

SAW Components

For Band5/Unbalanced/5pin/1109



Series type: QGSA881MAASP2

Ordering code: QGSA881MAASP2

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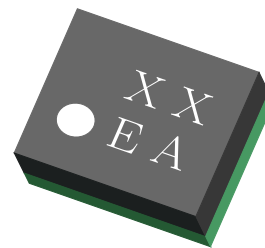
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Contents

1	Applications	3
2	Features	3
3	Package	4
4	Pin configuration	4
5	Matching circuit	5
6	Absolute Maximum Ratings	5
7	Characteristics	6
8	Transmission coefficients	7
9	Soldering profile	8
10	Tape and Reel	9
10.1	Tape	9
10.2	Reel with diameter of 178 mm	9

1 Applications

- Saw filter for Cellular/Cordless phone(Terminal) relevant market



2 Features

- Package size 1.1 mm x 0.9 mm
- Package height 0.5 mm (max.)
- RoHS compatible
- Package for Surface Mount Technology (SMT)
- Ni/Au-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 3 (MSL3)

Figure 1: Picture of component with example of product marking.

3 Package

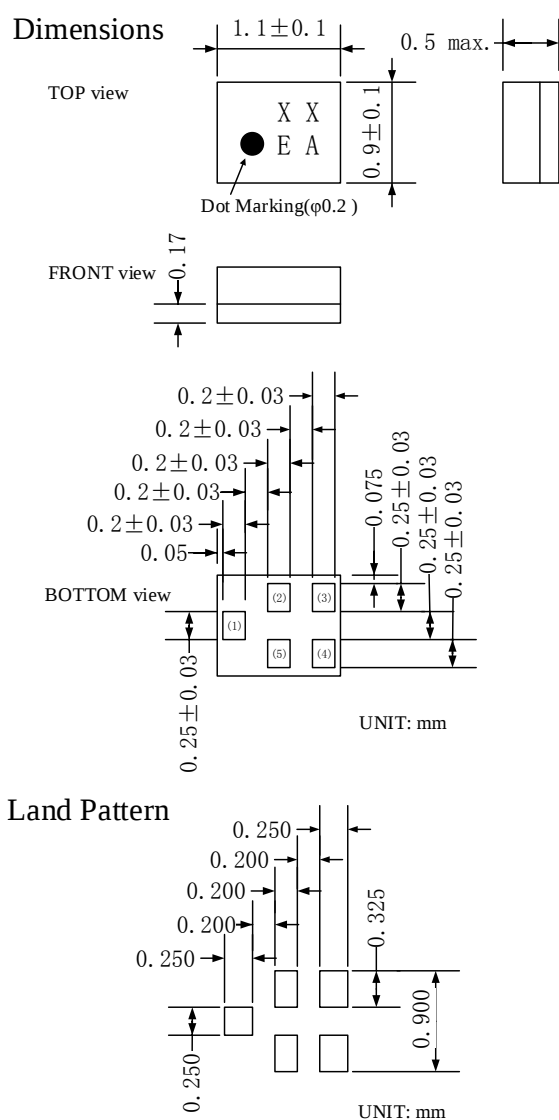


Figure 2: Drawing of package with package height A = 0.5 mm (max.)

4 Pin configuration

- 1 Unbalance Port
- 4 Unbalance Port
- 2,3,5 Ground

5 Matching circuit

- $R_1 : 50\Omega$ $R_2 : 50\Omega$

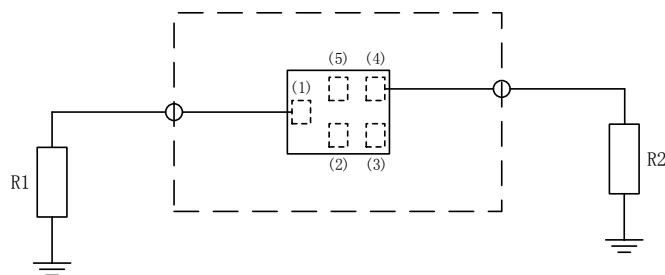


Figure 3: Schematic of matching circuit.

6 Absolute Maximum Ratings

Table 1: Absolute Maximum Ratings of Example Data Sheet

Parameter	Rating
Storage temperature	$T_{STG} = -40^{\circ}C$ to $+85^{\circ}C$
Operating temperature	$T_{opt} = -30^{\circ}C$ to $+85^{\circ}C$
DC voltage	$V_{DC} = 3.0V(max)$
Input power	$P_{IN} = +15dBm$ 5000h
Minimum Resistance between the terminals	10Mohm

7 Characteristics

Temperature range for specification $T_{SPEC} = -20^{\circ}C \dots +85^{\circ}C$

Input terminating impedance $Z_{IN} = 50\Omega$

Output terminating impedance $Z_{OUT} = 50\Omega$

Item		min.	typ.	max.	Unit	Note
Center Frequency			881.5		MHz	
Insertion Loss	869 to 894 MHz		1.4	1.8	dB	
Ripple Deviation	869 to 894 MHz		0.8	1.0	dB	Any 5MHz
	869 to 894 MHz		0.6	0.8	dB	
VSWR	869 to 894 MHz		1.4	1.8		
Absolute Attenuation	450 to 779 MHz	45	50		dB	
	779 to 804 MHz	46	51		dB	
	824 to 849 MHz	42	42		dB	
	846.5 to 854 MHz	30	45		dB	
	1693 to 1743 MHz	38	44		dB	
	1738 to 1788 MHz	40	43		dB	
	2400 to 2500 MHz	33	36		dB	
	2517 to 2592 MHz	33	36		dB	
	2607 to 2682 MHz	33	36		dB	
	3476 to 3576 MHz	30	36		dB	
	4345 to 4470 MHz	30	36		dB	
	5214 to 5364 MHz	30	37		dB	
	5725 to 6000 MHz	30	37		dB	

8 Transmission coefficients

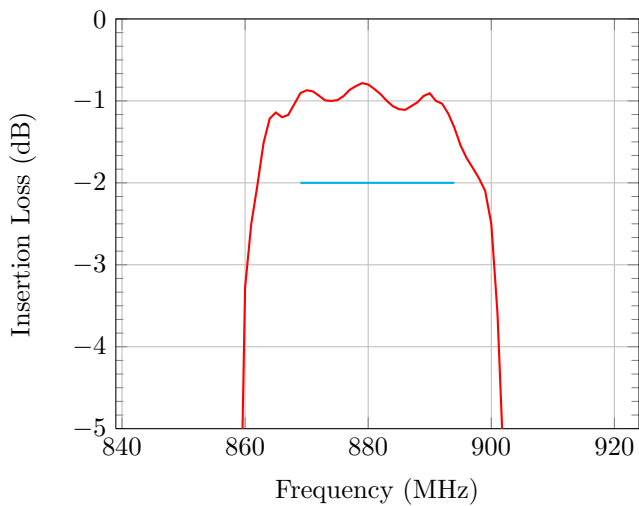


Figure 4: Passband

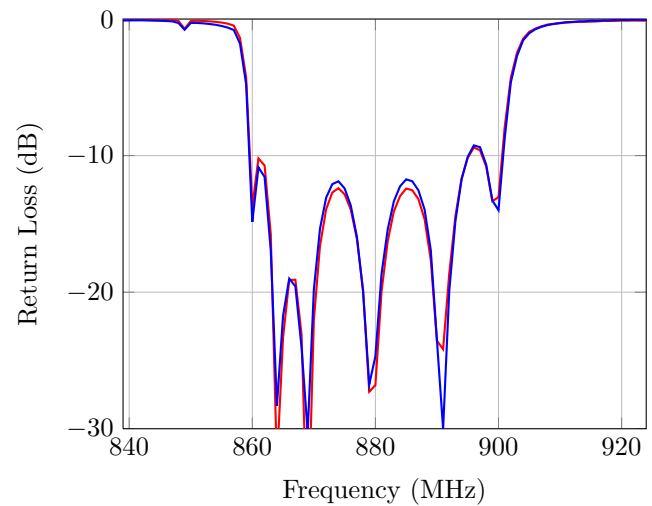


Figure 5: Input/Output Return Loss

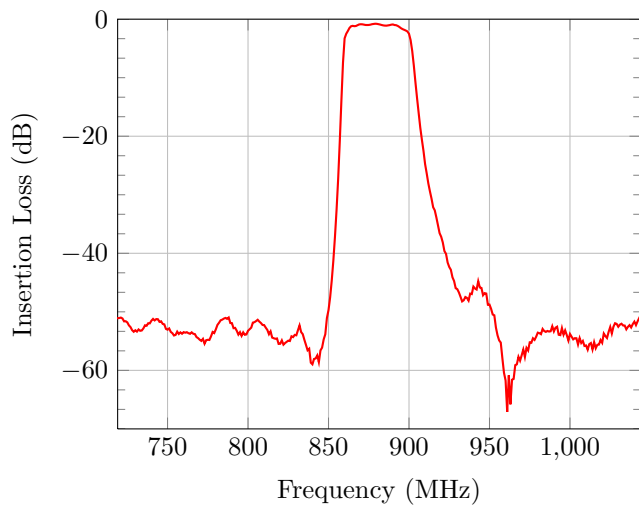


Figure 6: Narrowband

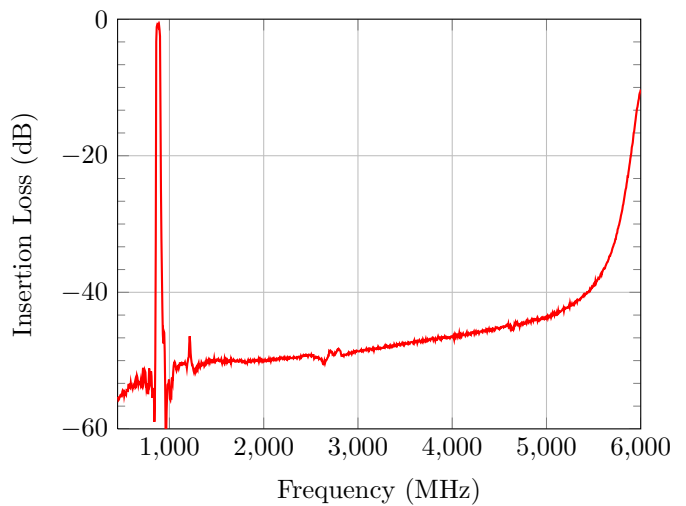
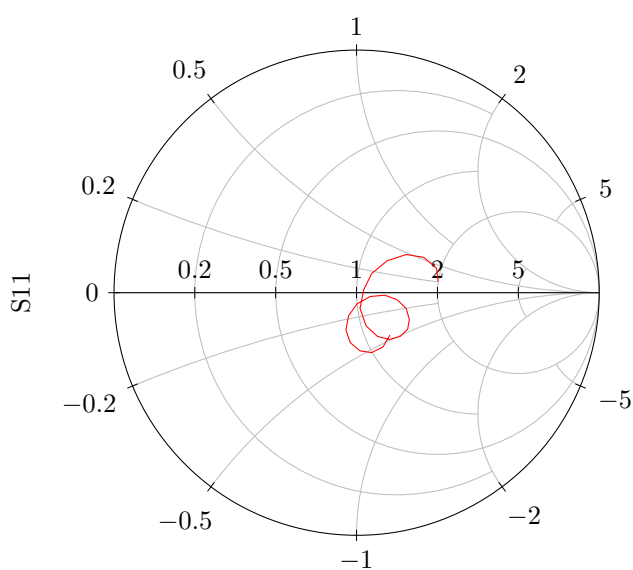
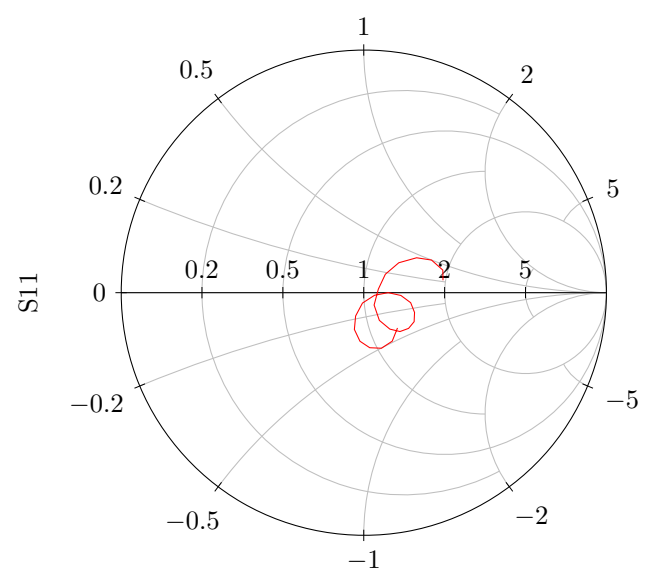


Figure 7: Wideband

Figure 8: Input Smith Chart ($Z_0 = 50\Omega$)Figure 9: Output Smith Chart ($Z_0 = 50\Omega$)

9 Soldering profile

The recommended soldering process is in accordance with IEC 60068-2-58-3rd edit and IPC/JEDECJ-STD-020B.

Table 2: Characteristics of recommended soldering profile for lead-free solder (Sn95.5Ag3.8Cu0.7).

Parameter	Rating
Ramp rate	≥ 3 K/s
Preheat	125 °C to 220 °C, 150 s to 210 s, 0.4 K/s to 1.0 K/s
T >220 °C	30 s to 70 s
T >230 °C	Min. 10 s
T >245 °C	Max. 20 s
T $\leq$ 255 °C	-
Peak temperature T_{peak}	220 °C $\pm$ 5°C
Wetting temperature T_{min}	230 °C $\pm$ 5°C for 10s $\pm$ 1s
Cooling rate	≥ 3 K/s
Soldering temperature T	Measured at solder pads

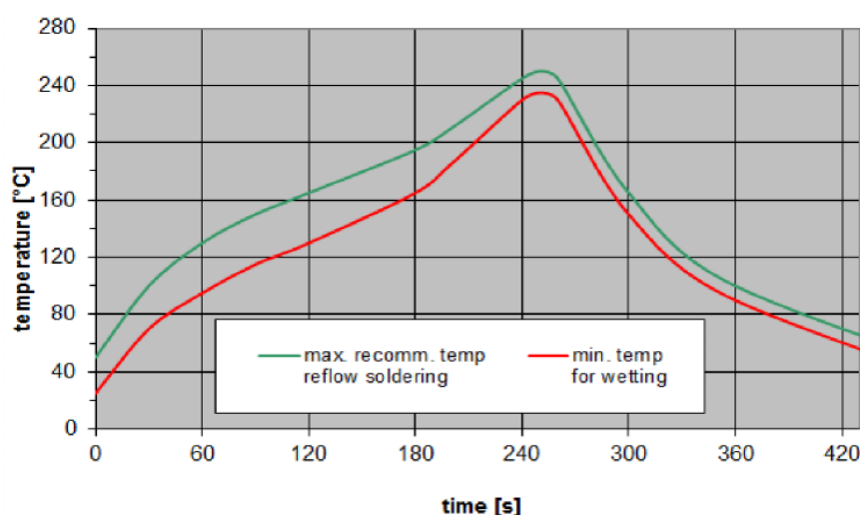


Figure 10: Drawing of reel (Recommended reflow profile for convection and infrared soldering – lead-free solder)

10 Tape and Reel

10.1 Tape

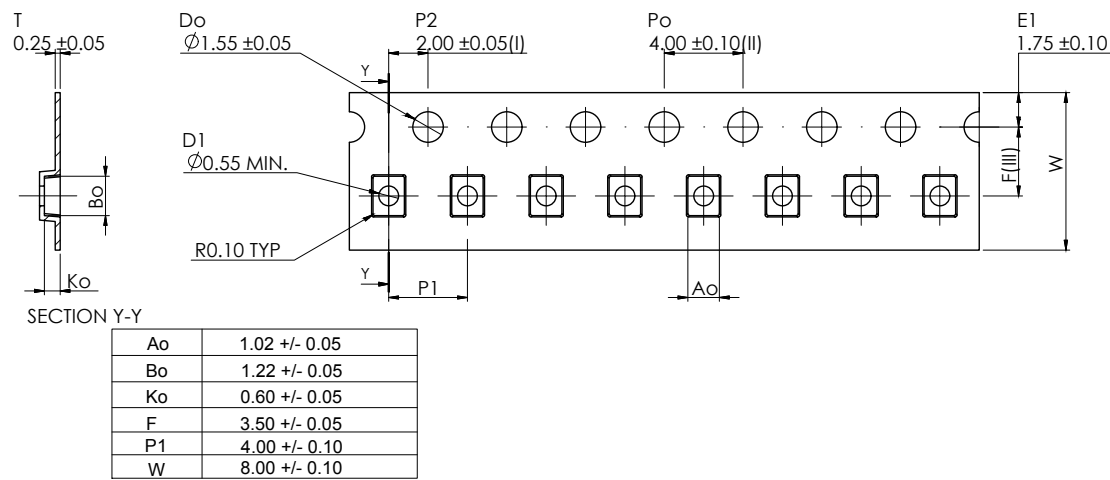


Figure 11: Drawing of tape (first-angle projection) with tape dimensions

10.2 Reel with diameter of 178 mm

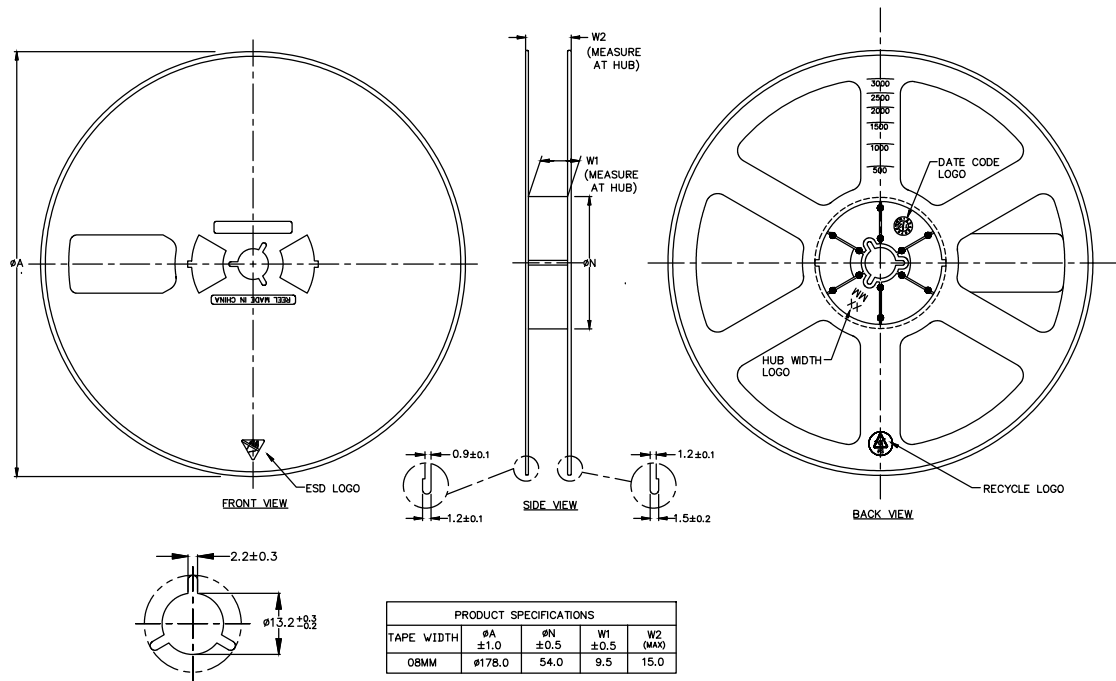


Figure 12: Drawing of reel (first-angle projection) with diameter of 180 mm