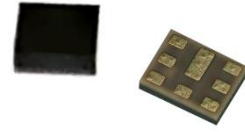


Data Sheet for SAW Components



Band 1

Duplexer

Product ID: LBD2140B0F

Date: Dec. 21, 2020

Revision: 3.1

Features

- ◆ Package Size : 1.8 x 1.4 x 0.5max mm
- ◆ Single-Ended Input and Output
- ◆ Terminating Impedance : 50 Ω
- ◆ Moisture Sensitivity Level 3
- ◆ ESD Sensitive Device

Electrical Specifications Band1 Duplexer

Temperature Range for Specification : -30 to +85 °C

Tx to Ant			Min.	Typ.	Max.	Unit
Insertion Loss						
	1920 - 1980	MHz	-	1.7	2.2	dB
Pass Band Ripple						
	1920 - 1980	MHz	-	0.2	0.5 ^{*1}	dB
VSWR						
	1920 - 1980	MHz	-	1.4	2.0	-
Absolute Attenuation						
	10 - 1574	MHz	29	41	-	dB
	420 - 494	MHz	40	63	-	dB
	814 - 849	MHz	30	48	-	dB
	880 - 915	MHz	30	46	-	dB
	925 - 960	MHz	30	45	-	dB
	1226 - 1250	MHz	30	41	-	dB
	1447.9 - 1462.9	MHz	30	42	-	dB
	1475 - 1511	MHz	34	42	-	dB
	1559 - 1563	MHz	42	44	-	dB
	1565.42 - 1573.37	MHz	42	44	-	dB
	1573.37 - 1577.47	MHz	42	44	-	dB
	1577.47 - 1585.42	MHz	42	44	-	dB
	1597.55 - 1605.89	MHz	42	44	-	dB
	1605.88 - 1805	MHz	25	44	-	dB
	1805 - 1865	MHz	20	42	-	dB
	1865 - 1880	MHz	10	40	-	dB
	1880 - 1895	MHz	8	25	-	dB
	2010 - 2025	MHz	9 ^{*2}	25	-	dB
	2110 - 2170	MHz	44	51	-	dB
	2300 - 2400	MHz	38	48	-	dB
	2400 - 2500	MHz	34	45	-	dB
	2620 - 2690	MHz	29	42	-	dB
	3840 - 3960	MHz	20	36	-	dB
	4900 - 5950	MHz	17	31	-	dB

*1: Over any 5 MHz in band.

*2: +15 to +85 °C

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Electrical Specifications Band1 Duplexer

Temperature Range for Specification : -30 to +85 °C

Ant to Rx		Min.	Typ.	Max.	Unit
Insertion Loss	2110 – 2170 MHz	-	1.8	2.3	dB
Pass Band Ripple	2110 – 2170 MHz	-	0.3	0.7 ^{*1}	dB
VSWR	2110 – 2170 MHz	-	1.4	2.0	-
Absolute Attenuation	1 – 1920 MHz	33	38	-	dB
	- 190 MHz	50	69	-	dB
	718 – 748 MHz	40	46	-	dB
	814 – 849 MHz	40	44	-	dB
	880 – 915 MHz	40	43	-	dB
	1427 – 1463 MHz	35	38	-	dB
	1730 – 1790 MHz	35	40	-	dB
	1710 – 1785 MHz	33	40	-	dB
	1920 – 1980 MHz	45	55	-	dB
	1980 – 2015 MHz	15	44	-	dB
	2015 – 2075 MHz	5	10	-	dB
	2300 – 2400 MHz	26	43	-	dB
	2400 – 2500 MHz	30	45	-	dB
	2500 – 2570 MHz	38	48	-	dB
	4030 – 4150 MHz	10	17	-	dB
	4220 – 4340 MHz	8	14	-	dB
	4900 – 5950 MHz	5	8	-	dB
	5950 – 6130 MHz	5	8	-	dB
	6130 – 6330 MHz	5	8	-	dB
	6330 – 6510 MHz	5	8	-	dB

*1: Over any 5 MHz in band.

Electrical Specifications Band1 Duplexer

Temperature Range for Specification : -30 to +85 °C

Tx to Rx		Min.	Typ.	Max.	Unit
Isolation					
	1920 – 1980 MHz	54	57	-	dB
	2110 - 2170 MHz	50	51	-	dB

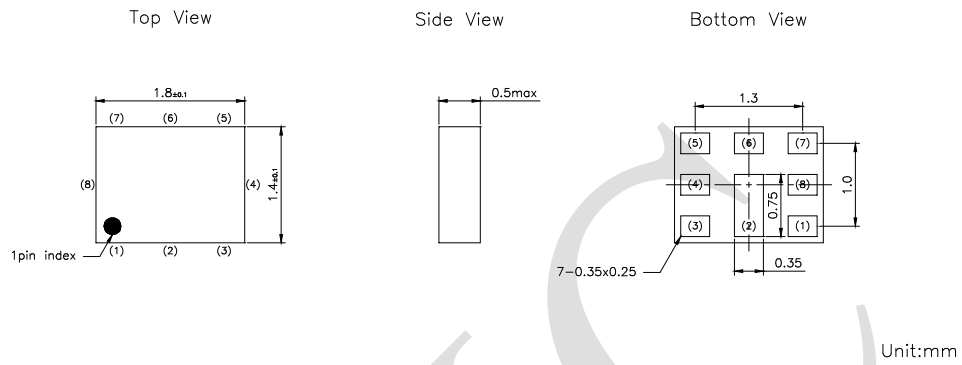
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 °C	
DC Voltage	5 V	+25 °C
Input Power 1	+29 dBm	LTE , +55 °C , 5000 h
Input Power 2	+30 dBm	LTE , +55 °C , 2000 h

Recommended Operating Conditions

Item	Rating	Condition / Remark
Operating Temperature, T _{CASE}	-30 to +85 °C	

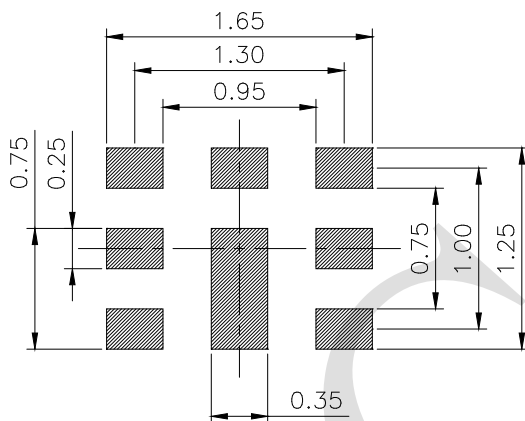
Package Information



Pin Configuration

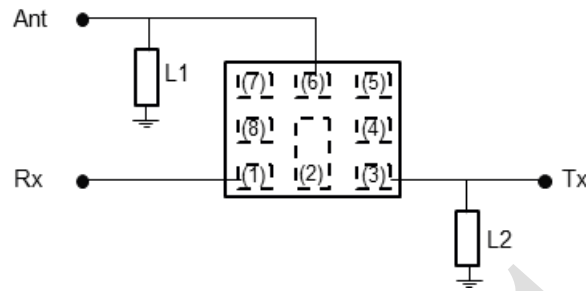
1 : Rx
 3 : Tx
 6 : Ant
 Other : GND

Land Pattern



Unit:mm

Application Circuit



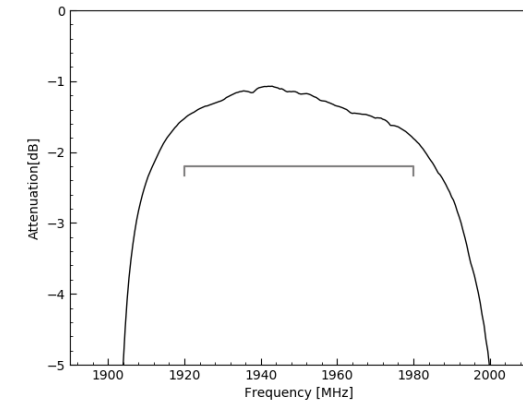
Port	Terminating Z	Matching Component		
Ant	50 Ω	L1 : 2.7nH (Ideal inductor)		
Tx	50 Ω	L1 : 7nH (Ideal inductor)		
Rx	50 Ω			

For ESD protection, external shunt inductor at all ports is recommended.

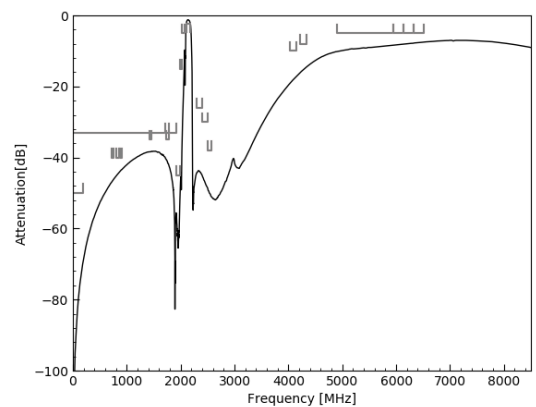
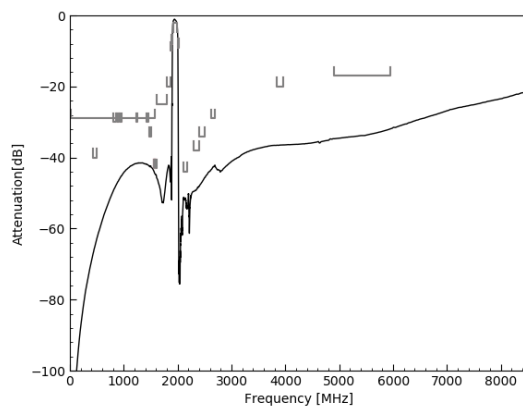
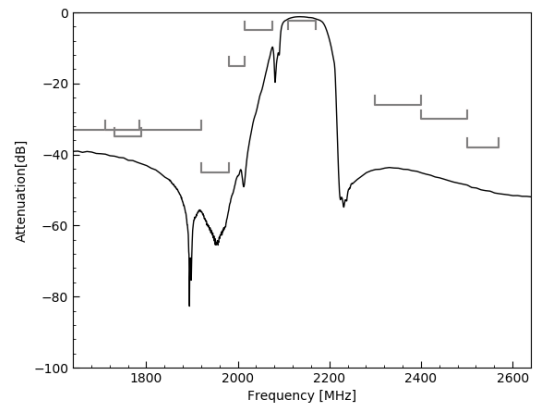
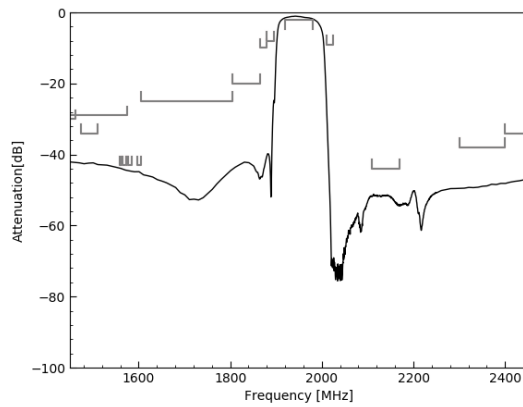
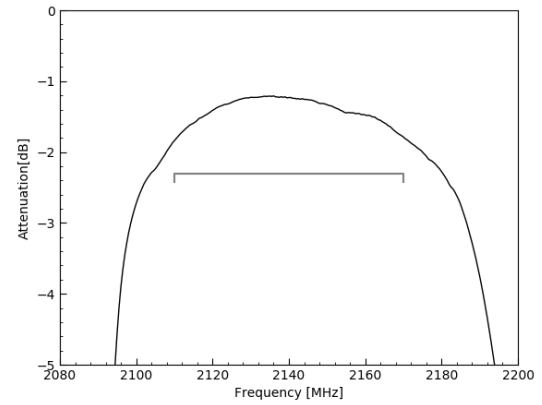
Electrical Characteristics

Band1 Duplexer

Tx to Ant



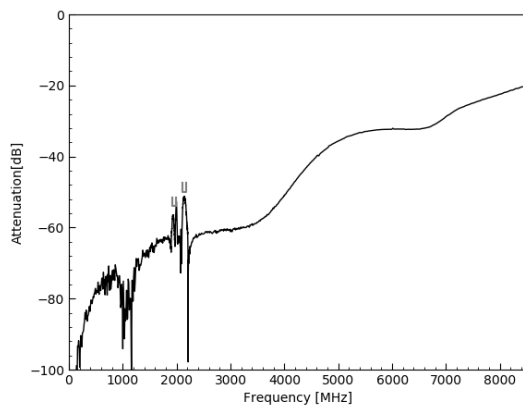
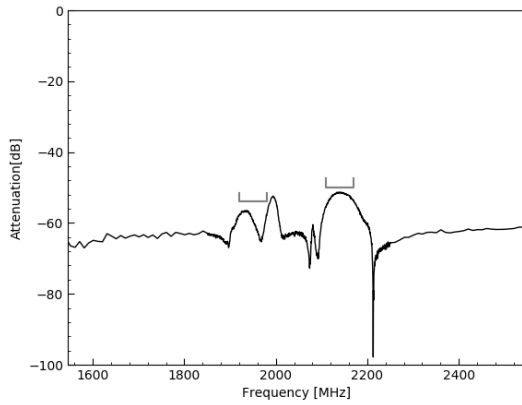
Ant to Rx



Electrical Characteristics

Band1 Duplexer

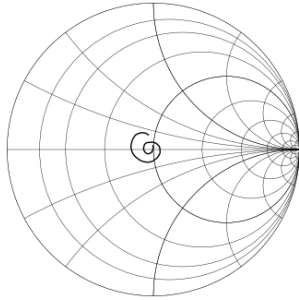
Tx to Rx



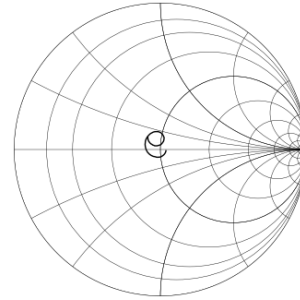
Electrical Characteristics

Band1 Duplexer

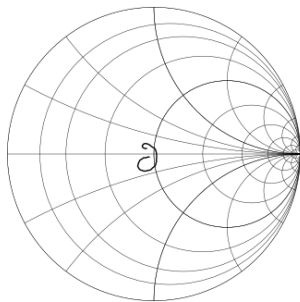
Ant Port Impedance (Tx)



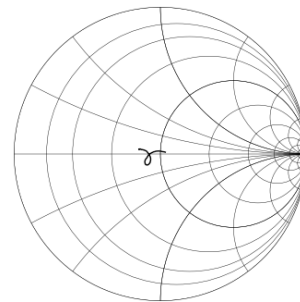
Ant Port Impedance (Rx)



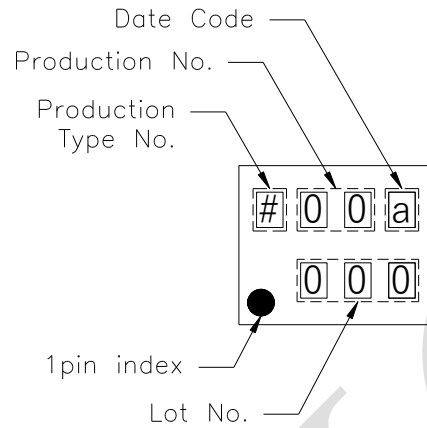
Tx Port Impedance



Rx Port Impedance



Marking Information



Production type No. (S: Sample, P: Production)

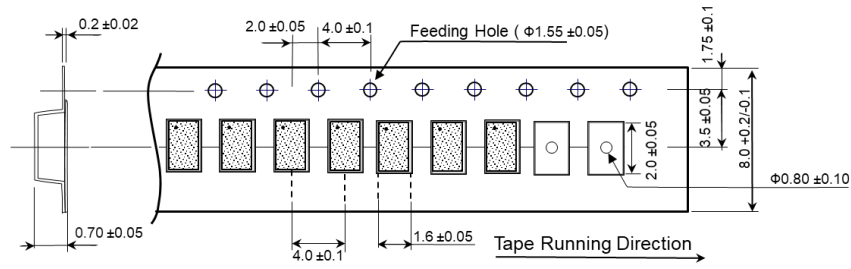
Production No. : 0F

Lot No. (Indicated by 0 ~ 9 or A to Z and a to z, except I, O, i, o and l)

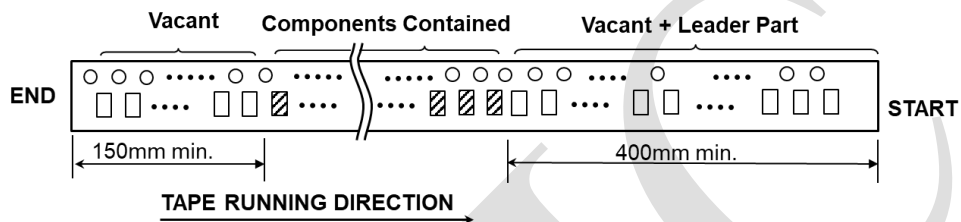
Product date code :

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	A	B	C	D	E	F	G	H	J	K	L	M
2021	N	P	Q	R	S	T	U	V	W	X	Y	Z
2022	a	b	c	d	e	f	g	h	j	k	l	m
2023	n	p	q	r	s	t	u	v	w	x	y	z

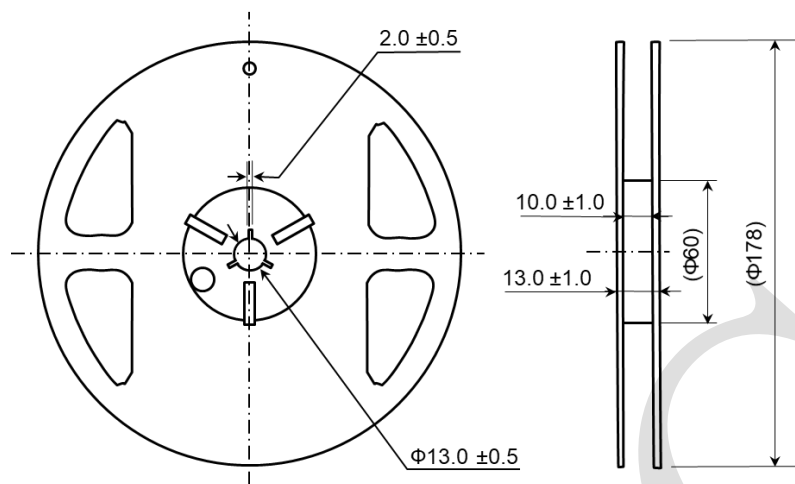
Tape Information



UNIT: mm

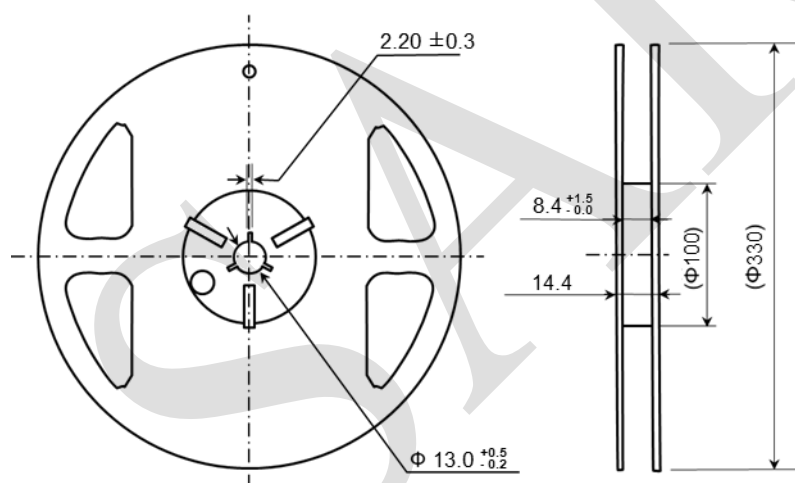


Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
LBD2140B0F-SA	Bulk (few pieces)
LBD2140B0F-MB	Tape & Reel 3,000 pcs/reel
LBD2140B0F-MC	Tape & Reel 10,000 pcs/reel
LBD2140B0F-SZ	EVB

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Revision History

Revision	Date	Description
1.0	Feb. 10, 2020	● Initial Release
2.0	Mar. 13, 2020	● Updated "Electrical Specifications", "Electrical Characteristics".
3.0	Jun. 29, 2020	● Updated "Input power" and "Tx matching component"
3.1	Dec. 21, 2020	● Updated "Reel Information" and "Ordering Code"

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