

SAW Components

LTE Band40 Filter

Series type: QGSA2G35AASP2

Ordering code: QGSA2G35AASP2

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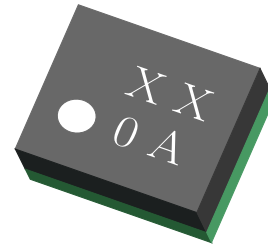
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1 Applications

- Low-loss Saw RF filter for mobile telephone
- 2300-2400MHz



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

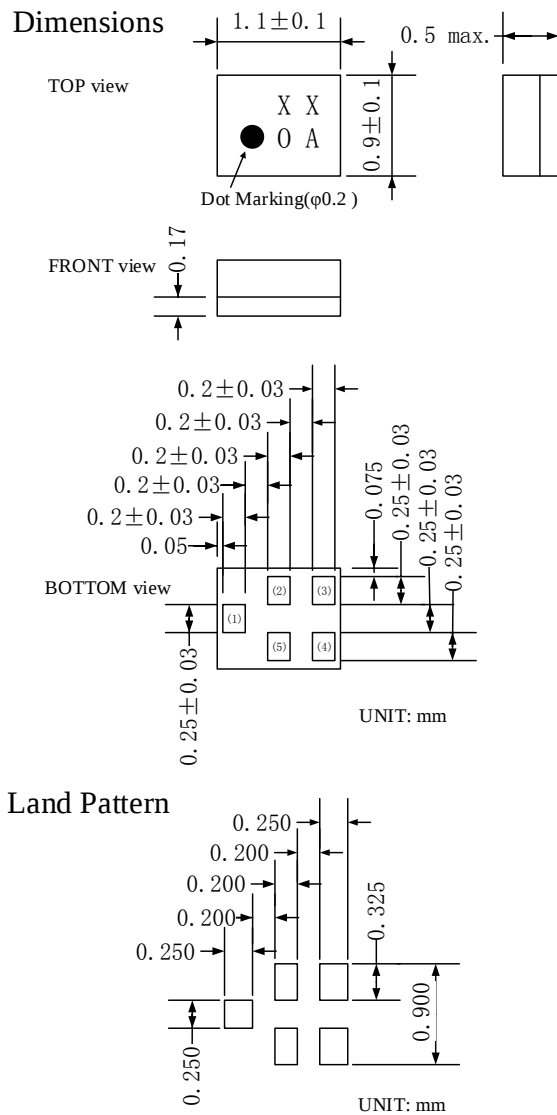


Figure 2: Drawing of package with package height A = 0.5 mm (max.)

4 Pin configuration

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

5 Matching circuit

- $L_1 : 6.6nH$ $L_2 : 5.5nH$
- $R_1 : 50\Omega$ $R_2 : 50\Omega$

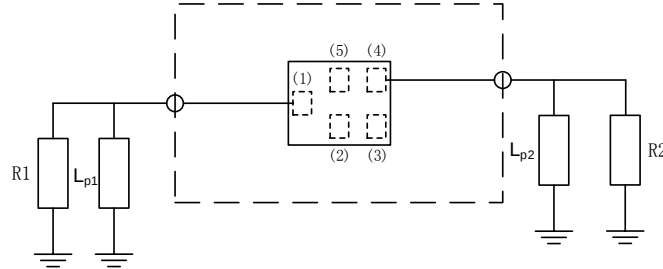


Figure 3: Schematic of matching circuit.

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	$T_{opt} = -20^{\circ}C$ to $+85^{\circ}C$
DC voltage	$V_{DC} = 3.0V(max)$
Input power	$P_{IN} = +15dBm$ 5000h $55^{\circ}C$

7 Characteristics

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

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

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

Item		min.	typ.	max.	Unit	Note
Center Frequency		2350			MHz	
Insertion Loss	2300 to 2400 MHz		2.0	2.6	dB	
Ripple Deviation	2300 to 2400 MHz		1.1	2.0	dB	
VSWR	2300 to 2400 MHz		1.6	2.0		
Absolute Attenuation	1559 to 1563 MHz	22	27		dB	
	1565 to 1573 MHz	22	27		dB	
	1573 to 1577 MHz	22	27		dB	
	1577 to 1585 MHz	22	27		dB	
	1598 to 1606 MHz	22	27		dB	
	2440 to 2500 MHz	30	36		dB	
	2496 to 2690 MHz	25	29		dB	
	4600 to 4800 MHz	27	41		dB	
	5725 to 5825 MHz	30	40		dB	

8 Transmission coefficients

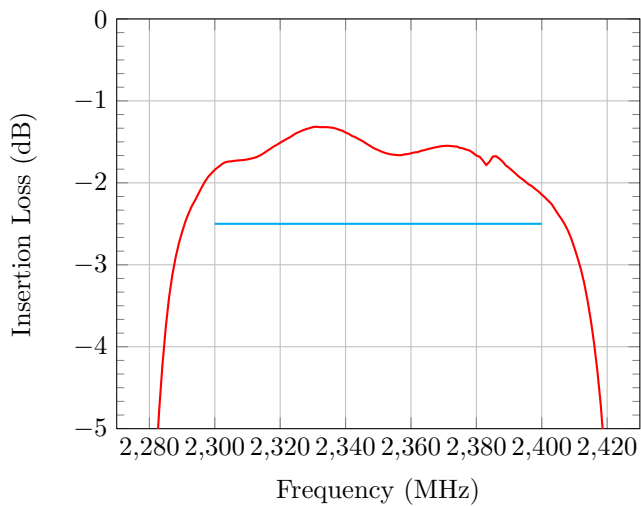


Figure 4: Passband

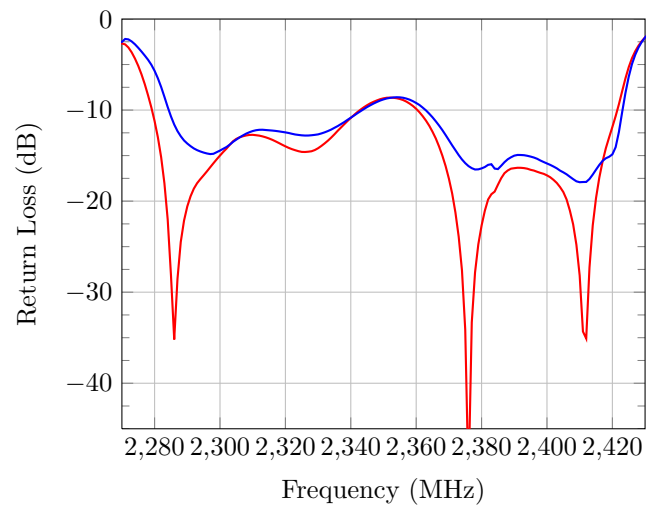


Figure 5: Input/Output Return Loss

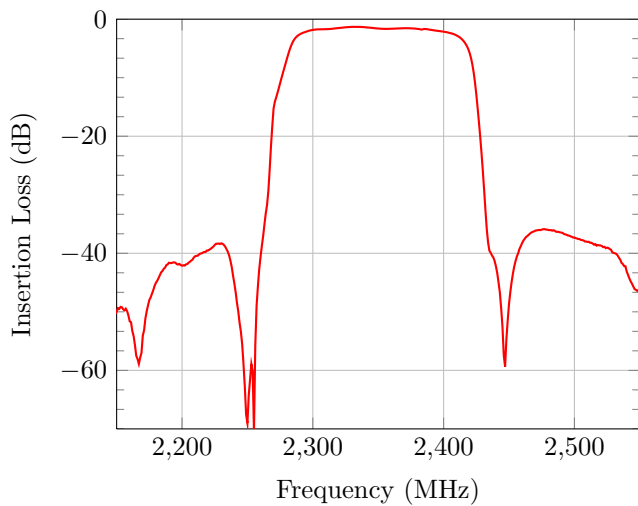


Figure 6: Narrowband

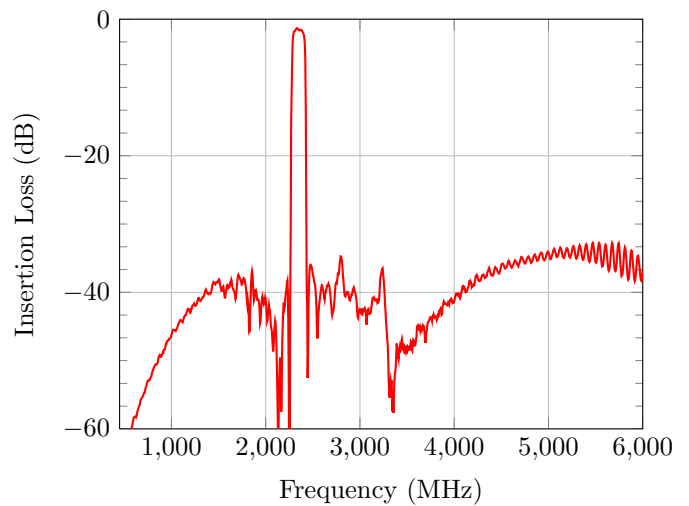
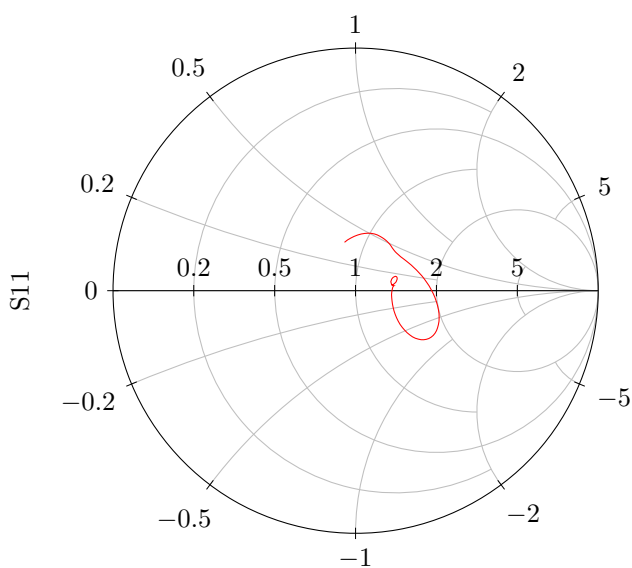
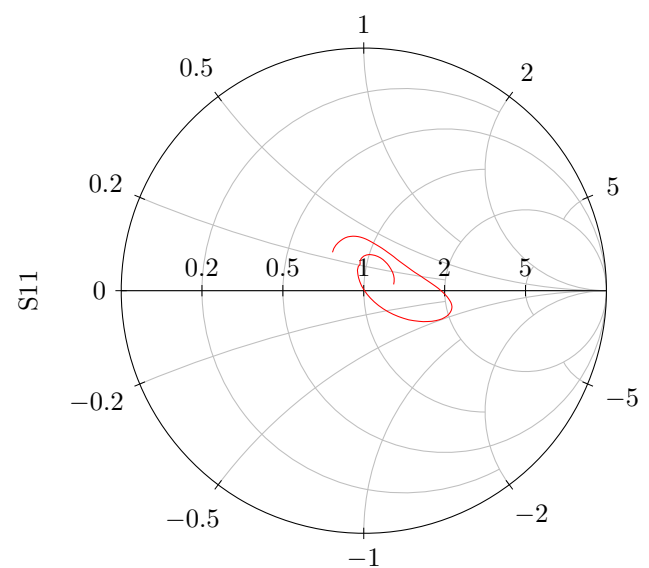


Figure 7: Wideband

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

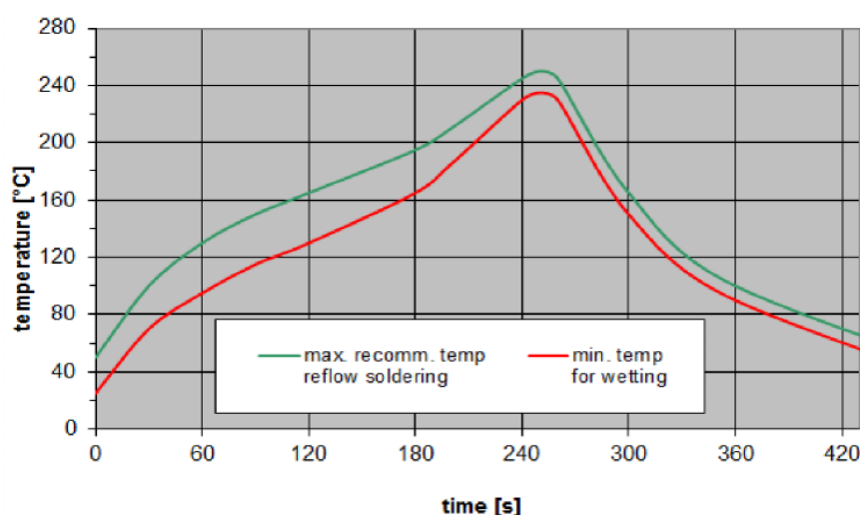


Figure 10: Drawing of reel (Recommended reflow profile for convection and infrared soldering – lead-free solder

10 Tape and Reel

10.1 Tape

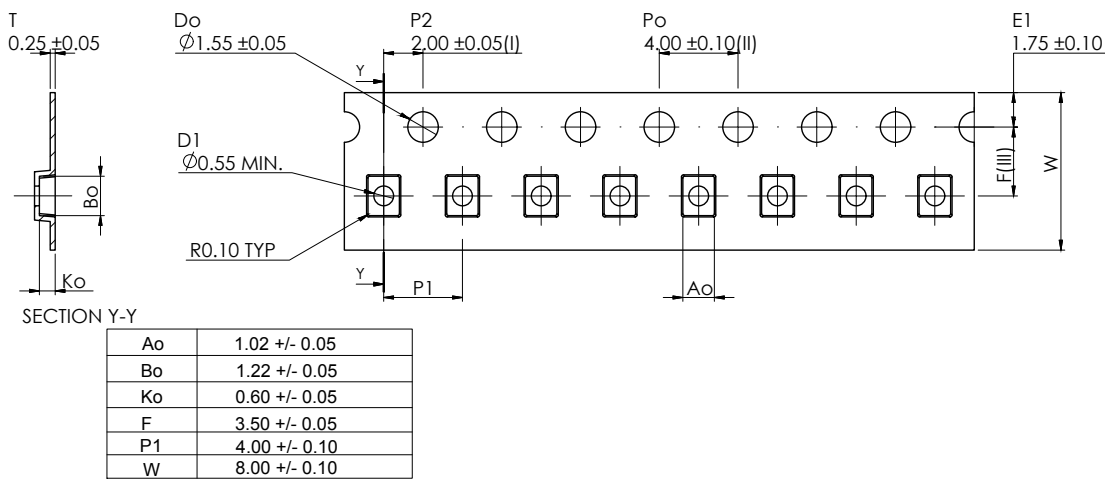


Figure 11: Drawing of tape (first-angle projection) with tape dimensions

10.2 Reel with diameter of 178 mm

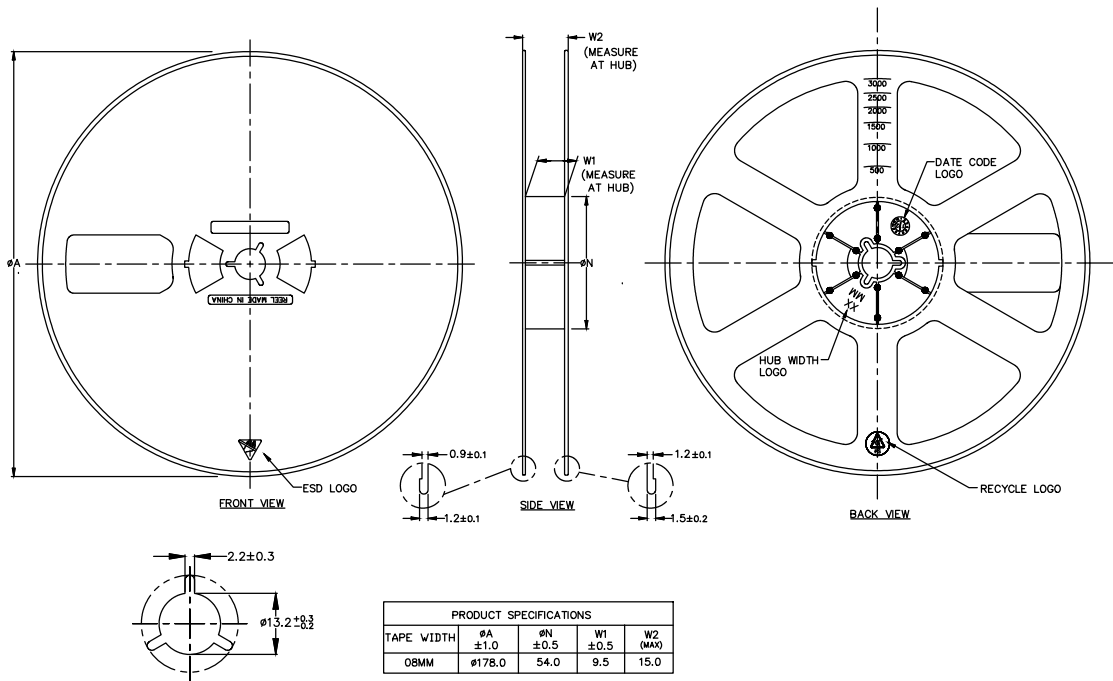


Figure 12: Drawing of reel (first-angle projection) with diameter of 180 mm