Datasheet of SAW Device

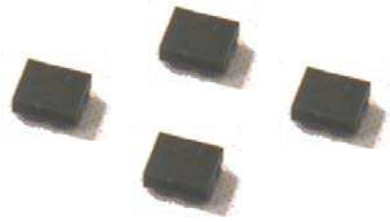
SAW Duplexer

for Band28 / Balanced / LR /1814

Murata PN: SAYEY718MCA0F0A

■ Feature

- Covered Band28A Frequency
- LTE-A



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

SAYEY718MCA0F0A (Band28 / Balanced / LR / 1814)

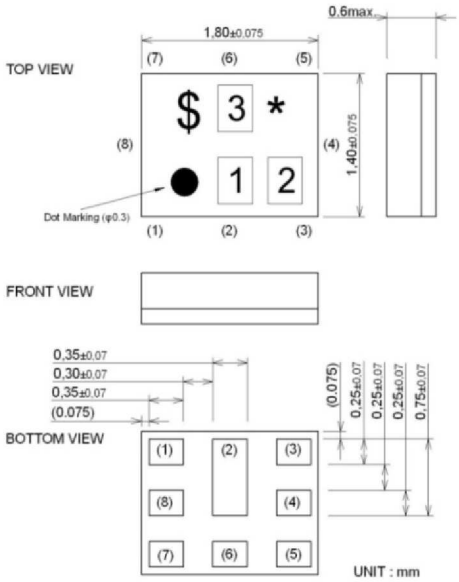
Revision Number	Date	Description
SAYEY718MCA0F0A_rev. A	Jul-14-2014	■ Initial Release
SAYEY718MCA0F0A_rev. B	Sep-18-2014	■ Updated for MP
SAYEY718MCA0F0A_rev. C	Oct-21-2014	■ Updated value of Capacitor
SAYEY718MCA0F0A_rev. D	Sep-02-2015	■ Updated Feature
SAYEY718MCA0F0A_rev. E	Aug-02-2016	■ Updated General Information

- 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 : 10M ohm
- RoHS compliance : Yes

Package Dimensions & Recommended Land Pattern

unit: mm

Dimensions

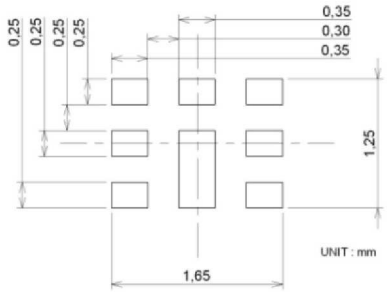


Marking : Laser Printing
* : Month code(Refer to the table A)
$: Date code(Refer to the table B)
1 : 7
2 : B
3 : A

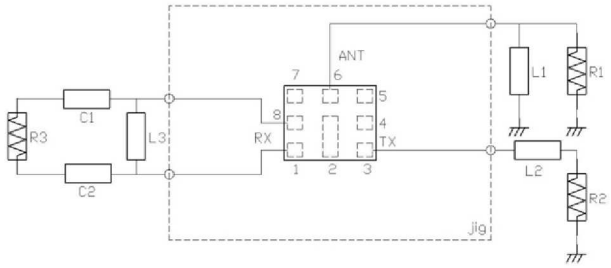
Terminal Number
(6) : Ant
(3) : TX
(1)(8) : RX
Others : GND

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

Land Pattern



Measurement Circuit (Top Thru View)



R1 : 50 ohm	L1 :7.7nH(Ideal inductor)
	:8.7nH(LQP03TN12NH0212N) <Reference>
R2 : 50 ohm	L2 :10.9nH(Ideal inductor)
R3 : 100 ohm	L3 :24nH(Ideal inductor)
	C1 :4.8nH(Ideal capacitor)
	C2 :4.8nH(Ideal capacitor)

Electrical Characteristic < TX→ANT. >

TX → ANT.				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Center Frequency					718		MHz	
Insertion Loss	703.25 to 732.75 MHz				2.1	2.8	dB	
	705.5 to 730.5 MHz				1.8	2.5	dB_{INT}	Any 4.5MHz
Ripple Deviation	703. to 733. MHz				0.6	1.7	dB	Any 5MHz
VSWR	703. to 733. MHz				1.7	2.0		TX
	703. to 733. MHz				1.6	2.0		ANT.
Absolute Attenuation	10. to 670. MHz			30	34		dB	
	670. to 694. MHz			30	34		dB	DTV rejection
	694. to 695. MHz			3.0	33.0		dB	DTV rejection
	695. to 698. MHz			3.0	17.0		dB	DTV rejection
	758. to 788. MHz			42	49		dB	RX
	788. to 803. MHz			15	25		dB	
	859. to 894. MHz			30	36		dB	
	1225. to 1250. MHz			30	36		dB	GPS L2
	1406. to 1466. MHz			30	35		dB	2f
	1559. to 1563. MHz			30	35		dB	Compass
	1565.42 to 1573.37 MHz			30	35		dB	Wideband GPS lower side
	1573.37 to 1577.47 MHz			30	35		dB	Regular GPS
	1577.47 to 1585.42 MHz			30	35		dB	Wideband GPS upper side
	1597.55 to 1605.89 MHz			30	35		dB	GLONASS
	1805. to 1880. MHz			30	36		dB	DCS
	1930. to 1995. MHz			30	37		dB	B2 / B25
	2010. to 2025. MHz			30	38		dB	B34
	2109. to 2199. MHz			25	35		dB	3f
	2400. to 2484. MHz			20	29		dB	ISM 2.4
	2570. to 2620. MHz			15	25		dB	B38
	2812. to 2932. MHz			12	18		dB	4f
	4900. to 5950. MHz			15	29		dB	ISM 5G

* Typical value at 25±2deg.C

Electrical Characteristic < ANT.→RX >

ANT. → RX				Characteristics (-20 to +85 deg.C) min.	typ.*	max.	Unit	Note
Center Frequency					773		MHz	
Insertion Loss	758.25	to	787.75 MHz		2.2	2.7	dB	
	760.5	to	785.5 MHz		1.9	2.5	dB_{INT}	Any 4.5MHz
Ripple Deviation	758.	to	788. MHz		0.6	1.7	dB	Any 5MHz
VSWR	758.	to	788. MHz		1.9	2.0		RX
	758.	to	788. MHz		1.7	2.0		ANT.
Amplitude Balance	758.	to	788. MHz	-1.5	-1.1	1.5	dB	
Phase Balance	758.	to	788. MHz	170	182	190	deg.	
Absolute Attenuation	10.	to	699. MHz	40	62		dB	DTV Rejection
	45.	to	65. MHz	50	147		dB	RX- TX
	703.	to	733. MHz	50	63		dB	TX
	733.	to	748. MHz	25	37		dB	Block-B TX
	814.	to	6000. MHz	25	34		dB	OoB Rejection
	6822.	to	7092. MHz	30	42		dB	9f
	7580.	to	7880. MHz	25	37		dB	10f
	8338.	to	8668. MHz	20	35		dB	11f
	9096.	to	9456. MHz	20	34		dB	12f
	9854.	to	10244. MHz	15	30		dB	13f
	10612.	to	11032. MHz	15	32		dB	14f
	11370.	to	11820. MHz	15	23		dB	15f
	12128.	to	12750. MHz	10	22		dB	16f

* Typical value at 25±2deg.C

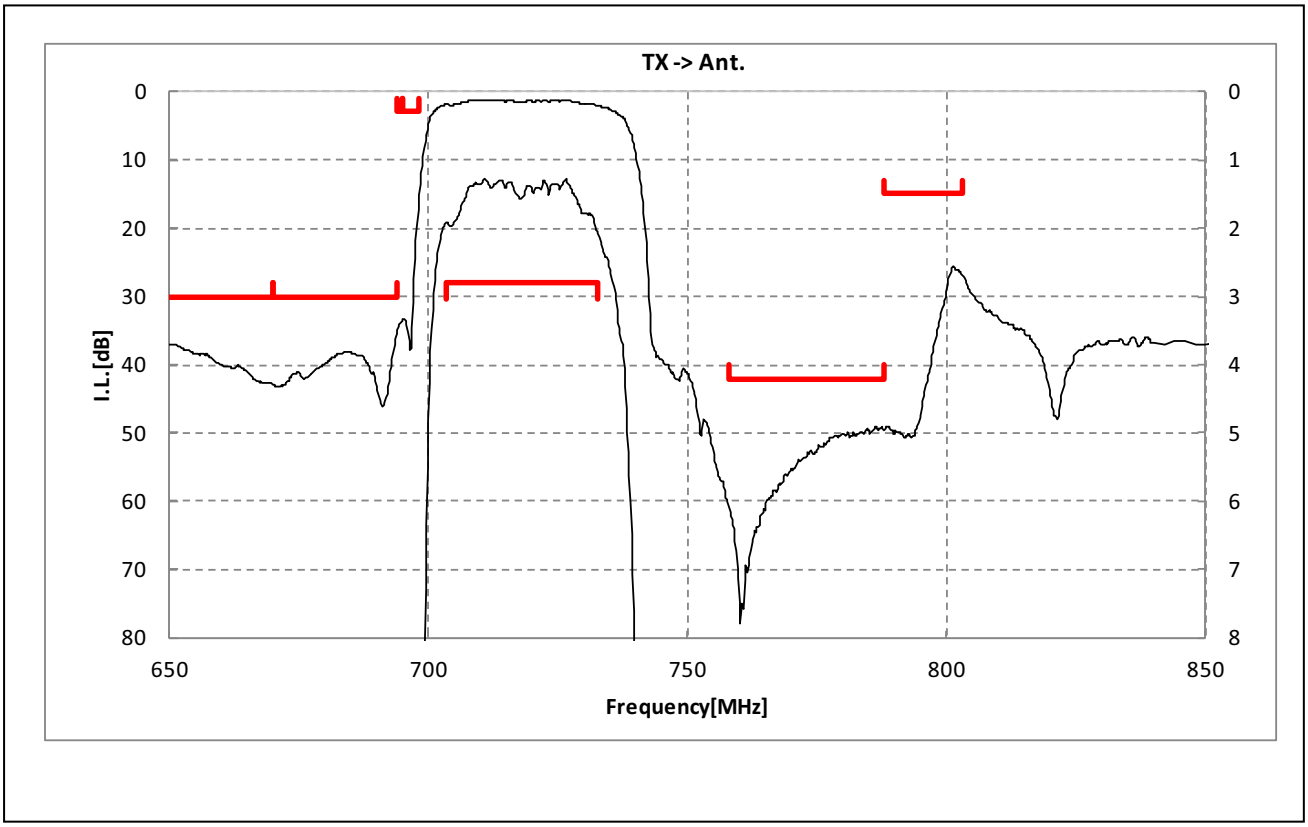
Electrical Characteristic < TX→RX. >

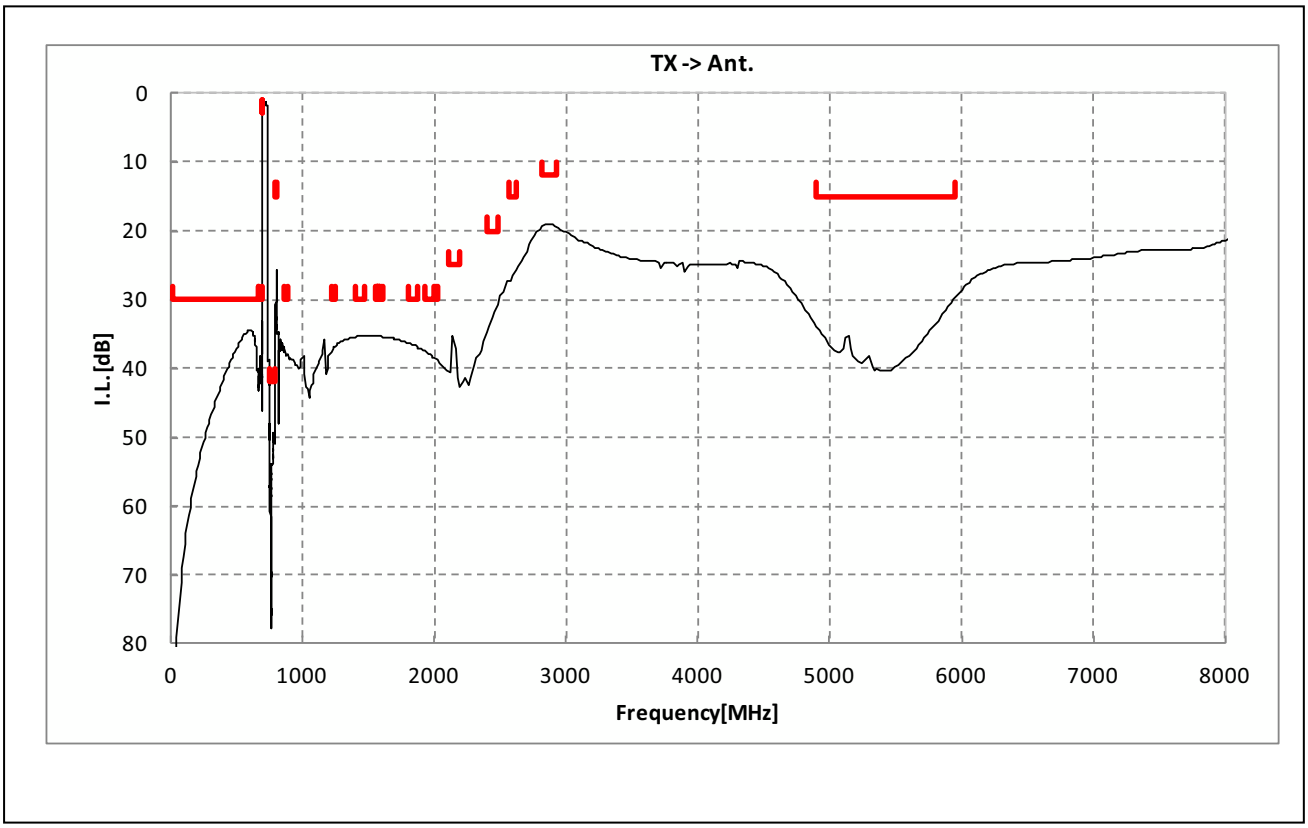
TX → RX				Characteristics (-20 to +85 deg.C)			Unit	Note
				min.	typ.*	max.		
Isolation								
Differential Mode	703.25	to	732.75 MHz	60	64		dB	
	705.5	to	730.5 MHz	60	65		dB_{INT}	Any 4.5MHz
	758.25	to	787.75 MHz	55	57		dB	
	760.5	to	785.5 MHz	55	58		dB_{INT}	Any 4.5MHz
	1406.	to	1466. MHz	30	72		dB	2f TX
	2109.	to	2199. MHz	30	73		dB	3f TX
	2812.	to	2932. MHz	30	62		dB	4f TX
Common Mode	703.25	to	732.75 MHz	45	49		dB	
	705.5	to	730.5 MHz	45	50		dB_{INT}	Any 4.5MHz

* Typical value at 25±2deg.C

Electrical Characteristic

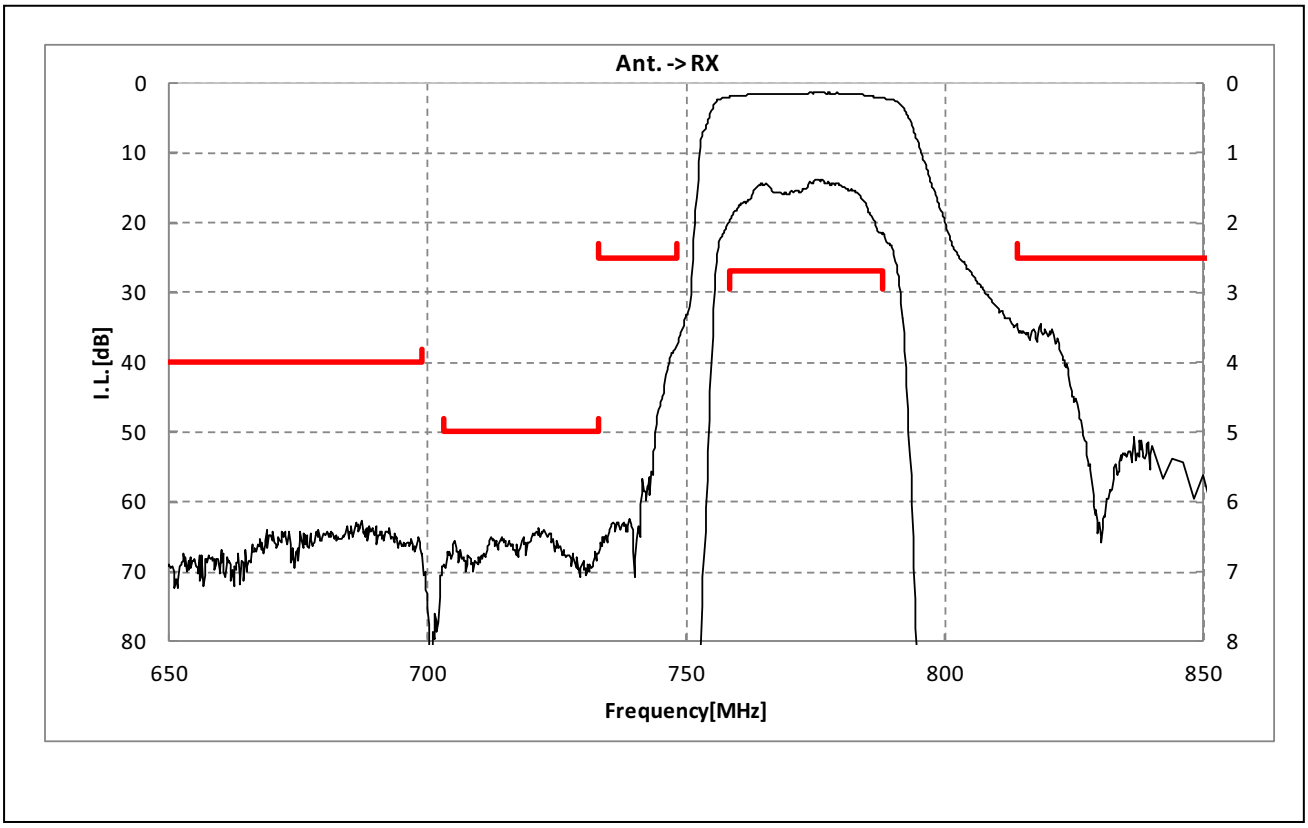
< TX→ANT. >

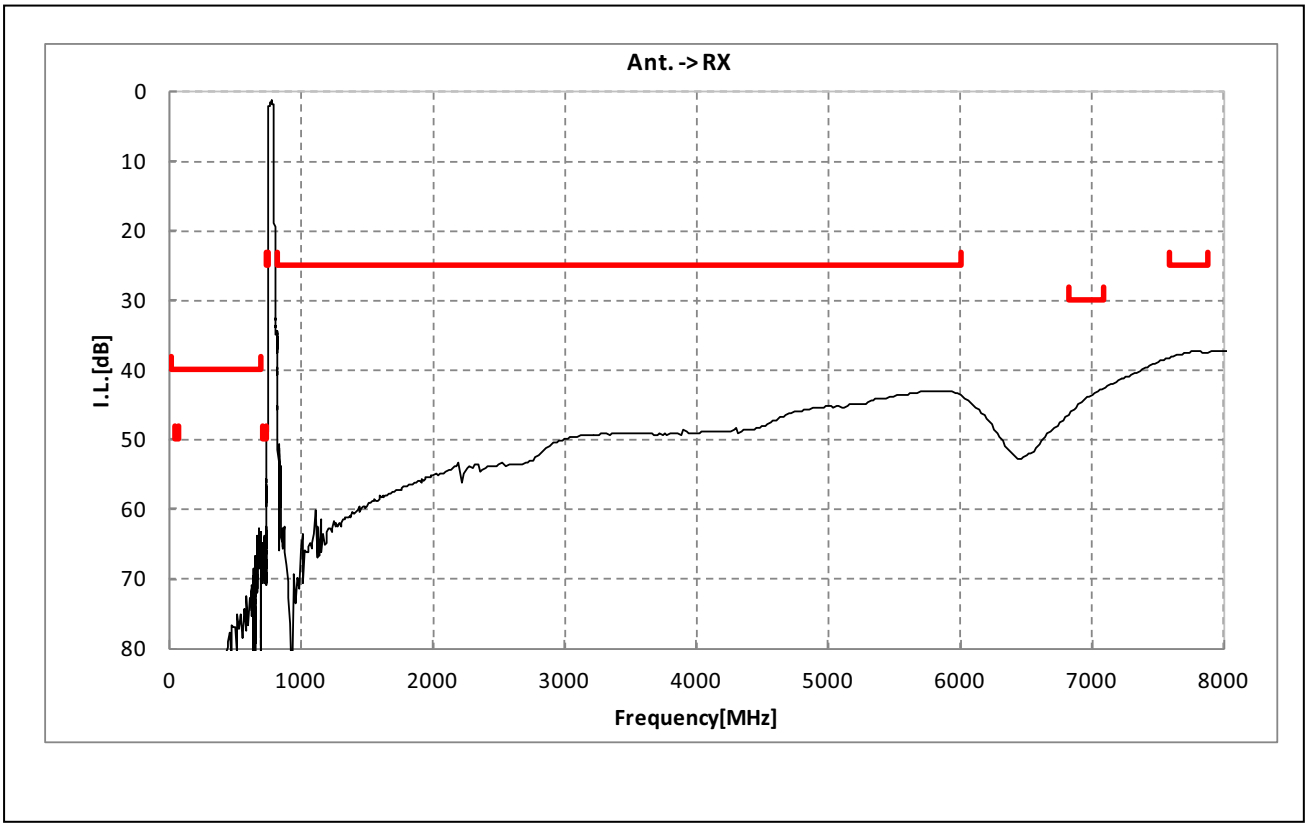




Electrical Characteristic

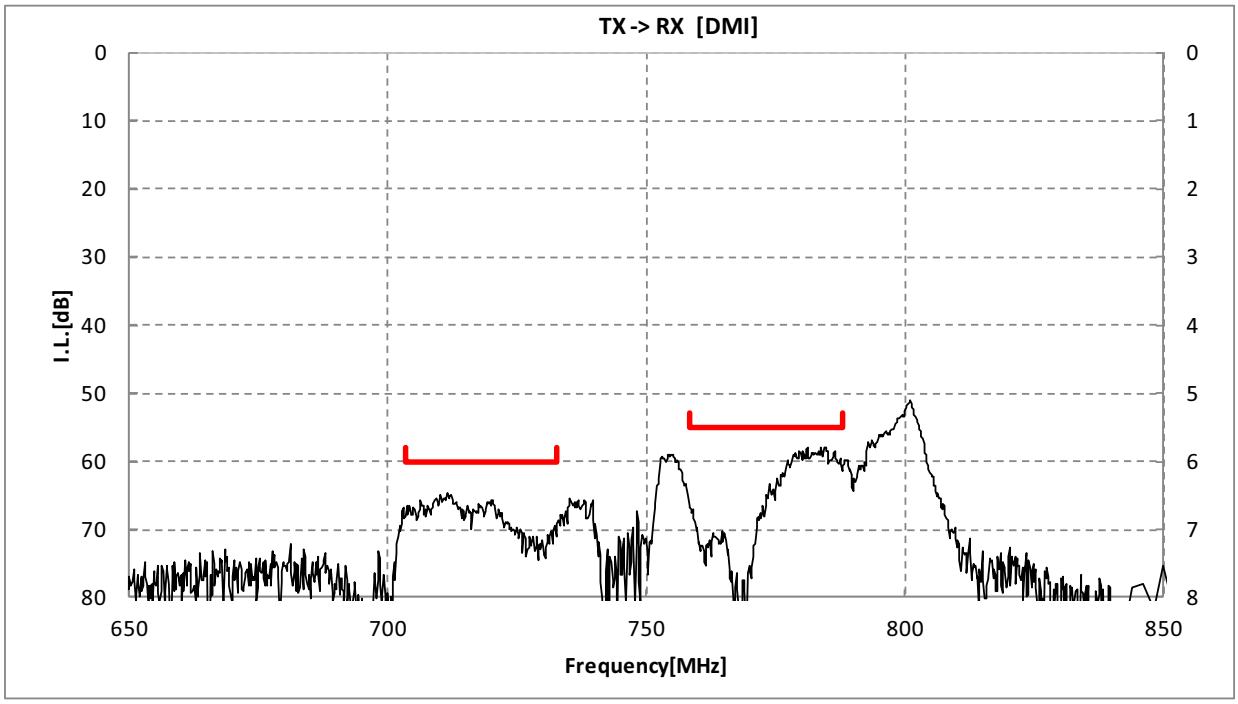
< ANT.→RX >

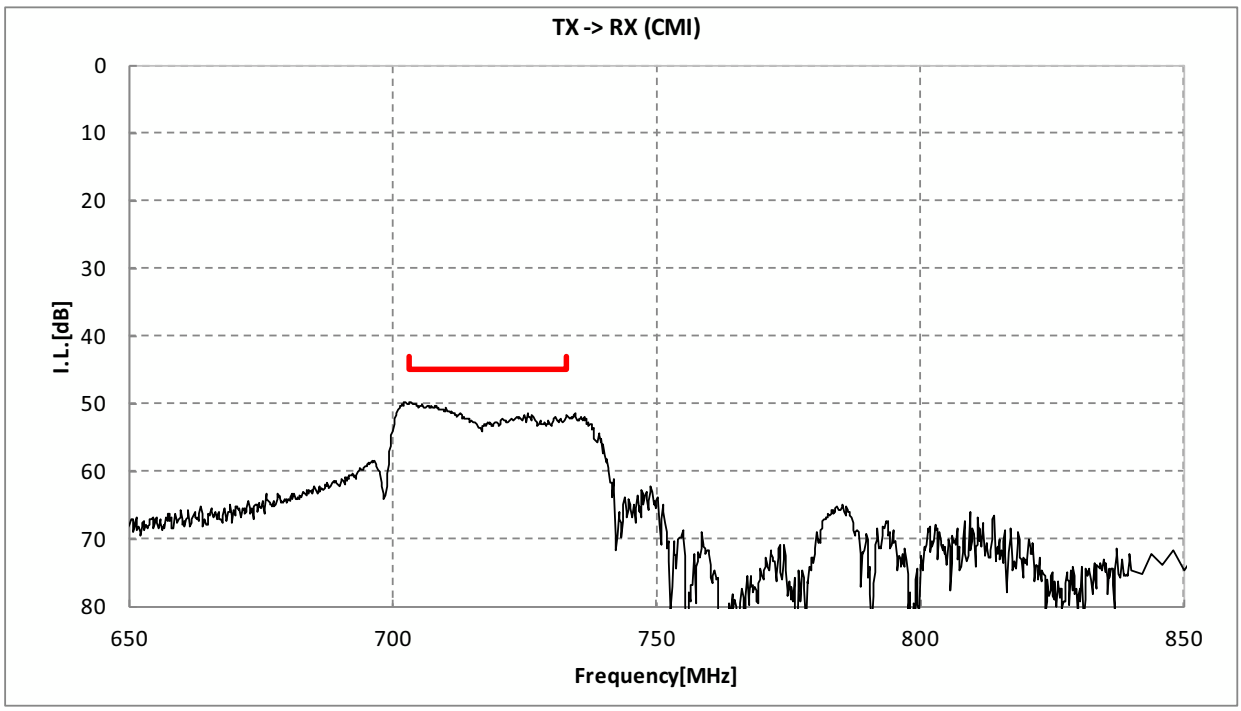




Electrical Characteristic

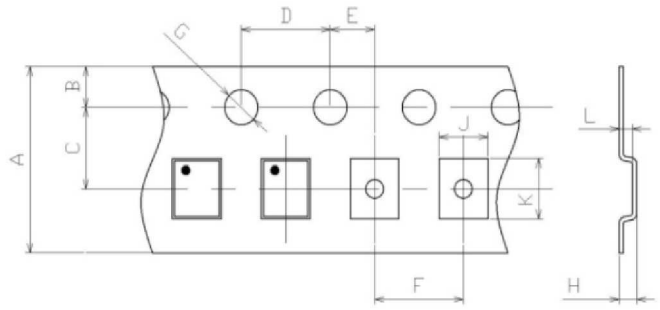
< TX→RX. >





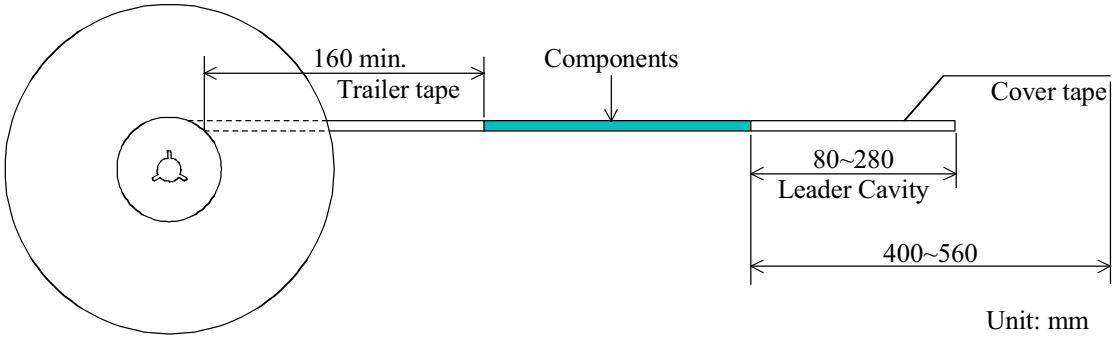
Dimensions of Tape & Reel unit: mm

Carrier Tape

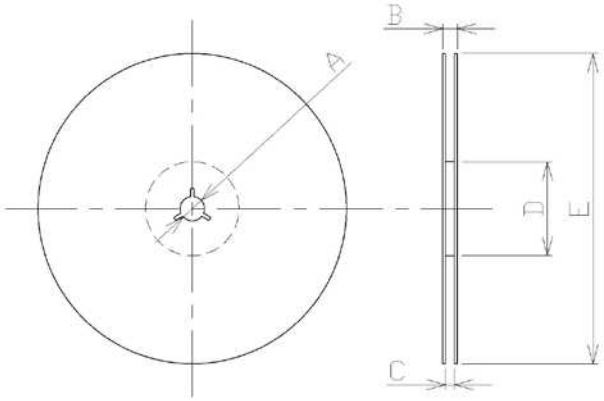


A:	8.0	J:	1.7
B:	1.75	K:	2.1
C:	3.50	L:	0.70
D:	4.0		
E:	2.00		
F:	4.0		
G:	φ1.5		
H:	1.00		

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

SAYEY718MCA0F0AR00… 10000pcs (φ330)
SAYEY718MCA0F0AR1S… sample Order (φ178/330)

Marking Code

Table A: Month Code

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

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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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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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