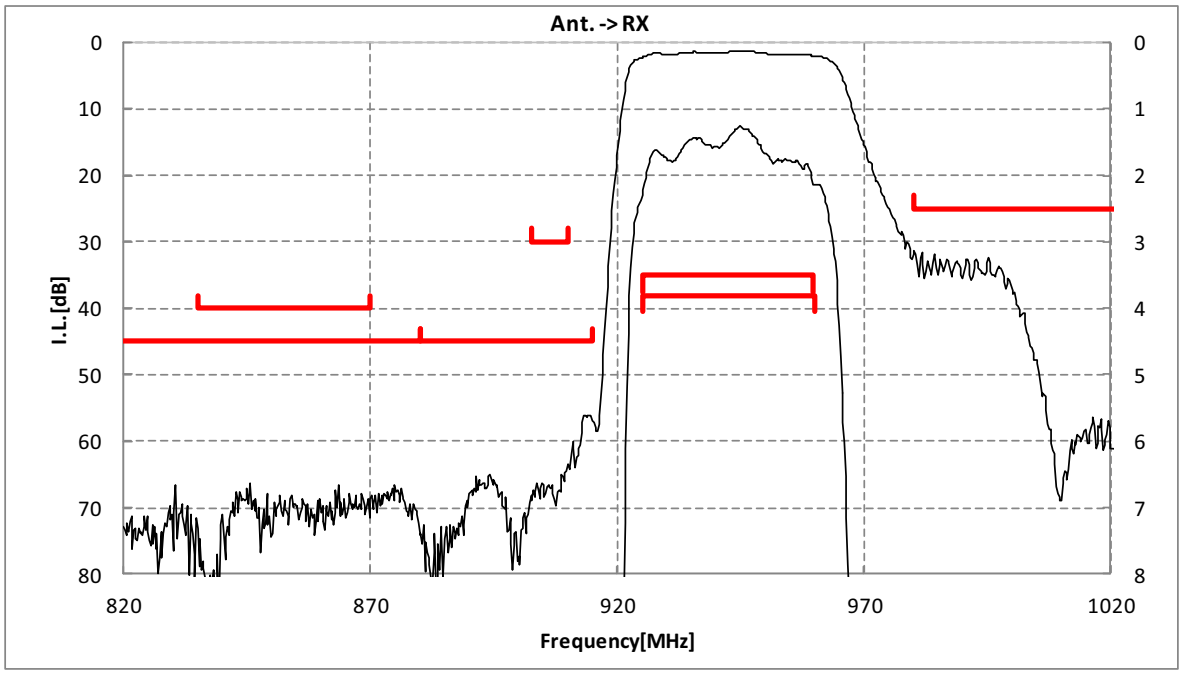
Wide-Segment



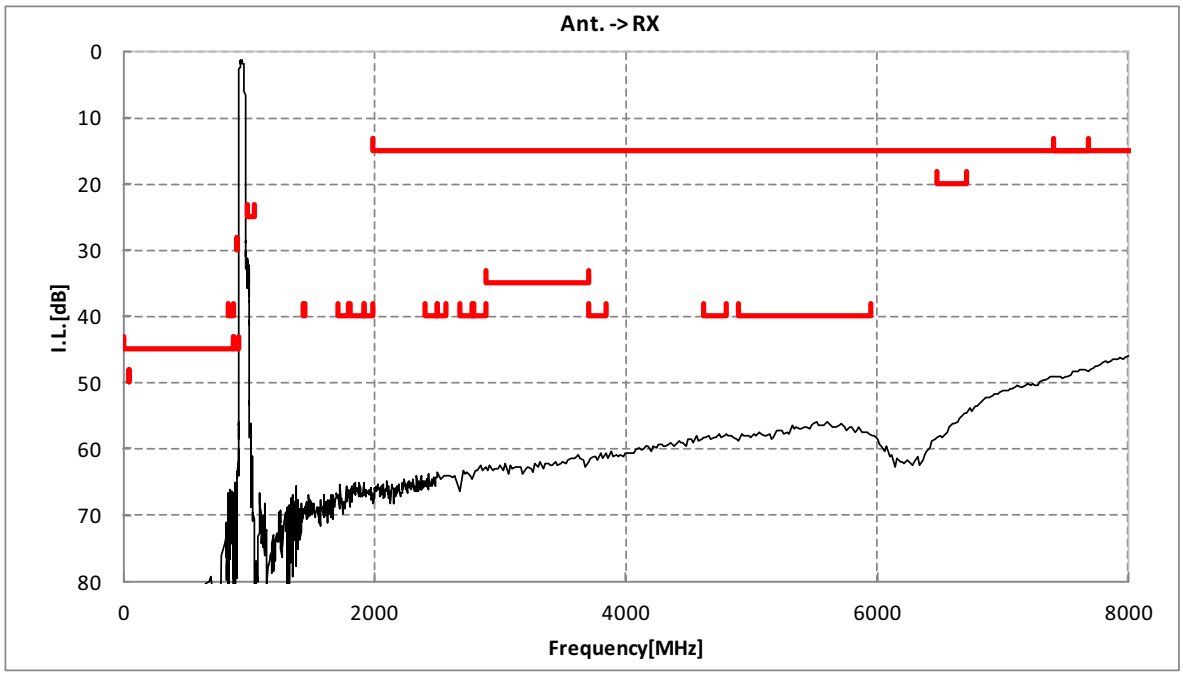
Electrical Characteristic

< ANT.→RX >

Narrow-Segment

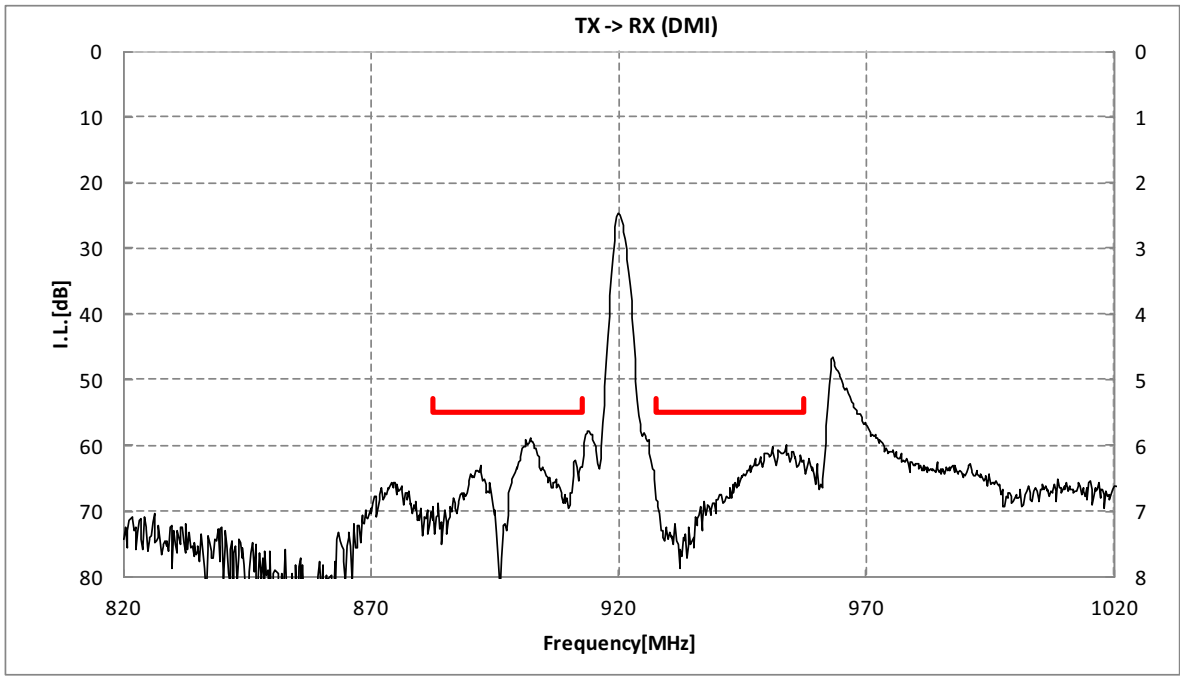


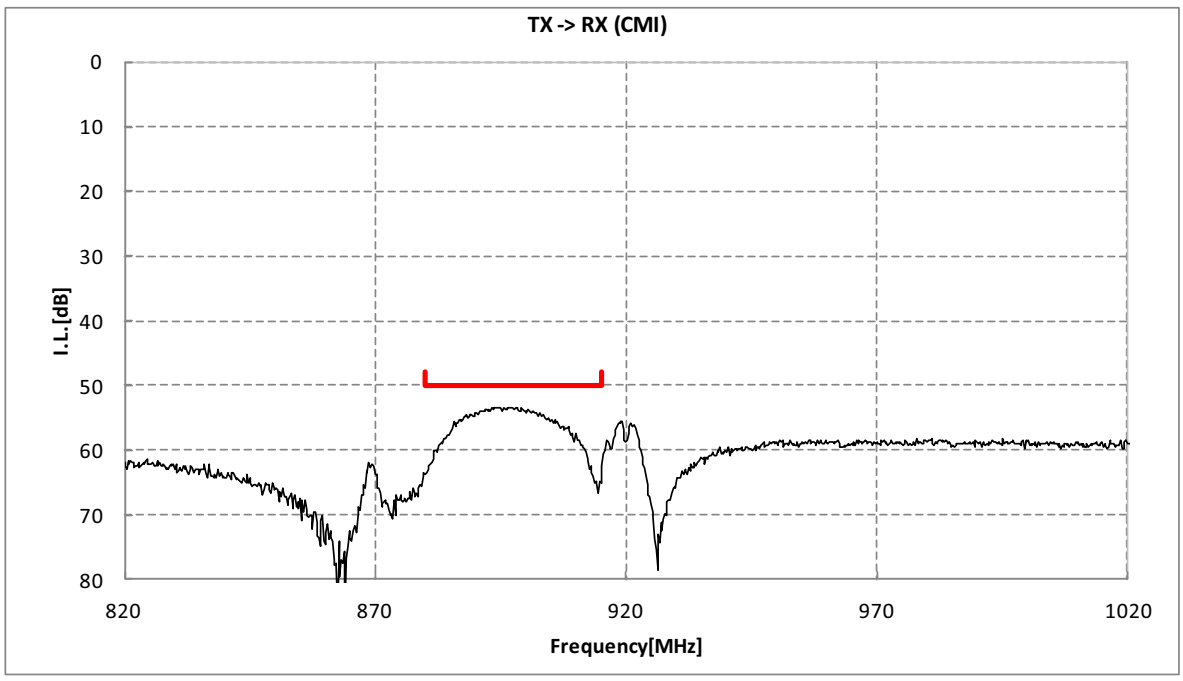
Wide-Segment



Electrical Characteristic

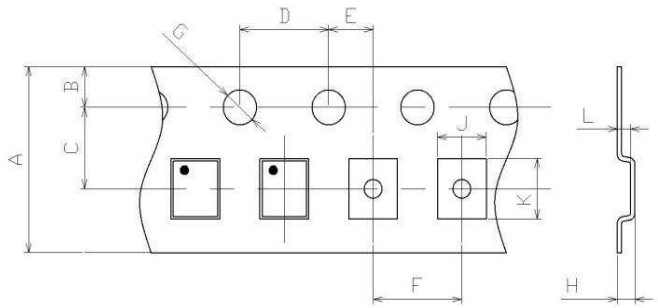
< TX→RX. >





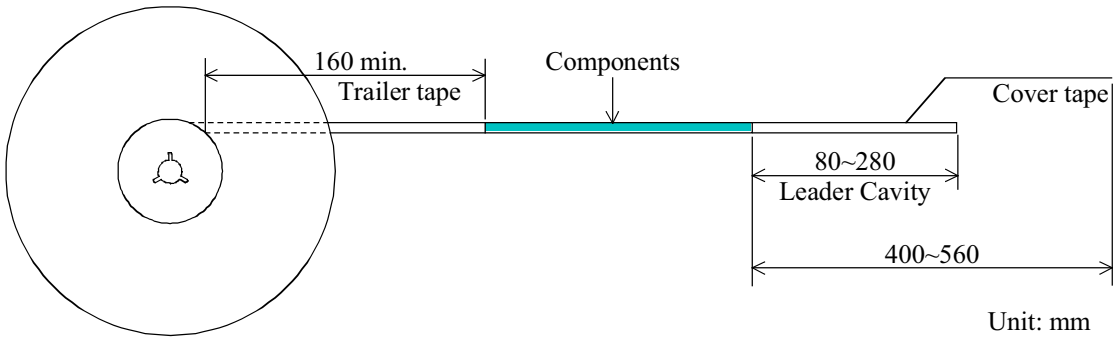
Dimensions of Tape & Reel unit: mm

Carrier Tape

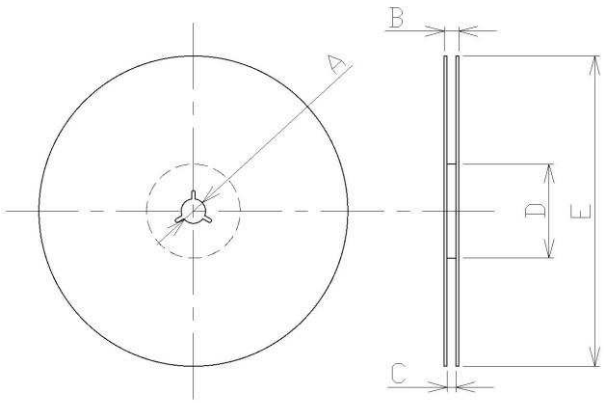


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY897MCA0B0AR00… 10000pcs (φ330)
SAYEY897MCA0B0AR1S… Sample Order (φ178/330)

Marking Code

Table A: Month Code

2013	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017 2021	A	B	C	D	E	F	G	H	J	K	L	M
2014	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2018 2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2019 2023	a	b	c̄	d	e	f	g	h	j	k	l	m
2016	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2020 2024	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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- 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 the product in molding condition.

This product is ESD (ElectroStatic Discharge) sensitive device.
When you install or measure this, you should be careful not to add antistatic electricity or high voltage.
Please be advised that you had better check anti serge voltage.

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