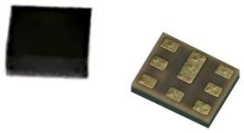
Data Sheet for SAW Components



Band3

Duplexer

Product ID: RBD1843G3H

Date: Dec. 12, 2022

Revision: 0.1 Preliminary

Features

- Package Size : 1.6 x 1.2 x 0.6max mm
- Single-Ended Input and Output
- Terminating Impedance : 50 Ω
- Moisture Sensitivity Level 3
- ESD Sensitive Device
- TC-SAW
- Low Insertion Loss

Electrical Specifications Band3 Duplexer

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

Tx to Ant					Min.	Typ.	Max.	Unit
Insertion Loss								
1710.15	-	1784.85	MHz		-	1.6	2.4	dB
Pass Band Ripple								
1710.15	-	1784.85	MHz		-	0.6	1.5	dB*1
VSWR Tx								
1710.15	-	1784.85	MHz		-	1.4	2.0	-
VSWR Ant								
1710.15	-	1784.85	MHz		-	1.4	1.9	-
Absolute Attenuation								
10	-	960	MHz		32	44	-	dB
1164	-	1189	MHz		30	40	-	dB
1559	-	1606	MHz		37	44	-	dB
1606	-	1680	MHz		15	31	-	dB
1805.15	-	1879.85	MHz		45	57	-	dB
1884.5	-	1915.7	MHz		41	48	-	dB
1920	-	1980	MHz		30	44	-	dB
2110	-	2170	MHz		27	33	-	dB
2400	-	2500	MHz		30	41	-	dB
2620	-	2690	MHz		27	46	-	dB
3420	-	3570	MHz		28	35	-	dB
4900	-	5850	MHz		9	31	-	dB
5130	-	5355	MHz		9	32	-	dB
6840	-	7140	MHz		7	34	-	dB

*1: Over any 5 MHz in band

Electrical Specifications Band3 Duplexer

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

Ant to Rx					Min.	Typ.	Max.	Unit
Insertion Loss								
1805.15	-	1879.85	MHz		-	2.3	3.3	dB
Pass Band Ripple								
1805.15	-	1879.85	MHz		-	0.8	2.0	dB*1
VSWR Rx								
1805.15	-	1879.85	MHz		-	1.4	2.0	-
VSWR Ant								
1805.15	-	1879.85	MHz		-	1.5	2.0	-
Absolute Attenuation								
1	-	1710	MHz		38	40	-	dB
95		95	MHz		50	105	-	dB
718	-	748	MHz		40	49	-	dB
814	-	849	MHz		40	46	-	dB
832	-	862	MHz		40	46	-	dB
880	-	915	MHz		40	45	-	dB
1447	-	1463	MHz		38	41	-	dB
1615	-	1690	MHz		40	45	-	dB
1710.15	-	1784.85	MHz		46	57	-	dB
1785	-	1790	MHz		17	60	-	dB
1920	-	2400	MHz		38	41	-	dB
2400	-	2500	MHz		40	48	-	dB
2500	-	2570	MHz		40	50	-	dB
2570	-	3515	MHz		35	45	-	dB
3515	-	3760	MHz		35	53		dB
4900	-	5950	MHz		30	45	-	dB
5205	-	5660	MHz		30	46	-	dB
7220	-	7520	MHz		15	47	-	dB

*1: Over any 5 MHz in band

Electrical Specifications Band3 Duplexer

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

Tx to Rx				Min.	Typ.	Max.	Unit
Isolation							
	1710.15	- 1784.85	MHz	55	58	-	dB
	1805.15	- 1879.85	MHz	52	58	-	dB

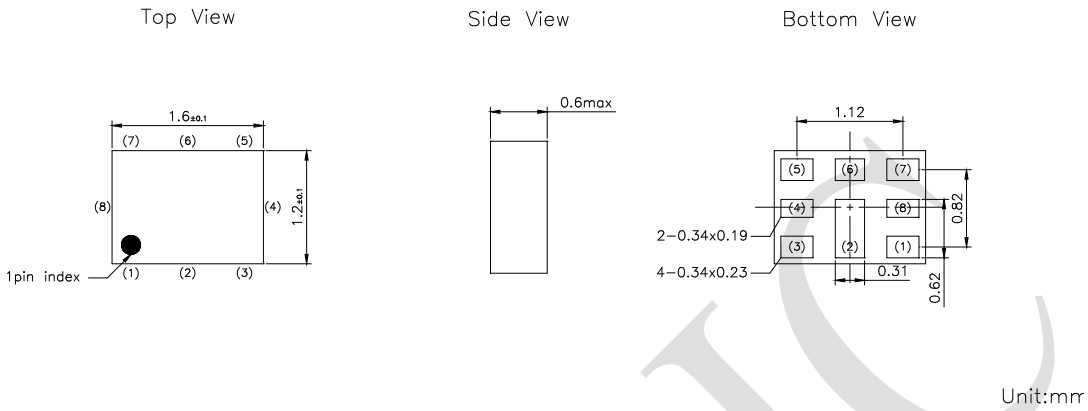
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 °C	
DC Voltage	5 V	+25 °C
Input power	+30 dBm	LTE , +55 °C , 3000 h

Recommended Operating Conditions

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

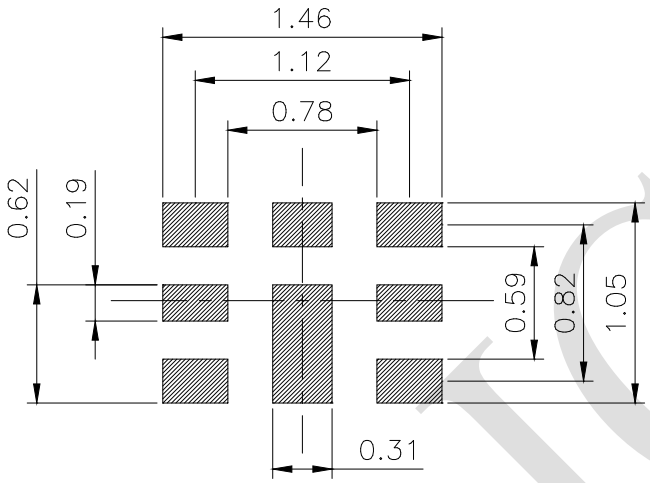
Package Information



Unit:mm

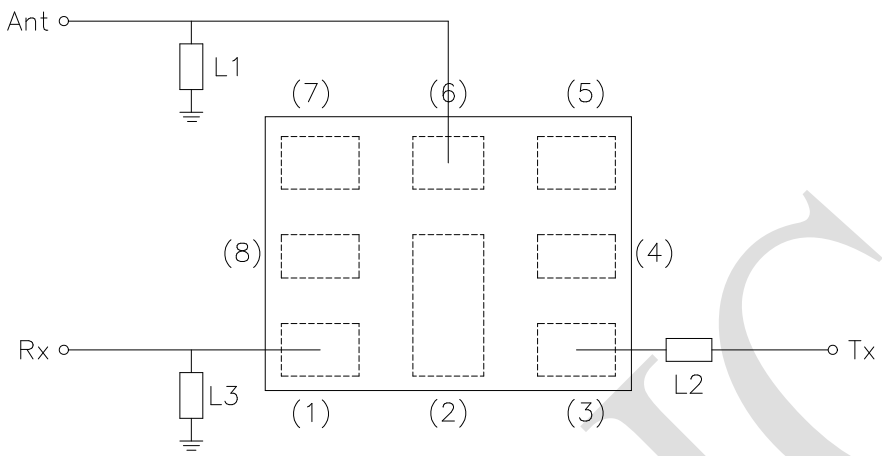
Pin Configuration		
1	:	Rx
3		Tx
6	:	Ant
Other	:	GND

Land Pattern



Unit:mm

Application Circuit

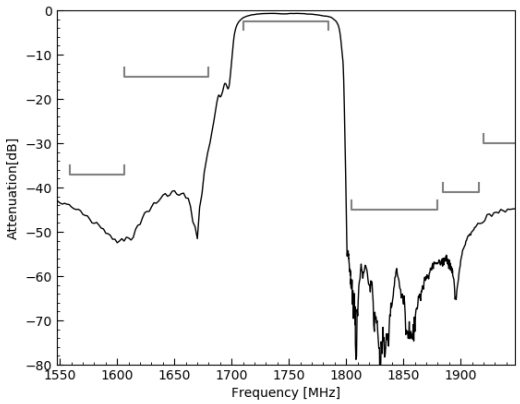


Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 4.3nH (Ideal inductor)
Tx	50 Ω	L2 : 4.7nH (Ideal inductor)
Rx	50 Ω	L3 : 10nH (Ideal inductor)

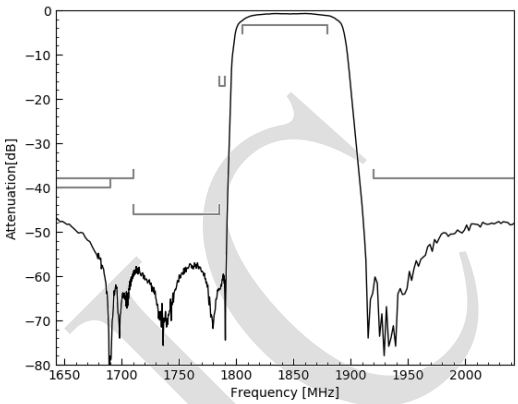
For ESD protection, external shunt inductor at all ports is recommended.

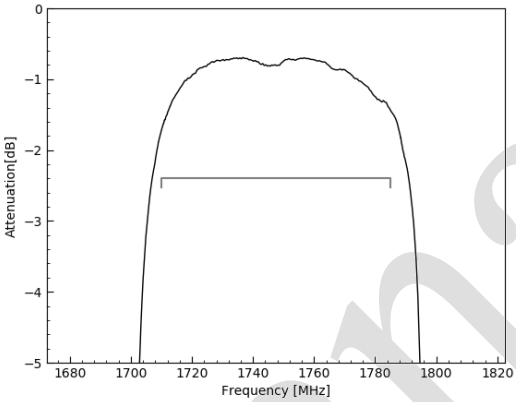
Electrical Characteristics Band3 Duplexer

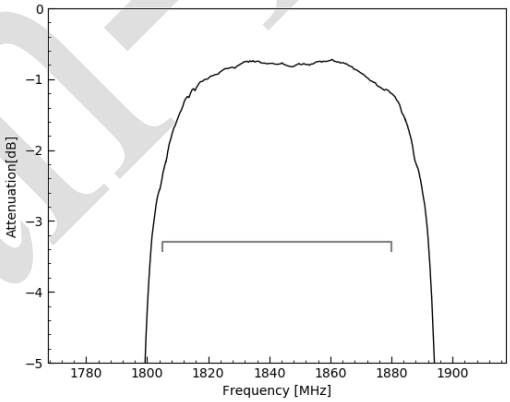
Tx to Ant

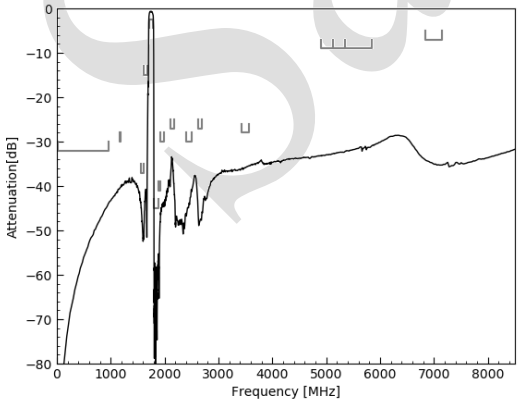


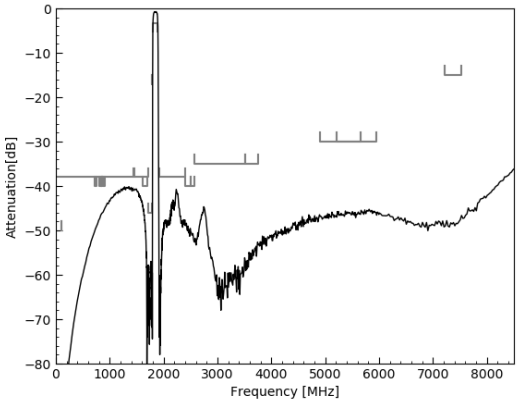
Ant to Rx





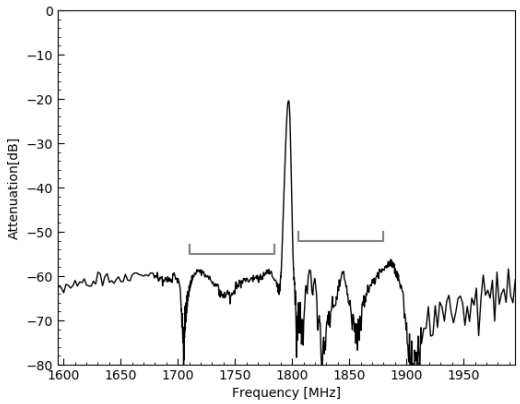


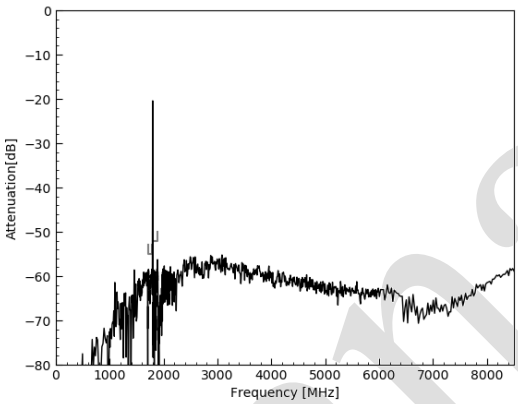




Electrical Characteristics Band3 Duplexer

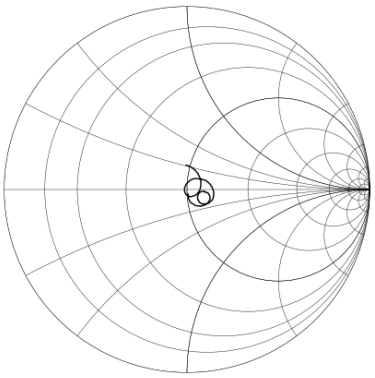
Tx to Rx



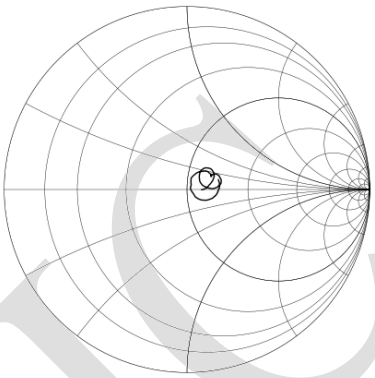


Electrical Characteristics Band3 Duplexer

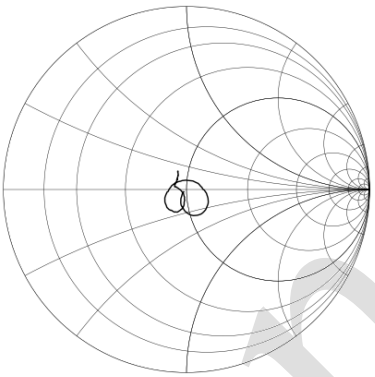
Ant Impedance (Tx band)



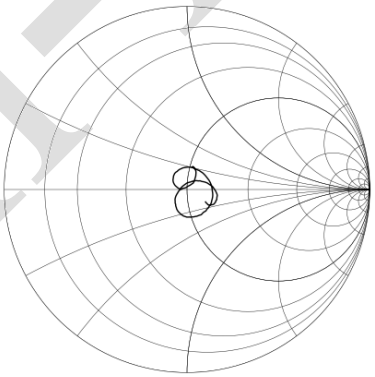
Ant Impedance (Rx band)



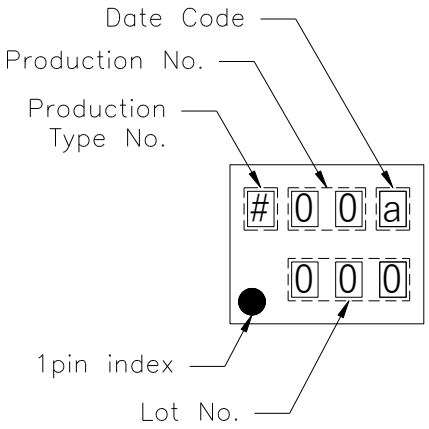
Tx Impedance



Rx Impedance



Marking Information



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

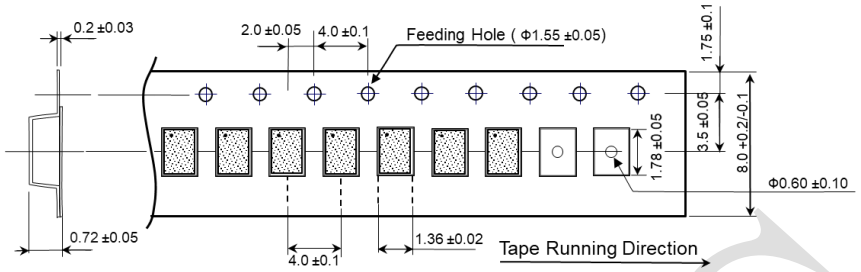
Product No. : 3H

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

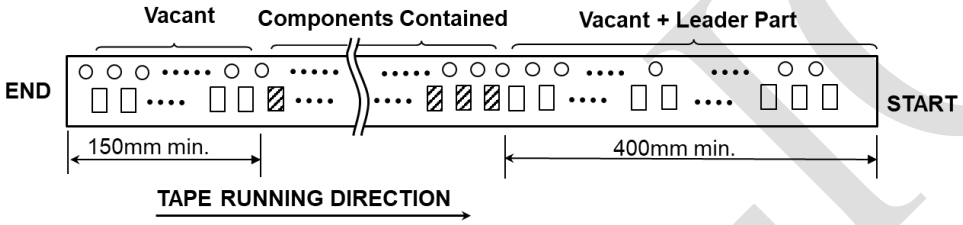
Product date code :

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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
2024	A	B	C	D	E	F	G	H	J	K	L	M
2025	N	P	Q	R	S	T	U	V	W	X	Y	Z

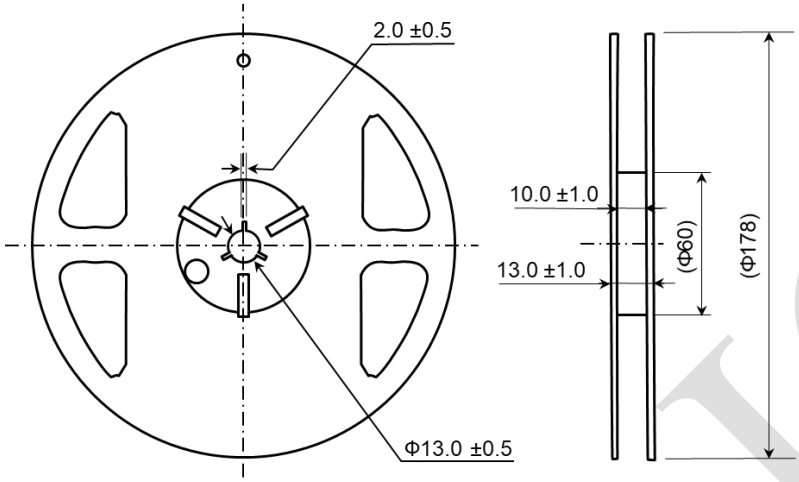
Tape Information



UNIT: mm

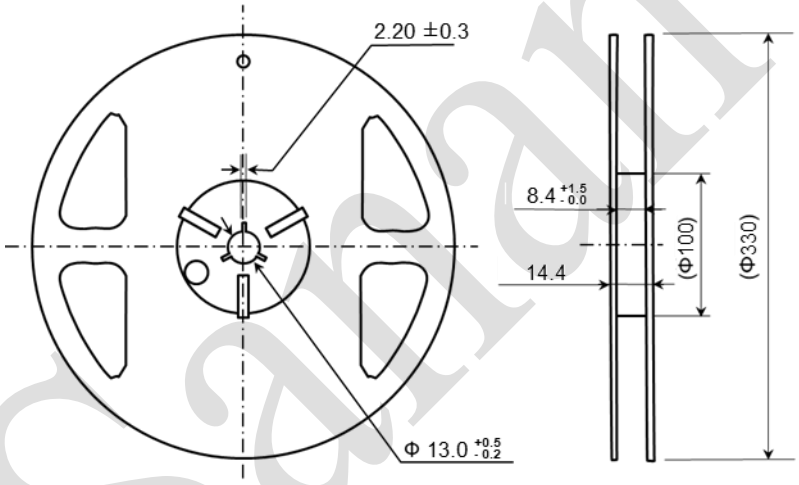


Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RBD1843G3H-SA	Bulk (few pieces)
RBD1843G3H-MB	Tape & Reel 3,000 pcs/reel
RBD1843G3H-MC	Tape & Reel 10,000 pcs/reel
RBD1843G3H-SZ	EVB

Revision History

Revision	Date	Description
0.1	Dec. 12, 2022	● Initial release (Preliminary)

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