

BAW Components

BAW Filter

Cellular / Beidou /S Band Filter(BW 16MHz)

Series type: QGBA2G49FASP9

Ordering code: QGBA2G49FASP9

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1 Applications

- Beidou S Band application
- Low Insertion Loss
- High rejection at LTE and Wi-Fi bands
- Low TCF($< 3\text{ppm}/^{\circ}\text{C}$)
- Low amplitude ripple

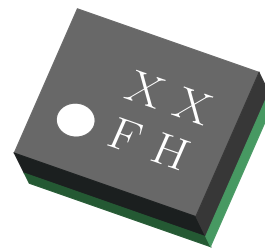


Figure 1: Picture of component with example of product marking.

2 Features

- Package size 3.0 mm x 3.0 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)

3 Package

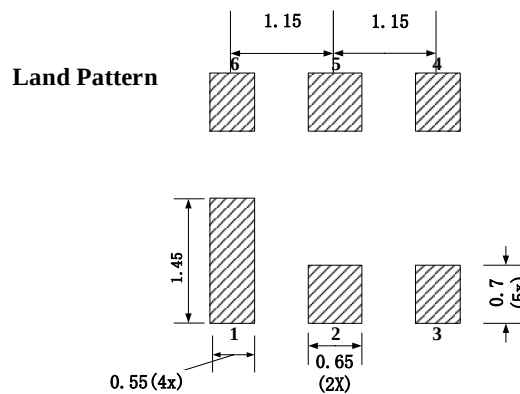
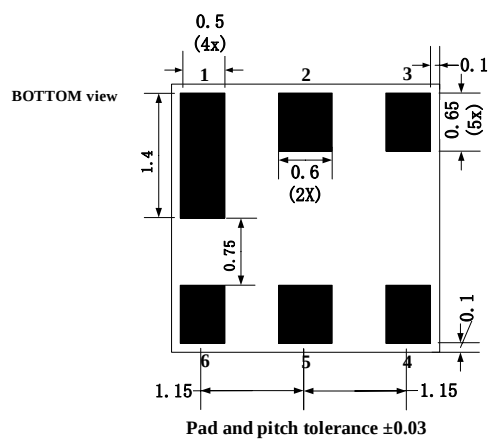
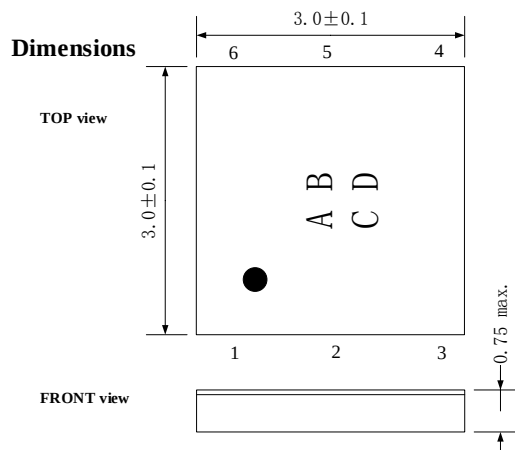


Figure 2: Drawing of package with package height A = 0.6 mm (max.)

4 Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Ground

5 Matching circuit

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

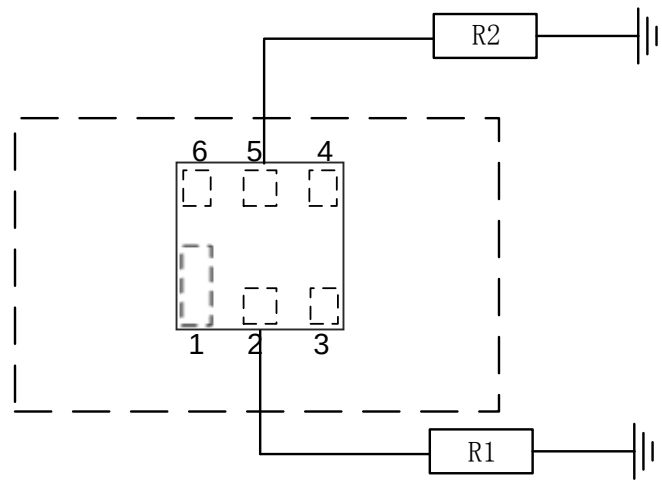


Figure 3: Schematic of matching circuit.

6 Absolute Maximum Ratings

Table 1: Absolute Maximum Ratings of Example Data Sheet

Parameter	Rating
Storage temperature	$T_{STG} = -40^{\circ}C$ to $+95^{\circ}C$
Operating temperature	$T_{opt} = -40^{\circ}C$ to $+95^{\circ}C$
DC voltage	$V_{DC} = 3.0V(max)$
Input power ¹	$P_{IN} = +32dBm$ 5000h $+55^{\circ}C$

¹Input signal shall be applied to TX port.

7 Characteristics

Temperature range for specification $T_{SPEC} = -40^{\circ}C \dots +95^{\circ}C$

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

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

Item		min.	typ.	max.	Unit	Note
Center Frequency		2492			MHz	
Insertion Loss	2484 to 2500 MHz		3	4.2		
Ripple Deviation	2484 to 2500 MHz		0.8	1.2	dB	
VSWR	2484 to 2500 MHz		1.2	1.7		
Return Loss	2488 to 2496 MHz	10	15			
Absolute Attenuation	10 to 1630 MHz	40	42		dB	
	1980 to 2460 MHz	40	45		dB	
	2460 to 2470 MHz	40	45		dB	
	2512 to 2520 MHz	26	40		dB	
	2520 to 3000 MHz	40	45		dB	

8 Transmission coefficients

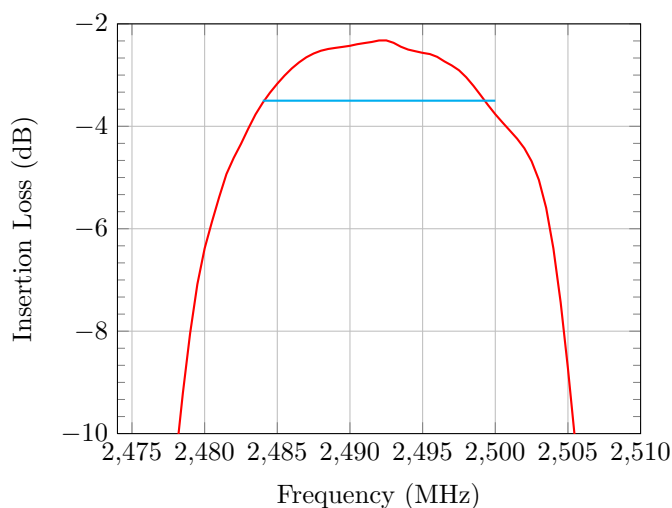


Figure 4: Passband

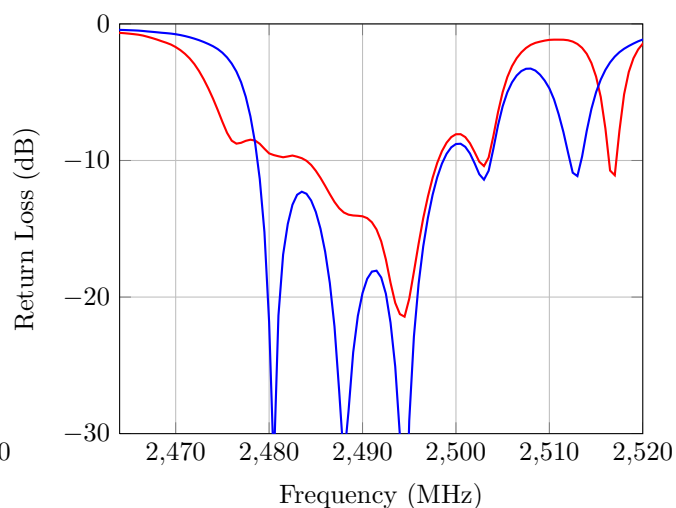


Figure 5: Input/Output Return Loss

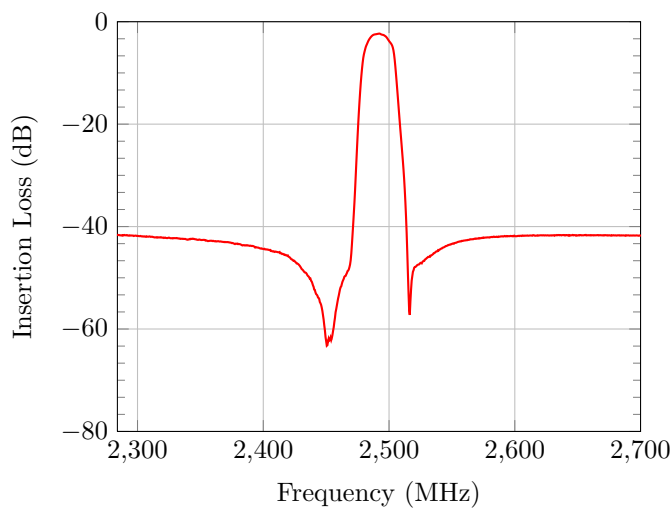


Figure 6: Narrowband

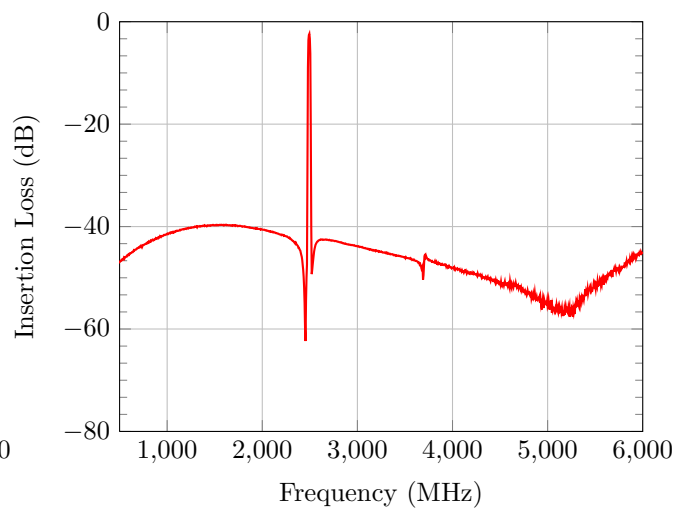
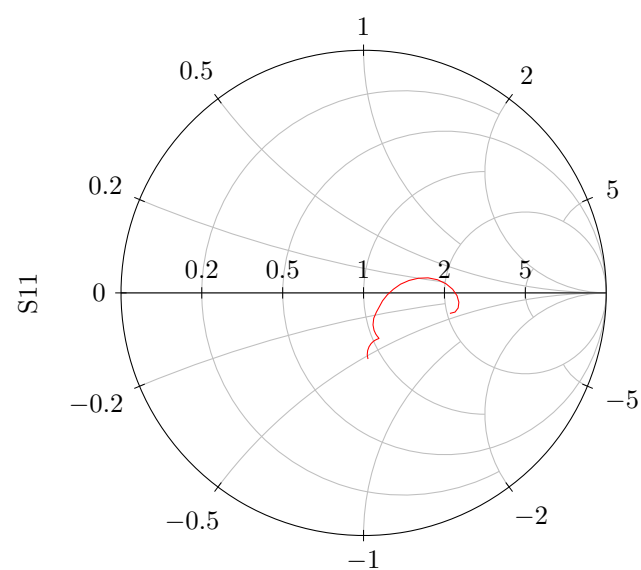
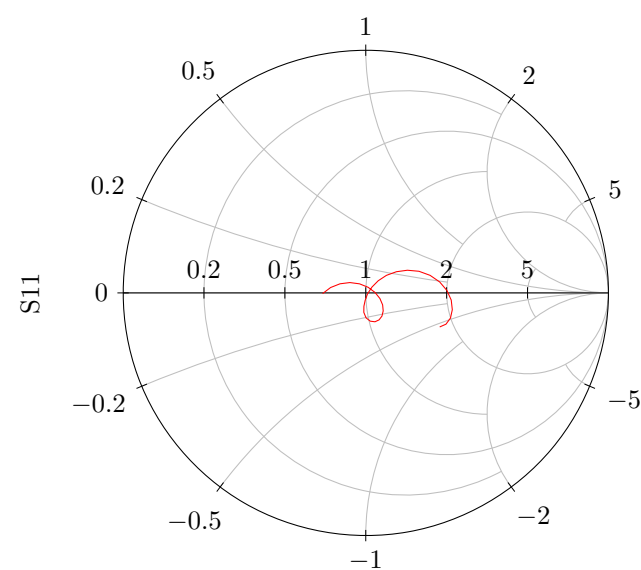
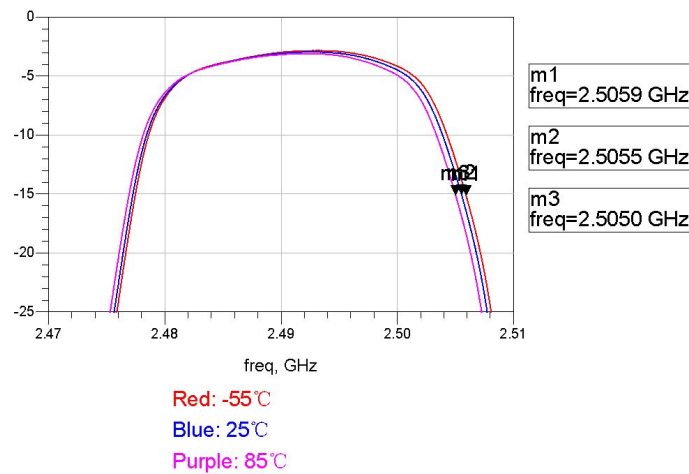


Figure 7: Wideband

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

9 Temperature Response



10 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 ≤ 255 °C	-
Peak temperature T_{peak}	220 °C ±5°C
Wetting temperature T_{min}	230 °C ±5°C for 10s ± 1s
Cooling rate	≥ 3 K/s
Soldering temperature T	Measured at solder pads

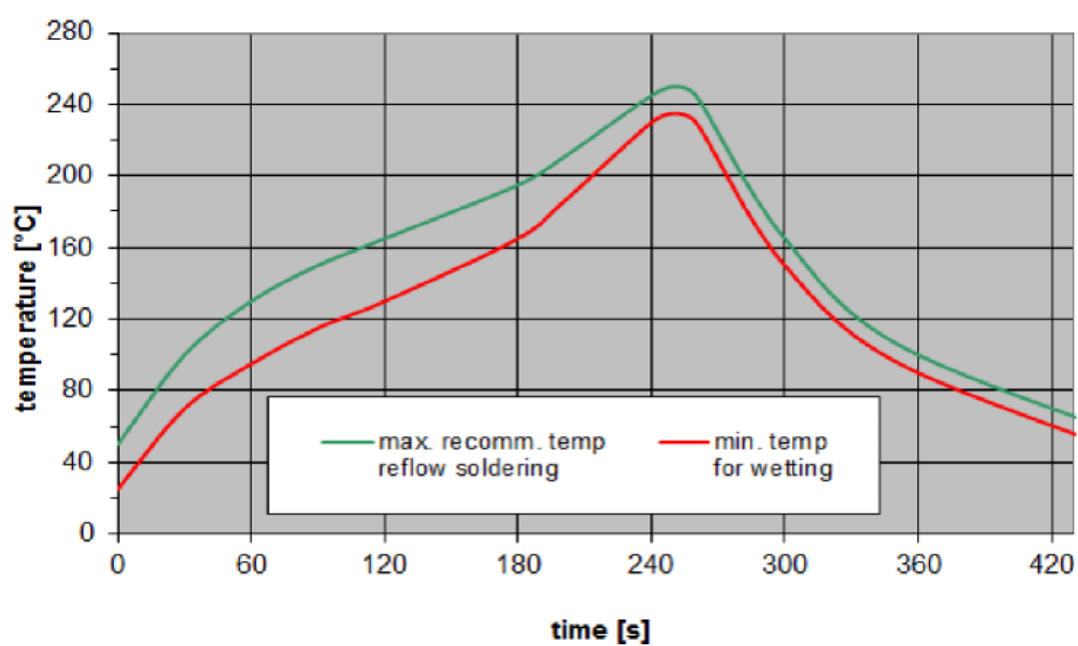


Figure 10: Drawing of reel (Recommended reflow profile for convection and infrared soldering – lead-free solder

11 Tape and Reel

11.1 Tape

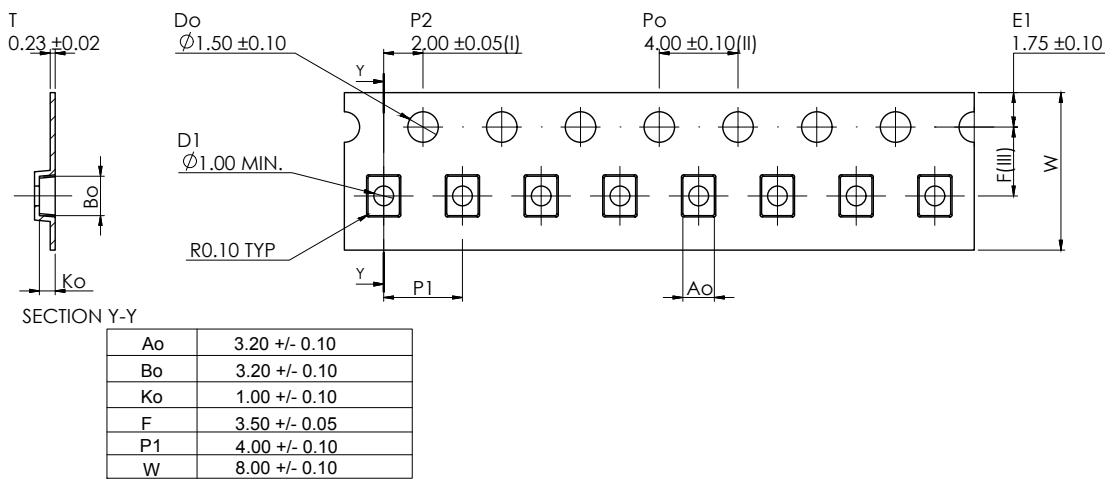


Figure 11: Drawing of tape (first-angle projection) with tape dimensions

11.2 Reel with diameter of 178 mm

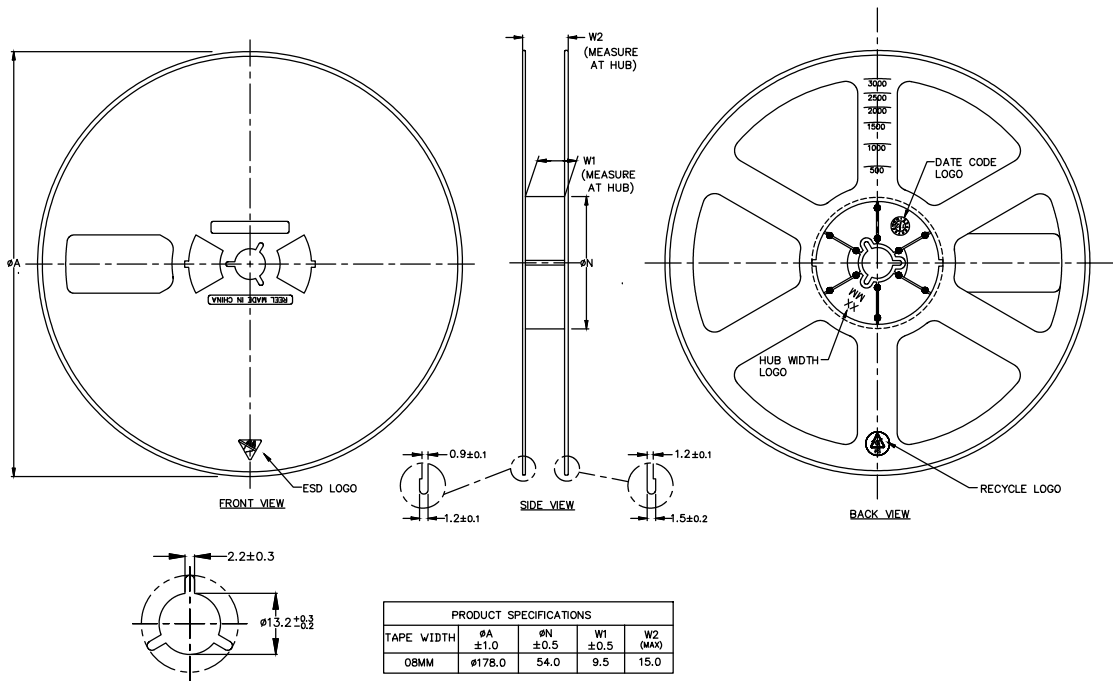


Figure 12: Drawing of reel (first-angle projection) with diameter of 180 mm