

Data Sheet for SAW Components

Band 41 TRx

Single Filter



Product ID: LBS2593F0X

Date: Nov. 11, 2022

Revision: 2.1

Features

- ◆ Package Size : 1.4 x 1.1 x 0.6 max mm
- ◆ Single-Ended Input and Output
- ◆ Terminating Impedance : 50 Ω
- ◆ Moisture Sensitivity Level 3
- ◆ ESD Sensitive Device
- ◆ For Full Band 41 TD-LTE Tx/Rx

Electrical Specifications

Band 41 TRx Single Filter

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

Ant to Rx					Min.	Typ.	Max.	Unit
Insertion Loss								
	2496	-	2500	MHz	-	2.3	3.0	dB
	2500	-	2515	MHz	-	2.2	2.6	dB
	2515	-	2675	MHz	-	1.9	2.3	dB
	2675	-	2690	MHz	-	1.8	2.4	dB
Pass Band Ripple								
	2496	-	2690	MHz	-	0.4	1.5	dB* ¹
	2515	-	2675	MHz	-	0.2	1.2	dB* ²
VSWR TRx								
	2496	-	2690	MHz	-	1.2	2.0	-
	2515	-	2675	MHz	-	1.2	2.0	-
VSWR Ant								
	2496	-	2690	MHz	-	1.3	2.0	-
	2515	-	2675	MHz	-	1.3	2.0	-
Absolute Attenuation								
	10	-	916	MHz	38	45	-	dB
	925	-	960	MHz	37	44	-	dB
	1226.57	-	1228.63	MHz	30	39	-	dB
	1242.42	-	1249.14	MHz	30	38	-	dB
	1248	-	1564	MHz	30	37	-	dB
	1559	-	1563	MHz	30	38	-	dB
	1565.42	-	1573.37	MHz	30	39	-	dB
	1573.37	-	1577.47	MHz	30	39	-	dB
	1577.47	-	1585.42	MHz	30	39	-	dB
	1597.55	-	1605.89	MHz	30	40	-	dB
	1710	-	1785	MHz	20	29	-	dB
	1805	-	1850	MHz	15	23	-	dB
	1880	-	1920	MHz	11	18	-	dB
	1920	-	1980	MHz	8.0	14	-	dB
	2110	-	2170	MHz	4.0	6.6	-	dB
	2401	-	2463	MHz	25	34	-	dB _{INT} * ³
	2446	-	2468	MHz	12	29	-	dB _{INT} * ³
	2451	-	2473	MHz	7.0	18	-	dB _{INT} * ³
	2456	-	2478	MHz	5.0	10	-	dB _{INT} * ³
	2461	-	2483	MHz	2.0	6.0	-	dB _{INT} * ³
	3300	-	3800	MHz	12	16	-	dB
	3800	-	4200	MHz	12	19	-	dB
	4400	-	4800	MHz	18	27	-	dB
	4800	-	4900	MHz	22	32	-	dB
	4992	-	5380	MHz	26	36	-	dB

5150	–	5850	MHz	20	29	–	dB
7488	–	8070	MHz	15	20	–	dB

*1: Over any 20 MHz in band

*2: Over any 100 MHz in band

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

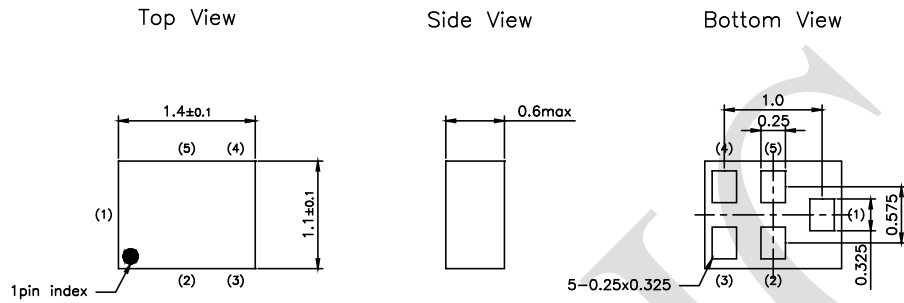
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 ° C	
DC Voltage	5 V	+25 ° C
Input power	+32 dBm	LTE, +55 ° C , 5000 h

Recommended Operating Conditions

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

Package Information

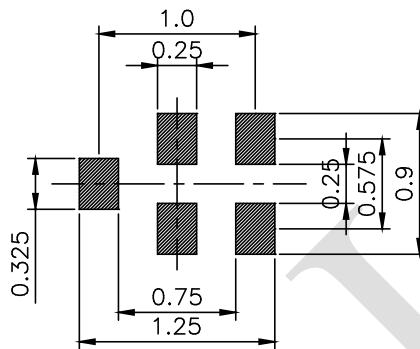


Unit:mm

Pin Configuration

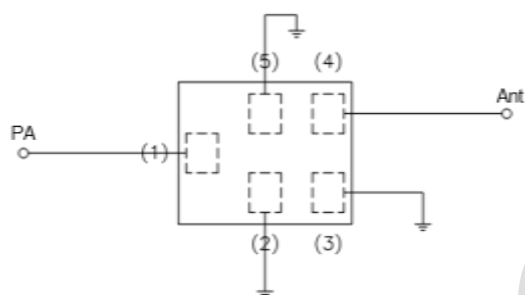
1	: TRx (PA-side)
4	: Ant
Other	: GND

Land Pattern



Unit:mm

Application Circuit



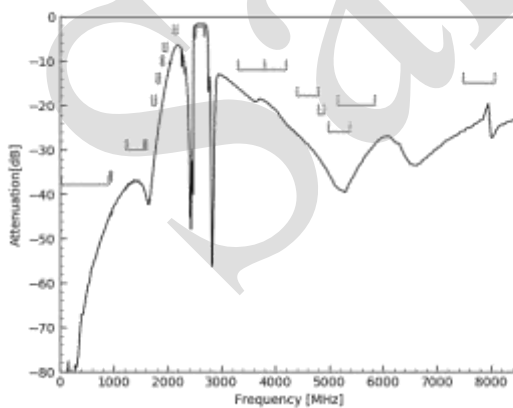
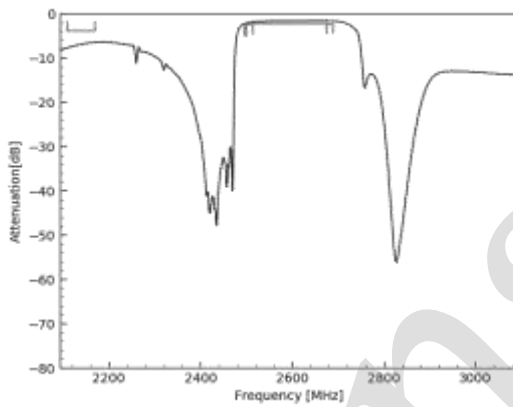
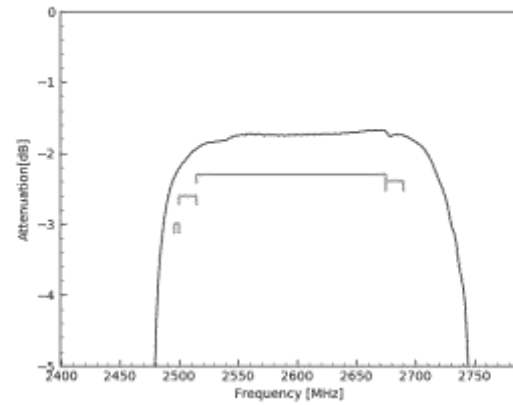
Port	Terminating Z	Matching Component
TRx	50 Ω	
Ant	50 Ω	

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

Electrical Characteristics

Band 41 TRx Single Filter

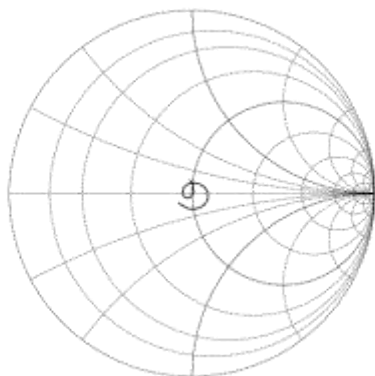
TRx to Ant



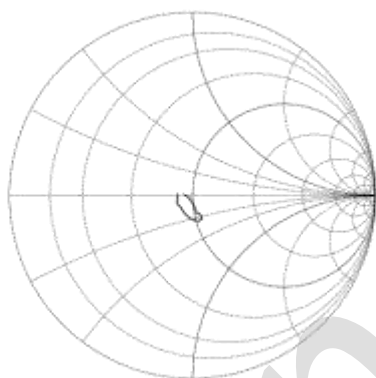
Electrical Characteristics

Band 41 TRx Single Filter

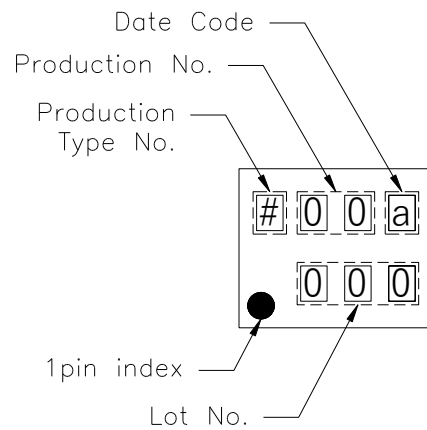
TRx Port Impedance



Ant Port Impedance



Marking Information



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

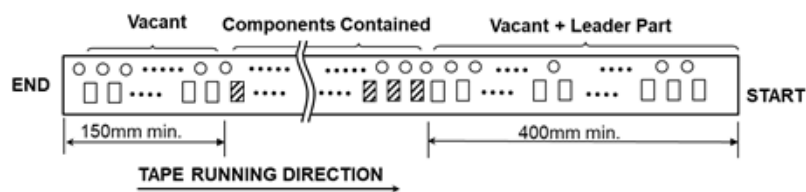
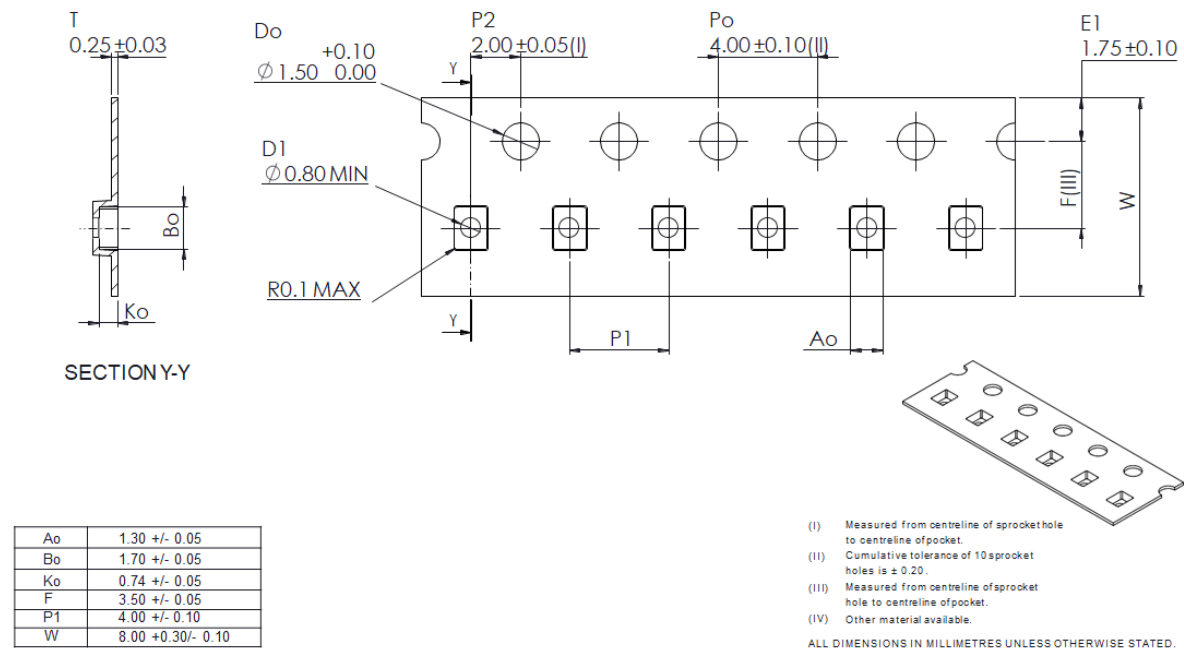
Product No. : 0X

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

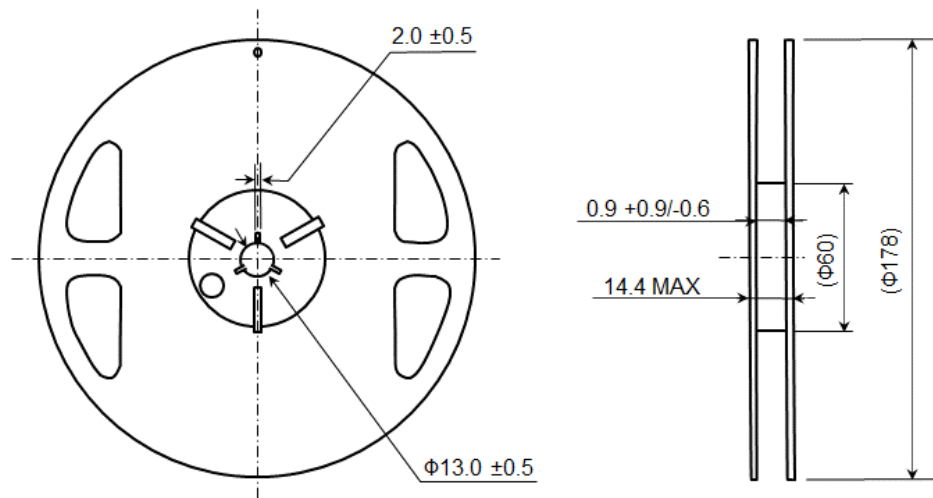
Product date code:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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
2024	A	B	C	D	E	F	G	H	J	K	L	M

Tape Information

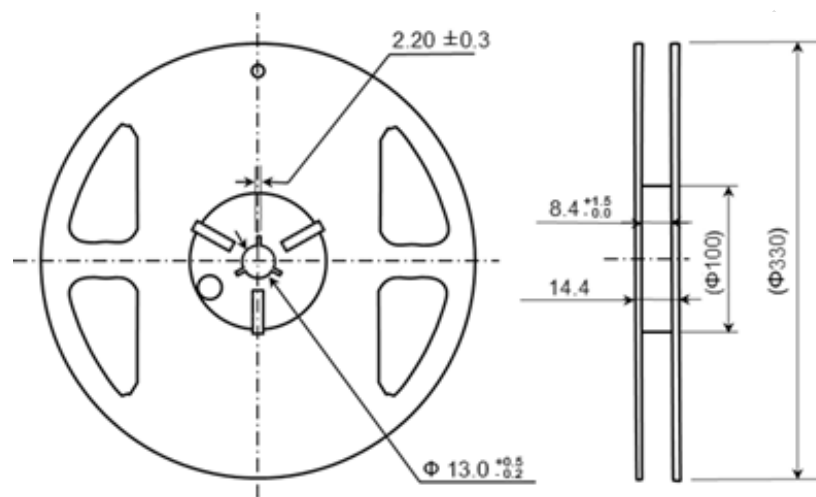


Reel Information



$\Phi 178$ Reel Dimension

UNIT: mm



$\Phi 330$ Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
LBS2593F0X-SA	Bulk (few pieces)
LBS2593F0X-MB	Tape & Reel 3,000 pcs/reel
LBS2593F0X-MC	Tape & Reel 10,000 pcs/reel
LBS2593F0X-SZ	EVB

Sanan-IC

Revision History

Revision	Date	Description
1.0	Jul. 17, 2020	● Initial release
2.0	Nov. 18, 2021	● Updated electrical specifications, maximum ratings and electrical characteristics
2.1	Nov. 11, 2022	● Updated "Tape Information."

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