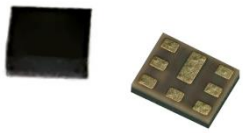
Data Sheet for SAW Components



Band20 Duplexer

Product ID: RBD0847G2U

Date: Feb. 10, 2023
Revision: 1.1

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

Electrical Specifications Band20 Duplexer

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

Tx to Ant					Min.	Typ.	Max.	Unit
Insertion Loss								
832.25	-	861.75	MHz		-	1.8	2.5	dB
Pass Band Ripple								
832	-	862	MHz		-	1.1	2.0	dB
VSWR Tx								
832	-	862	MHz		-	1.5	2.0	-
VSWR Ant								
832	-	862	MHz		-	1.5	2.0	-
Absolute Attenuation								
10	-	771	MHz		30	36	-	dB
758	-	791	MHz		40	48	-	dB
791.25	-	820.75	MHz		44	55	-	dB
821	-	827	MHz		1	12	-	dB
925	-	960	MHz		30	43	-	dB
1559	-	1605.89	MHz		42	49		dB
1664	-	1724	MHz		35	53	-	dB
1710	-	2170	MHz		30	54	-	dB
2400	-	2500	MHz		38	52	-	dB
2496	-	2586	MHz		36	50	-	dB
2570	-	2620	MHz		36	47	-	dB
2620	-	2690	MHz		36	46	-	dB
3328	-	3448	MHz		32	44	-	dB
3400	-	3600	MHz		32	43	-	dB
4160	-	4310	MHz		15	46	-	dB
4900	-	5950	MHz		15	36	-	dB

Electrical Specifications Band20 Duplexer

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

Ant to Rx					Min.	Typ.	Max.	Unit
Insertion Loss								
791.25	-	820.75	MHz		-	1.9	2.5	dB
Pass Band Ripple								
791	-	821	MHz		-	1.2	2.0	dB
VSWR Rx								
791	-	821	MHz		-	1.8	2.2	-
VSWR Ant								
791	-	821	MHz		-	1.7	2.0	-
Absolute Attenuation								
10	-	760	MHz		25	42	-	dB
		41	MHz		50	95	-	dB
462.5	-	467.5	MHz		40	53	-	dB
738	-	755	MHz		40	44	-	dB
755	-	760	MHz		35	40	-	dB
760	-	770	MHz		10	17	-	dB
832.25	-	861.75	MHz		45	56	-	dB
880	-	900	MHz		40	54	-	dB
900		915	MHz		33	47		dB
1623	-	1683	MHz		45	56	-	dB
1710	-	1785	MHz		40	56	-	dB
2373	-	2463	MHz		36	47	-	dB
2400	-	2500	MHz		36	49	-	dB
2500	-	2570	MHz		38	51	-	dB
4900	-	5950	MHz		35	46	-	dB
6328	-	6568	MHz		25	44	-	dB
7119	-	7389	MHz		20	44	-	dB
7910	-	8210	MHz		20	51	-	dB

Electrical Specifications Band20 Duplexer

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

Tx to Rx					Min.	Typ.	Max.	Unit
Isolation								
	791.25	-	820.75	MHz	55	58	-	dB
	832.25	-	861.75	MHz	55	58	-	dB
	1574	-	1577	MHz	40	61	-	dB
	1664	-	1724	MHz	30	60	-	dB
	2496	-	2586	MHz	30	56	-	dB

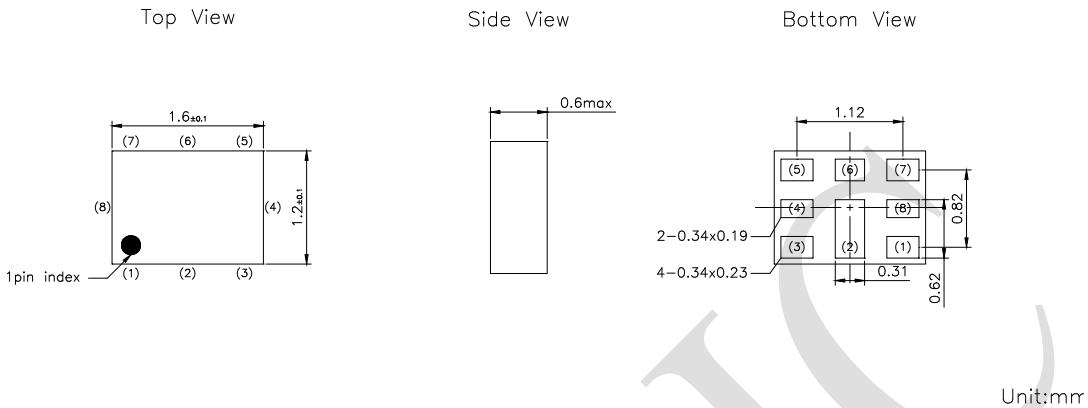
Maximum Ratings

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

Recommended Operating Conditions

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

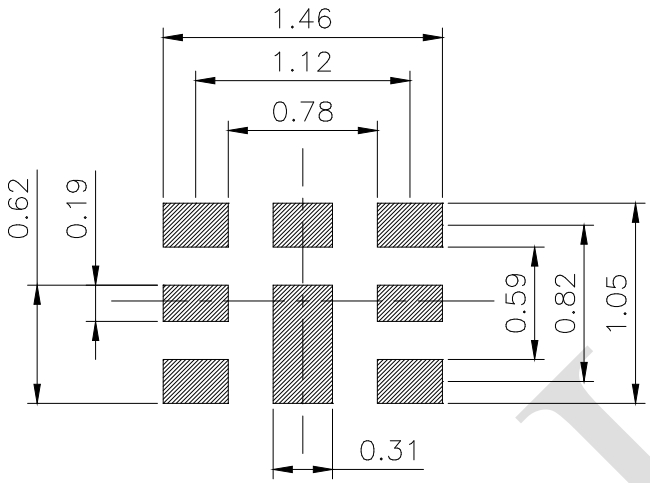
Package Information



Unit:mm

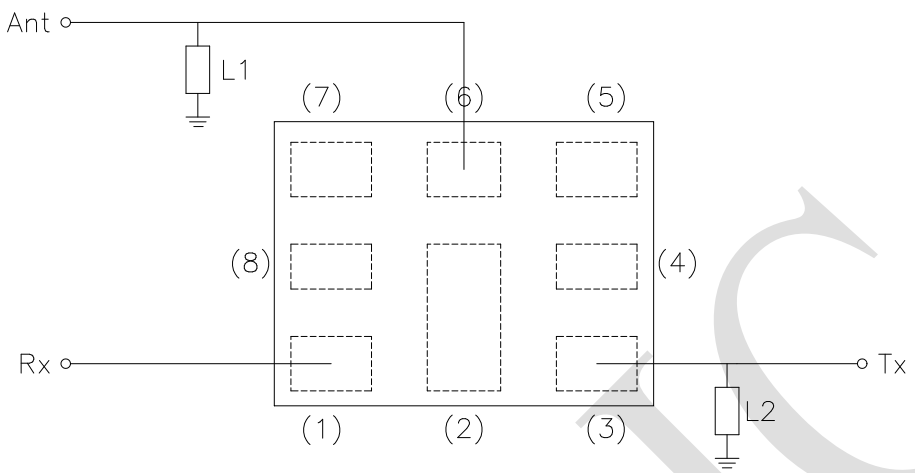
Pin Configuration		
1	:	Rx
3		Tx
6	:	Ant
Other	:	GND

Land Pattern



Unit:mm

Application Circuit

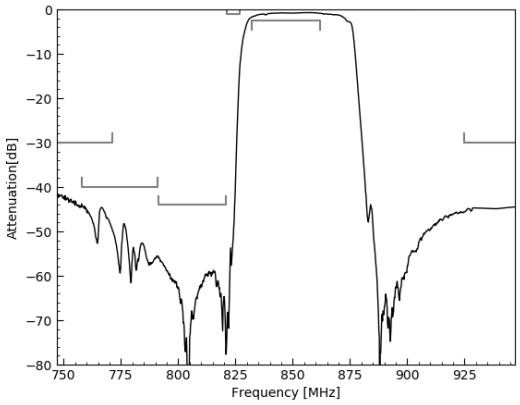


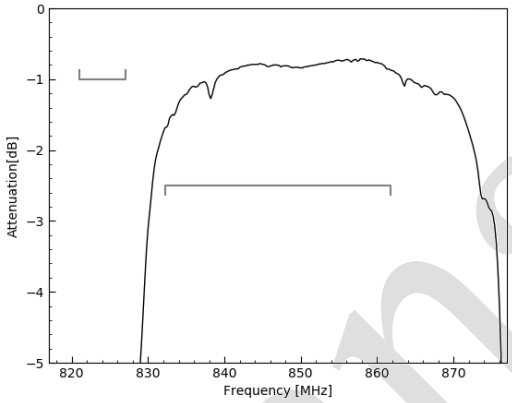
Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 10nH (Ideal inductor)
Tx	50 Ω	L2 : 11nH (Ideal inductor)
Rx	50 Ω	-

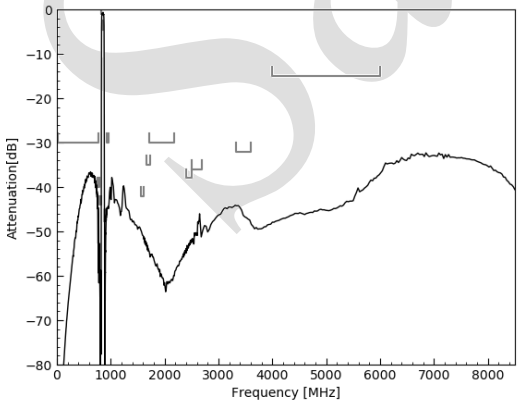
For ESD protection, external shunt inductor at all ports is recommended.

Electrical Characteristics Band20 Duplexer

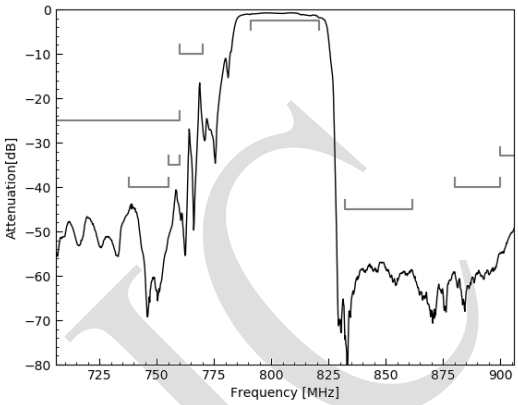
Tx to Ant

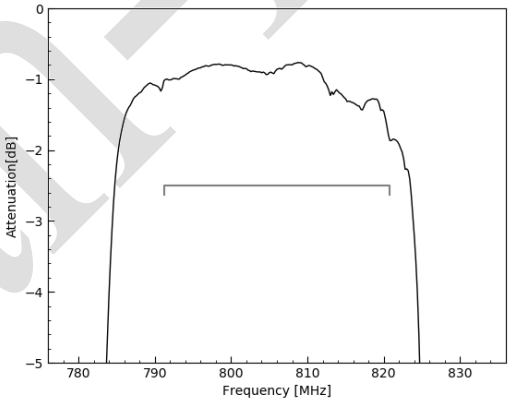


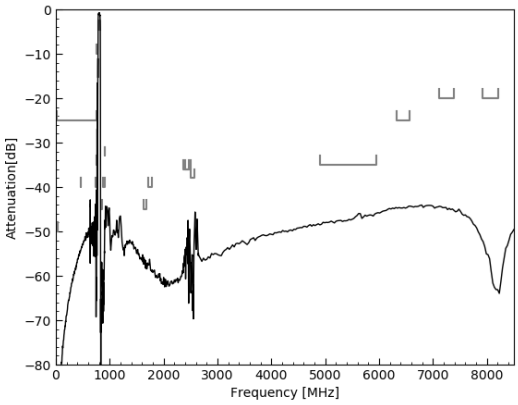




Ant to Rx

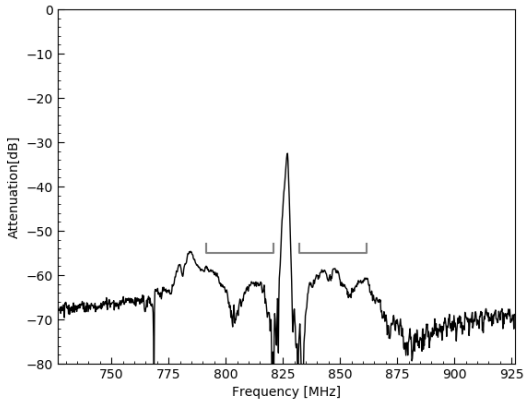


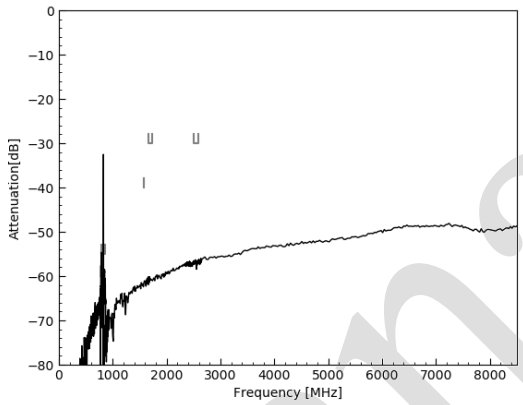




Electrical Characteristics Band20 Duplexer

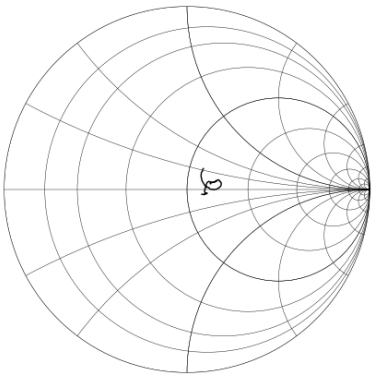
Tx to Rx



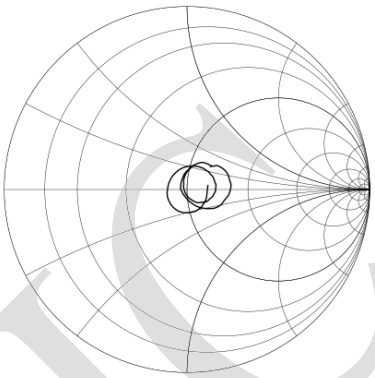


Electrical Characteristics Band20 Duplexer

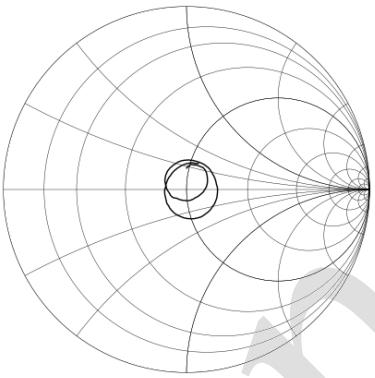
Ant Impedance (Tx band)



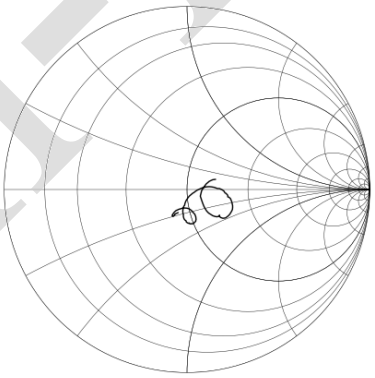
Ant Impedance (Rx band)



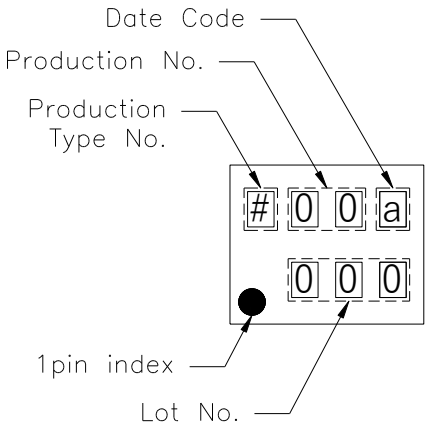
Tx Impedance



Rx Impedance



Marking Information



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

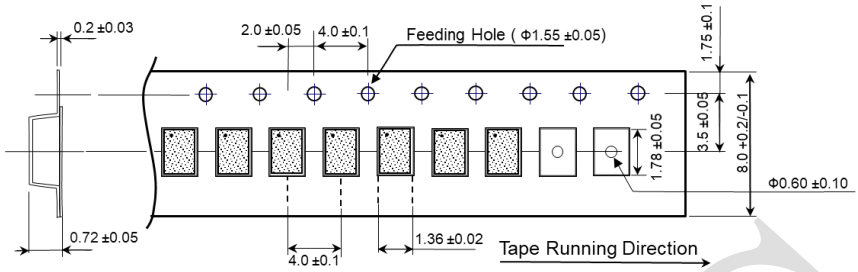
Product No. : 2U

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

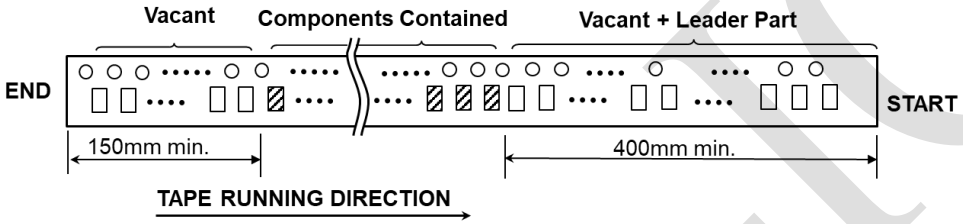
Product date code :

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

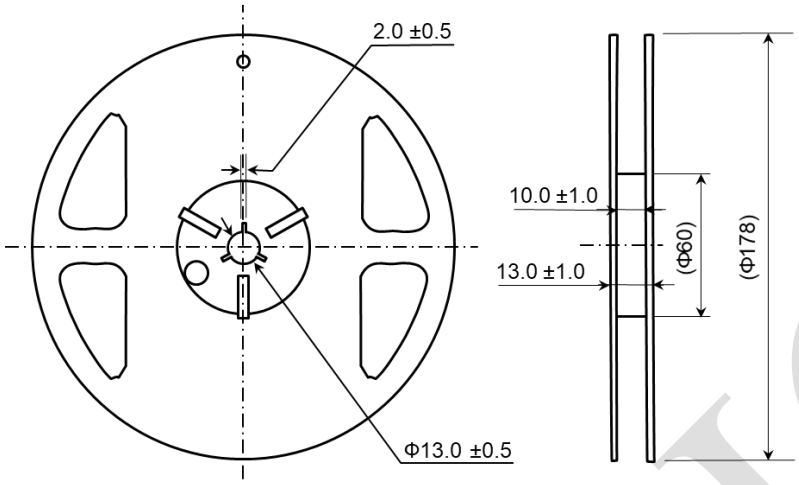
Tape Information



UNIT: mm

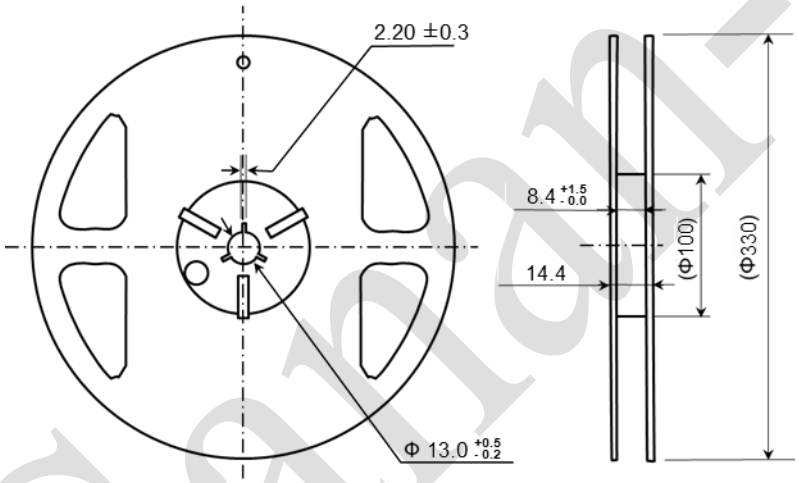


Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RBD0847G2U-SA	Bulk (few pieces)
RBD0847G2U-MB	Tape & Reel 3,000 pcs/reel
RBD0847G2U-MC	Tape & Reel 10,000 pcs/reel
RBD0847G2U-SZ	EVB

Revision History

Revision	Date	Description
0.1	Jun. 30, 2022	● Initial release
1.0	Dec. 27, 2022	● Updated specification
1.1	Feb. 10, 2023	● Corrected the frequency specifications, etc.

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