

SAW Components

For Band41 Full / Unbalanced / 5pin / 1411

Series/type: QGSA2G59FASP1
Ordering code: QGSA2G59FASP1

Last Update: Apr. 13, 2022
Version: 1.0



These materials, including the information contained herein, may be used only for informational purposes by the customer. QuantGrav assume no responsibility for errors or omissions in these materials or the information contained herein. QuantGrav reserve the right to make changes to the product(s) or information contained herein without notice. The materials and information are provided on an AS IS basis, and QuantGrav assume no liability and make no warranty or representation, either expressed or implied, with respect to the materials, or any output or results based on the use, application, or evaluation of such materials, including, without limitation, with respect to the non-infringement of trademarks, patents, copyrights or any other intellectual property rights or other rights of third parties.

No use of this documentation or any information contained herein grants any license, whether express, implied, by estoppel or otherwise, to any intellectual property rights, including, without limitation, to any patents owned by Hubei QuantGrav Technology Co., Ltd.

Not to be used, copied, reproduced, or modified in whole or in part, nor its contents revealed in any manner to others without the express written permission of Hubei QuantGrav Technology Co., Ltd.

QuantGrav and 宙讯 are trademarks of Hubei QuantGrav Technology Co., Ltd., registered in the people's Republic of China.

Table of contents

1	Application	3
2	Features.....	3
3	Package	4
4	Pin configuration.....	4
5	Matching circuit.....	5
6	Characteristics	6
7	Maximum ratings	7
8	Transmission coefficient	8
9	Soldering profile.....	9
10	Tape&Reel	10

1 Application

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

2 Features

- Package size 1.4 mm x 1.1 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)

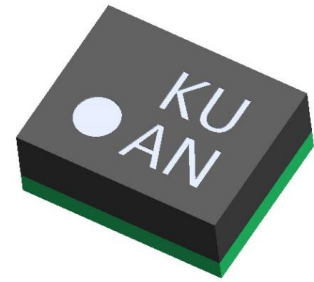


Figure 1: Picture of component with example of product marking.

5 Matching circuit

■ $R_1: 50\Omega$ $R_2: 50\Omega$

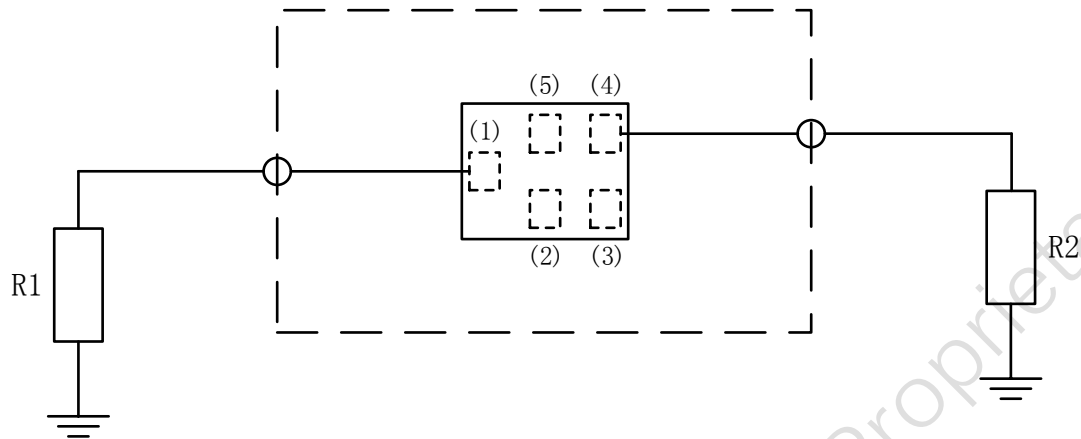


Figure 3: Schematic of matching circuit.

6 Characteristics

Temperature range for specification $T = -30\text{ }^{\circ}\text{C to } +85\text{ }^{\circ}\text{C}$

Input termination impedance $Z_{IN} = 50\text{ }\Omega$

Output termination impedance $Z_{OUT} = 50\text{ }\Omega$

Item	min.	typ.*	max.	Unit	Note
Center Frequency		2593		MHz	
Insertion Loss					
2496 to 2500 MHz		2.4	3.7	dB	
2500 to 2515 MHz		2.1	3.2	dB	
2515 to 2545 MHz		1.7	2.8	dB	
2545 to 2575 MHz		1.6	2.8	dB	
2575 to 2675 MHz		2.1	2.8	dB	
2675 to 2690 MHz		2.1	3.0	dB	
Ripple Deviation					
2496 to 2690 MHz		0.7	2.3	dB	Any 20MHz
2515 to 2675 MHz		0.6	1.5	dB	Any 100MHz
VSWR					
2496 to 2690 MHz		1.7	2.2	dB	
2515 to 2675 MHz		1.7	2.0	dB	
Absolute Attenuation					
617 to 960 MHz	30	34		dB	LB
1166.22 to 1254 MHz	28	33		dB	GPS L5+L2
1559.05 to 1605.89 MHz	28	34		dB	GPS L1
1710 to 1785 MHz	28	30		dB	B3 Tx
1805 to 1880 MHz	28	32		dB	B3 Rx
1880 to 1920 MHz	30	43		dB	B39
1930 to 1995 MHz	30	35		dB	B25 Rx
2110 to 2170 MHz	15	20		dB	B1 Rx
2110 to 2200 MHz	12	20		dB	B66 Rx
2300 to 2400 MHz	10	15		dB	B40
2401 to 2463 MHz	30	40		dB	WLAN ch1_9 19MHz-BW
2401 to 2468 MHz	20	41		dB	WLAN ch1_10 19MHz-BW
2451 to 2473 MHz	13	25		dB	WLAN ch11 19MHz-BW
2456 to 2478 MHz	8	25		dB	WLAN ch12 19MHz-BW
2461 to 2483 MHz	2	14		dB	WLAN ch13 19MHz-BW
3300 to 3800 MHz	15	20		dB	N78
3800 to 4200 MHz	17	22		dB	N77
4400 to 4800 MHz	18	24		dB	N79
4800 to 4900 MHz	26	33		dB	N79 for CMCC
4922 to 5380 MHz	28	35		dB	2f0
5150 to 5850 MHz	25	35		dB	WIFI 5G

* Typical value at 25±2deg.C

7 Maximum ratings

Storage temperature	$T_{\text{STG}} = -40\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$
Operating temperature	$T_{\text{OP}} = -30\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$
DC voltage	$V_{\text{DC}} = 3.0\text{ V (max.)}$
Input power	$P_{\text{IN}} = +33\text{ dBm}$ 5000 h $+50\text{deg.C (1)(2)}$
Minimum Resistance between the terminals	10M ohm

(1) Applicable for WCDMA,SCFDMA,DFT-s-OFDM

(2) 40% Duty Cycle

8 Transmission coefficient

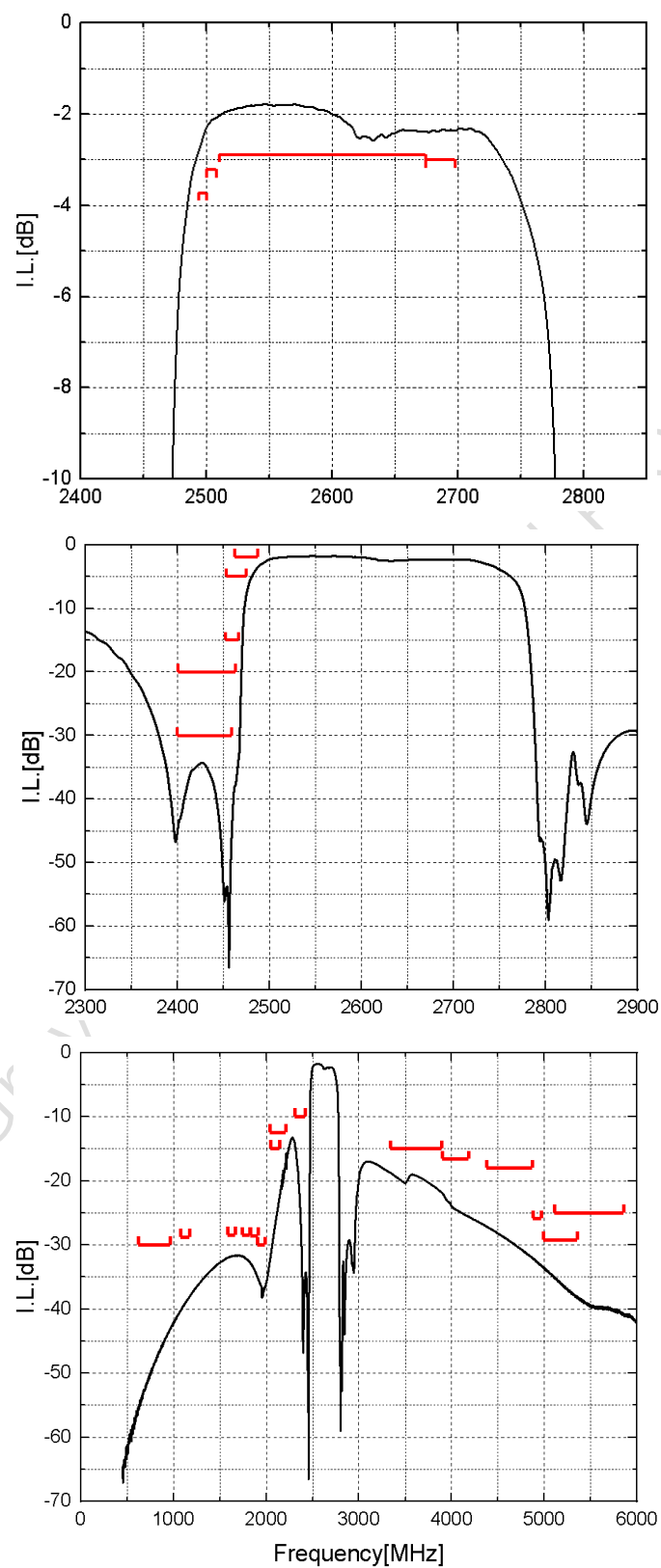


Figure 4: Attenuation.

9 Soldering profile

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

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

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

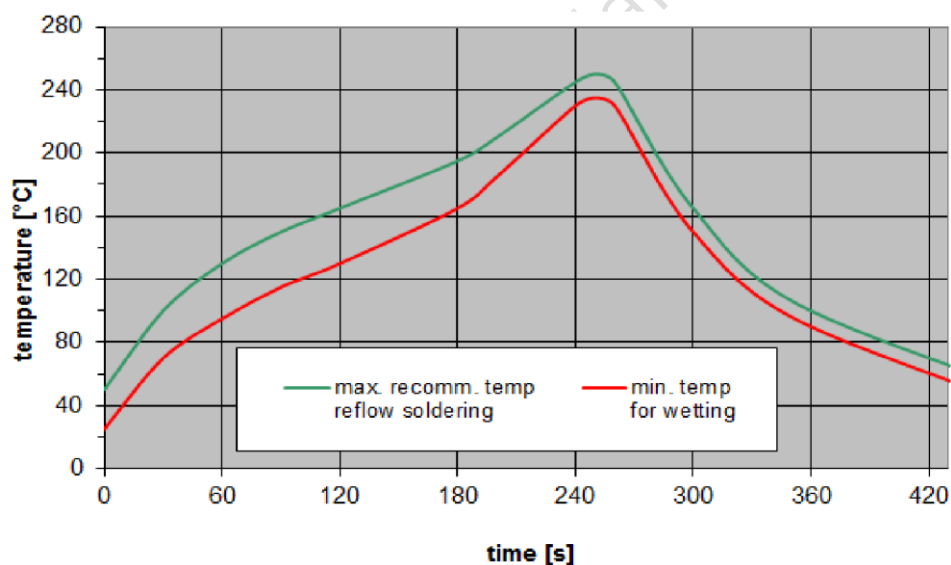


Figure 5: Recommended reflow profile for convection and infrared soldering – lead-free solder

10 Tape&Reel

10.1 Tape

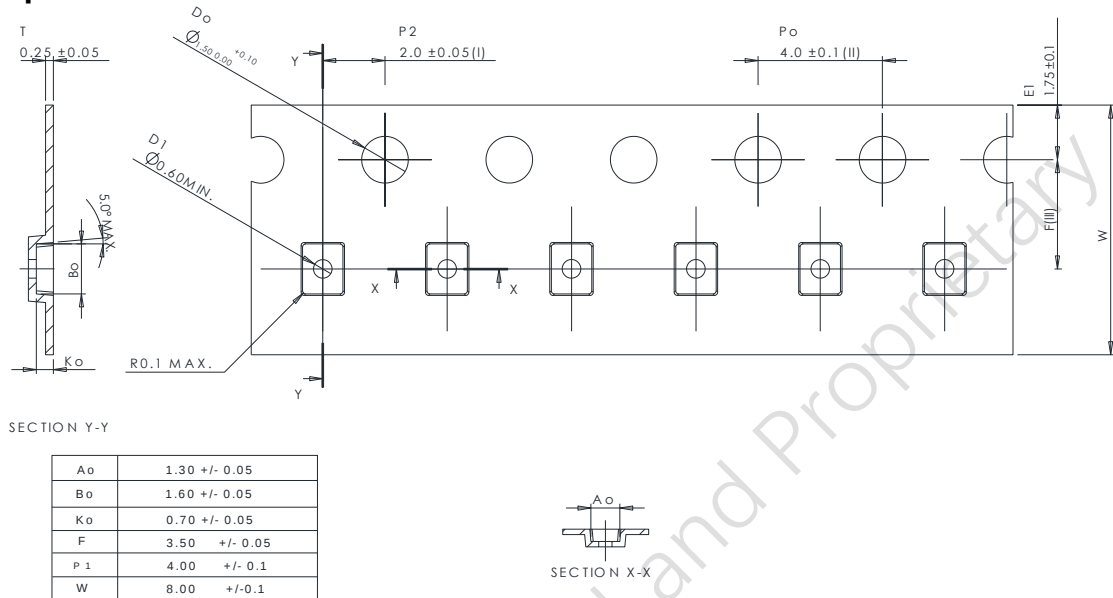


Figure 6: Drawing of tape (first-angle projection) with tape dimensions.

10.2 Reel with diameter of 178 mm

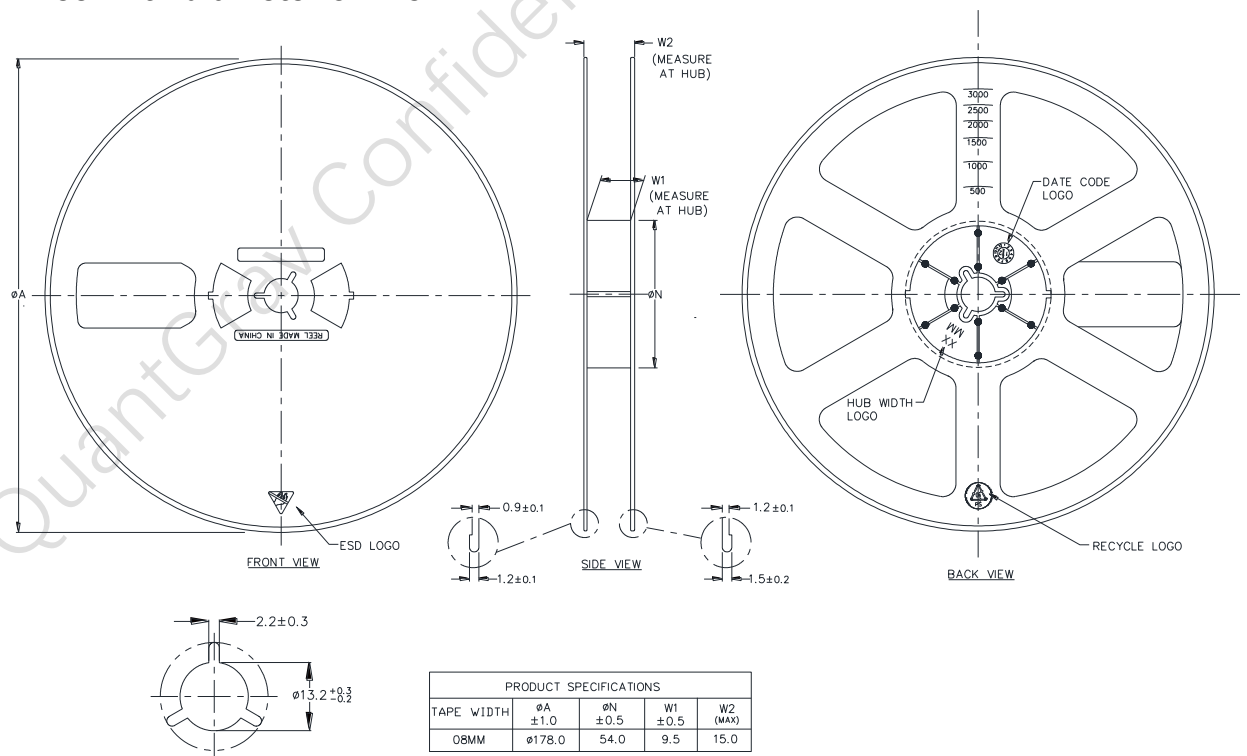


Figure 7: Drawing of reel (first-angle projection) with diameter of 178 mm