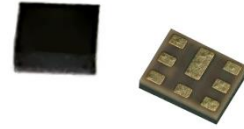


Data Sheet for SAW Components



Band 7

Duplexer

Product ID: RBD2655G3J

Date: Aug. 22, 2023

Revision: 1.0

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 Band 7 Duplexer

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

Tx to Ant	Min.	Typ.	Max.	Unit
Insertion Loss				
2500.25 - 2569.75 MHz	-	1.8	2.1	dB
Pass Band Ripple				
2500.25 - 2569.75 MHz	-	0.8	1.6	dB
VSWR Tx				
2500.25 - 2569.75 MHz	-	1.3	2.0	-
VSWR Ant				
2500.25 - 2569.75 MHz	-	1.3	2.0	-
Absolute Attenuation				
10 - 1559 MHz	35	47	-	dB
791 - 821 MHz	35	59	-	dB
1166.22 - 1254 MHz	35	51	-	dB
1559 - 1563 MHz	40	47	-	dB
1565.42 - 1585.42 MHz	40	47	-	dB
1597.55 - 1605.89 MHz	40	47	-	dB
2110 - 2170 MHz	40	45	-	dB
1805 - 1880 MHz	40	44	-	dB
2401 - 2468 MHz	35	52	-	dB _{INT} ^{*1}
2451 - 2473 MHz	20	47	-	dB _{INT} ^{*1}
2456 - 2478 MHz	10	30	-	dB _{INT} ^{*1}
2461 - 2483 MHz	8	15	-	dB _{INT} ^{*1}
2620.25 - 2689.75 MHz	45	59	-	dB
3300 - 3800 MHz	30	47	-	dB
3800 - 4200 MHz	30	54	-	dB
4400 - 5000 MHz	30	52	-	dB
4900 - 5950 MHz	30	48	-	dB
5000 - 5140 MHz	42	51	-	dB
5150 - 5925 MHz	30	48	-	dB
7500 - 7710 MHz	20	48	-	dB

*1: Integrated |S₂₁| over the center 18 MHz CH BW and converting to dB value

Electrical Specifications Band 7 Duplexer

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

Ant to Rx	Min.	Typ.	Max.	Unit
Insertion Loss				
2620.25 - 2689.75 MHz	-	1.6	2.4	dB
Pass Band Ripple				
2620.25 - 2689.75 MHz	-	0.7	1.6	dB
VSWR Rx				
2620.25 - 2689.75 MHz	-	1.4	2.0	-
VSWR Ant				
2620.25 - 2689.75 MHz	-	1.4	2.0	-
Absolute Attenuation				
120 MHz	50	116	-	dB
10 - 2500 MHz	33	39	-	dB
718 - 748 MHz	45	66	-	dB
832 - 862 MHz	45	62	-	dB
880 - 915 MHz	45	60	-	dB
1710 - 1785 MHz	36	40	-	dB
1920 - 1980 MHz	33	40	-	dB
2400 - 2483 MHz	45	51	-	dB
2500.25 - 2569.75 MHz	48	59	-	dB
5150 - 5925 MHz	35	53	-	dB
7620 - 7830 MHz	20	41	-	dB

Electrical Specifications Band 7 Duplexer

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

Ant to Rx	Min.	Typ.	Max.	Unit
Isolation				
2500.25 - 2569.75 MHz	55	60	-	dB
2620.25 - 2689.75 MHz	55	60	-	dB

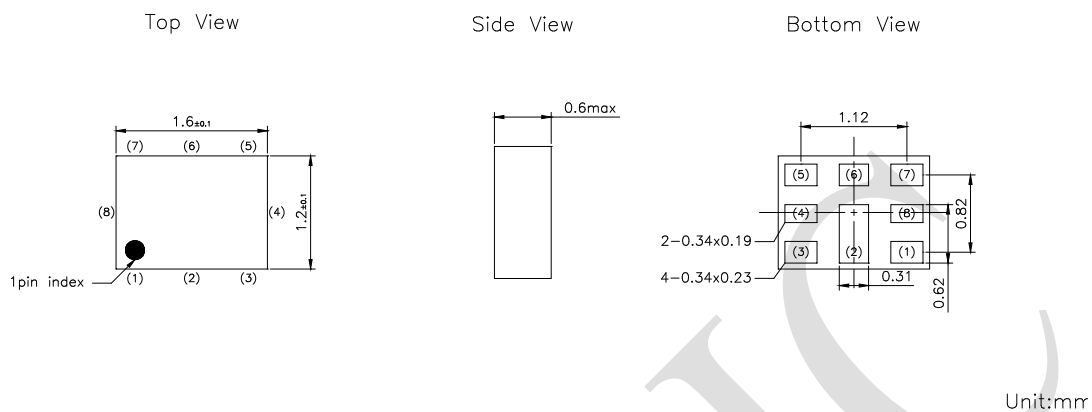
Maximum Ratings

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	

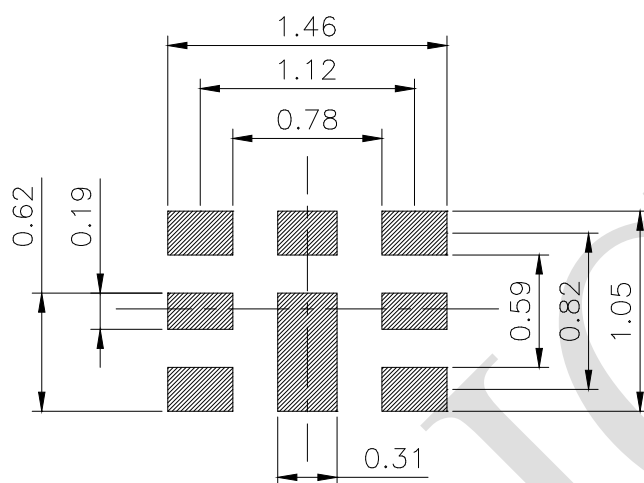
Package Information



Pin Configuration

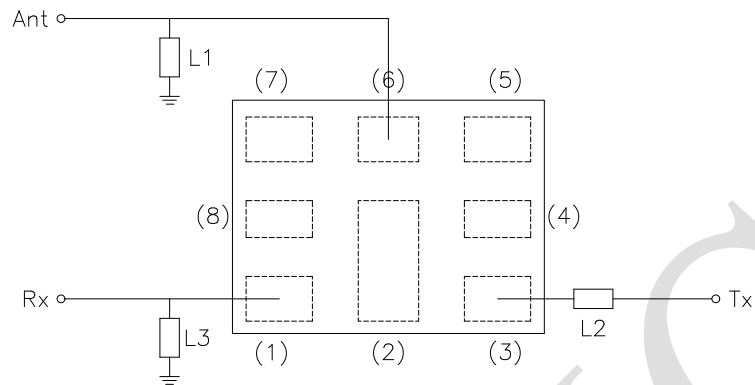
1	:	Rx
3	:	Tx
6	:	Ant
Other	:	GND

Land Pattern



Unit:mm

Application Circuit



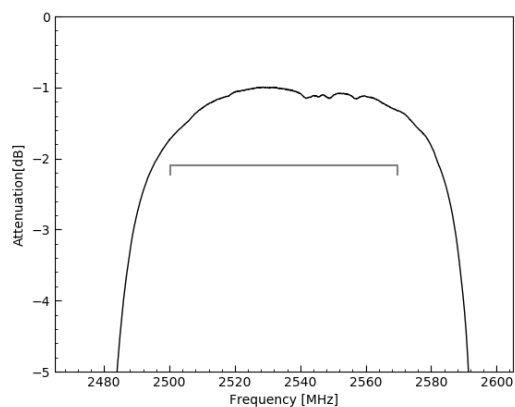
Port	Terminating Z	Matching Component
Ant	50 Ω	L1 : 3nH (Ideal inductor)
Tx	50 Ω	L2 : 1.5nH (Ideal inductor)
Rx	50 Ω	L3 : 3.5nH (Ideal inductor)

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

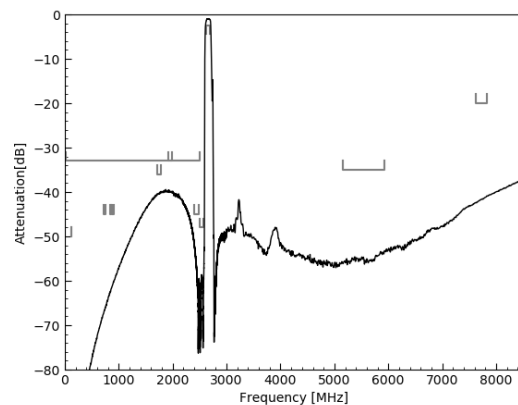
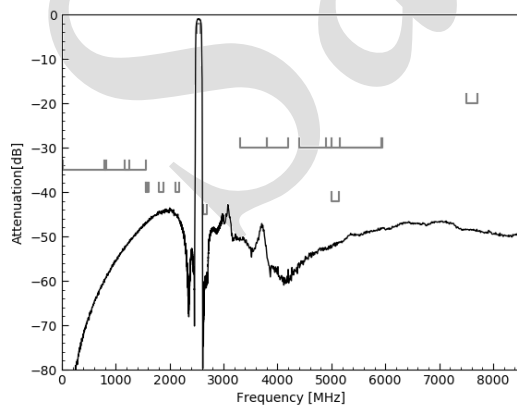
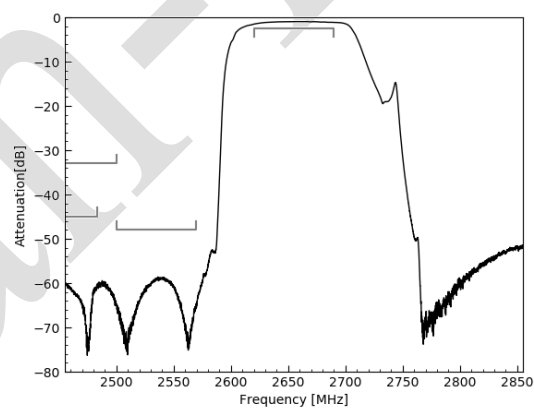
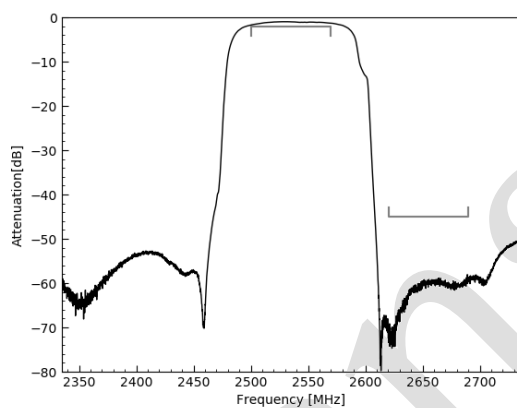
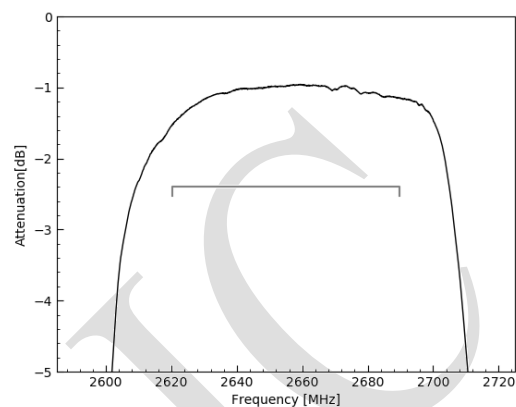
Electrical Characteristics

Band 7 Duplexer

Tx to Ant



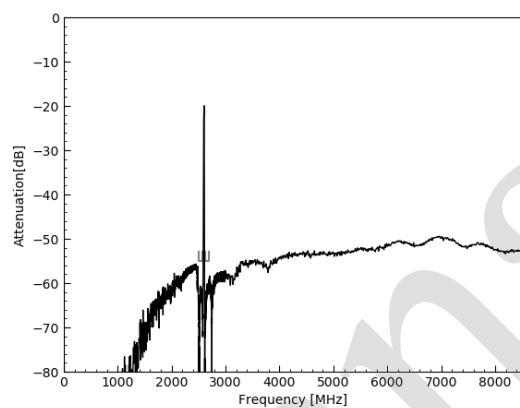
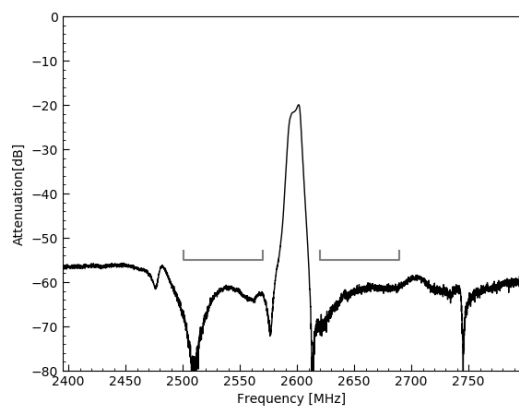
Ant to Rx



Electrical Characteristics

Band 7 Duplexer

Tx to Rx

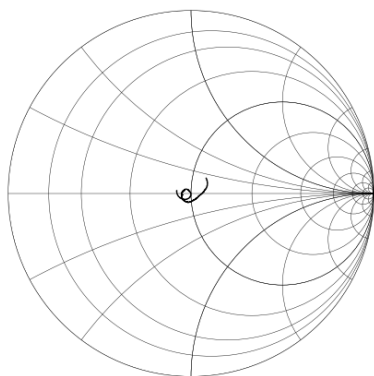


Electrical Characteristics

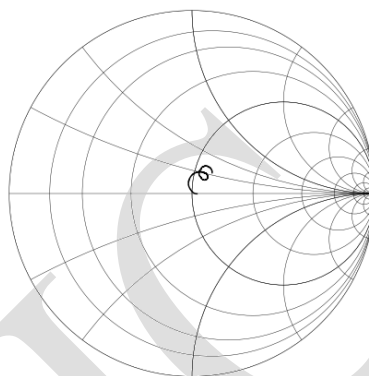
Band 7 Duplexer

Ant Port Impedance (Tx band)

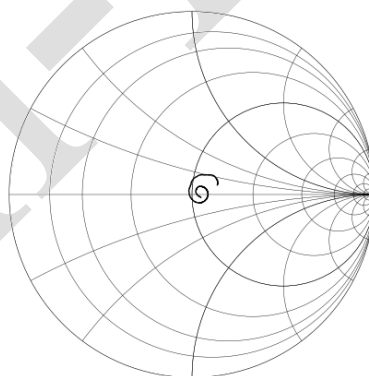
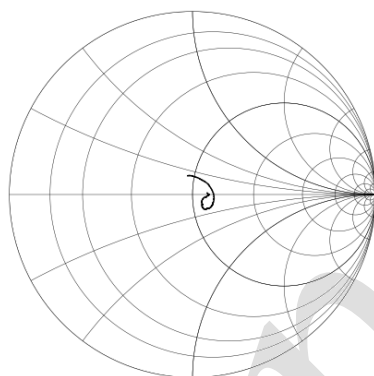
Ant Port Impedance (Rx band)



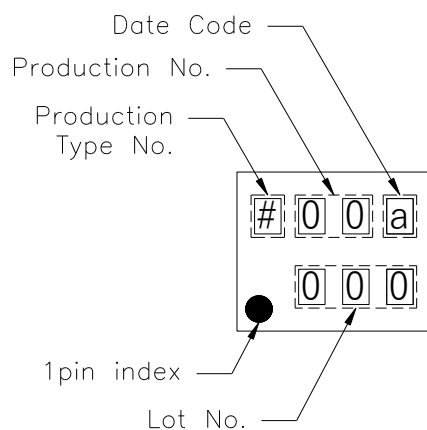
Tx Impedance



Rx Impedance



Marking Information



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

Product No. : 3J

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

Product date code :

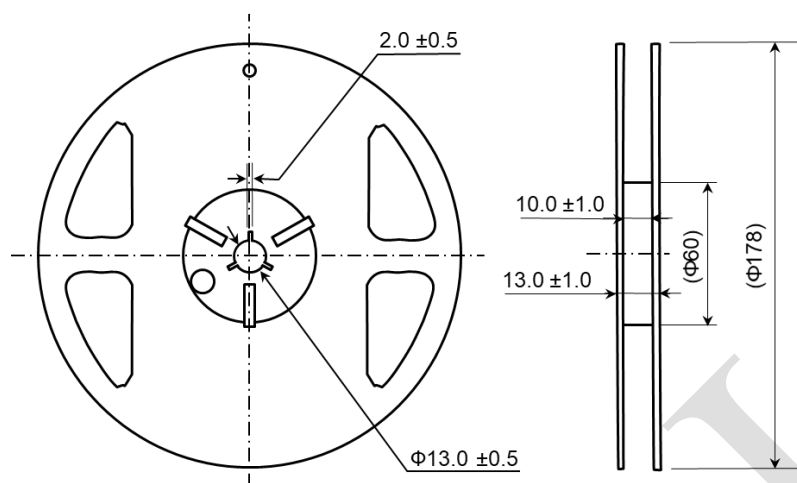
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	n	p	q	r	s	t	u	v	w	x	y	z
2024	A	B	C	D	E	F	G	H	J	K	L	M
2025	N	P	Q	R	S	T	U	V	W	X	Y	Z
2026	a	b	c	d	e	f	g	h	j	k	l	m

Technical drawing of a tape with a feeding hole. The drawing shows a side view of the tape with a central feeding hole. The dimensions are as follows:

- Overall width: 0.2 ± 0.03
- Distance from left edge to first hole: 0.72 ± 0.05
- Distance between holes: 2.0 ± 0.05 and 4.0 ± 0.1
- Feeding Hole diameter: $\Phi 1.55 \pm 0.05$
- Distance from last hole to right edge: 1.36 ± 0.02
- Overall height: 8.0 ± 0.10
- Distance from top edge to hole center: 1.75 ± 0.1
- Distance from bottom edge to hole center: 3.5 ± 0.05
- Distance from hole center to right edge: 0.2 ± 0.1
- Distance from hole center to right edge (inner): 1.78 ± 0.05
- Overall length: 4.0 ± 0.1
- Overall width (bottom): $\Phi 0.60 \pm 0.10$
- Direction: Tape Running Direction

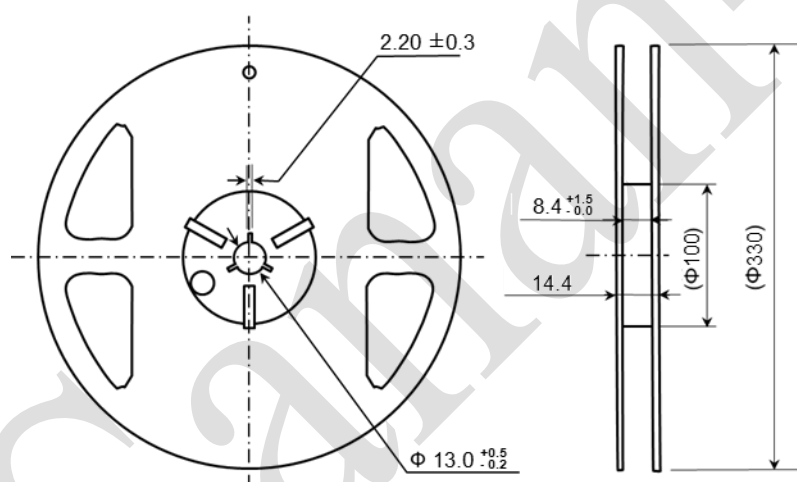
The diagram illustrates the layout of a magnetic tape. It is divided into three main sections: **Vacant**, **Components Contained**, and **Vacant + Leader Part**. The tape runs from **END** to **START**. The first section, **Vacant**, is at least 150mm long. The third section, **Vacant + Leader Part**, is at least 400mm long. Components are represented by circles and squares, some of which are shaded to indicate specific data or status.

Reel Information



Φ178 Reel Dimension

UNIT: mm



Φ330 Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
RBD2655G3J-SA	Bulk (few pieces)
RBD2655G3J-MB	Tape & Reel 3,000 pcs/reel
RBD2655G3J-MC	Tape & Reel 10,000 pcs/reel
RBD2655G3J-SZ	EVB

Sanan-IC

Revision History

Revision	Date	Description
0.1	Dec. 5, 2022	● Initial release (Preliminary)
1.0	Aug. 22, 2023	● Update product No.

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