1411 Size SAW Filter for EGSM (GSM900)
Low Insertion Loss version
SPEC SHEET

Preliminary

Part No. WF898D0942FD

Document No. CE-898D-01

Issue Date Sep, 28, 2005

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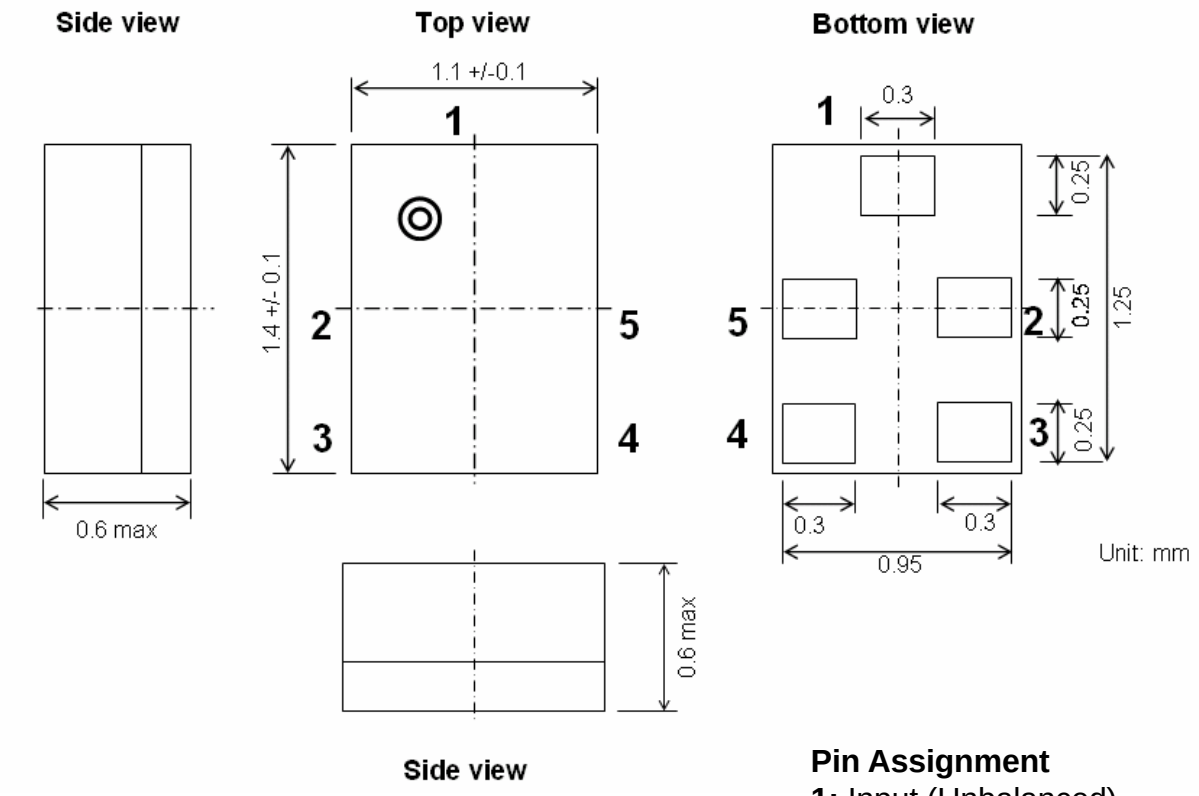
1. Scope

This document contains specification and data sheet which applies to 1411 size SAW filter for EGSM (GSM900)-band.

2. Part Number

Part Number	Center Frequency	Part Size	Shipment
WF898D0942FD	942.5MHz	1.4mmx1.1mmx0.6mm	Tape and reel

3. Dimensions



Pin Assignment
1: Input (Unbalanced)
3-4: Output (Balanced)
2, 5: Ground

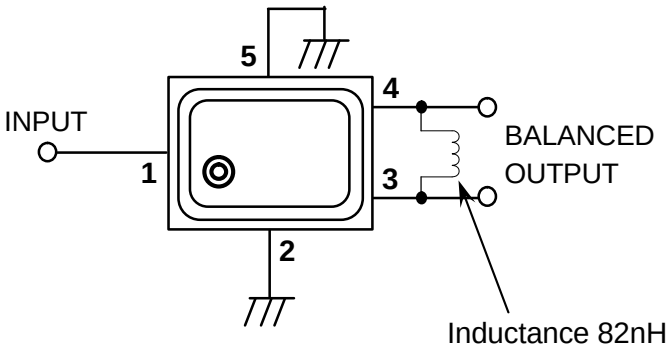
4. Maximum Ratings

4-1 Operating temperature range (Ta): -20°C to 85°C

4-2 Storage temperature range: -40°C to 85°C

4-3 Input RF power: 15dBm max. (GSM signal peak power, 4:8 duty cycle)

5. Test Circuit



6. Electrical Characteristics

6-1 Specification

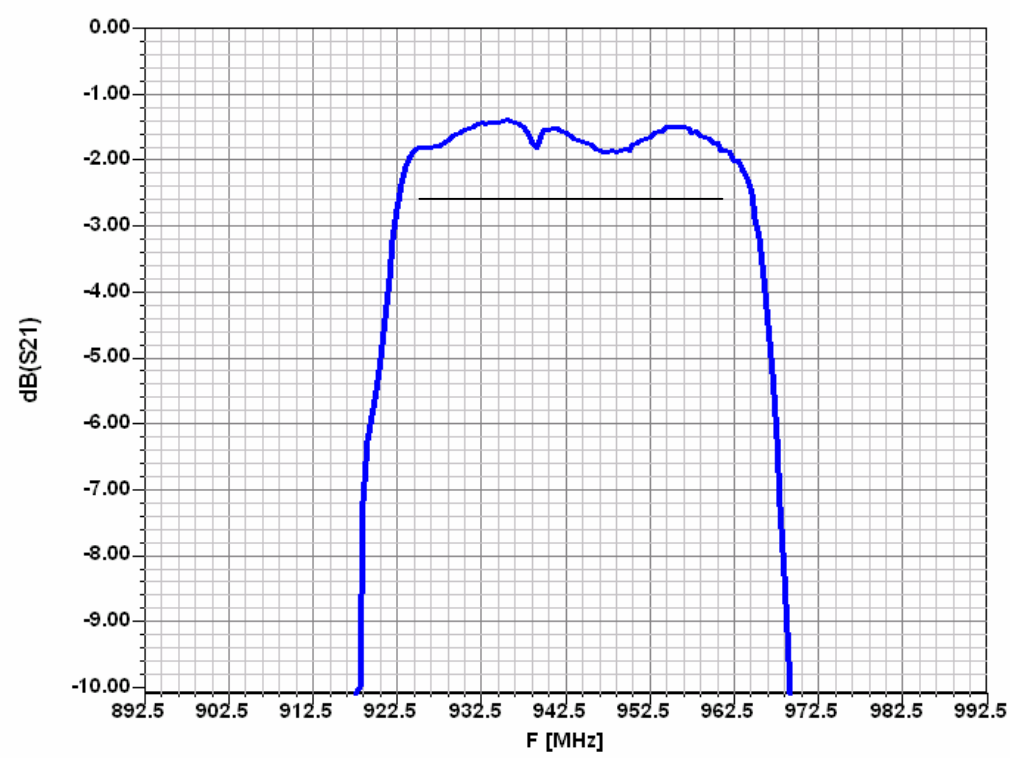
1) at 25+/-2 °C (room temp.)

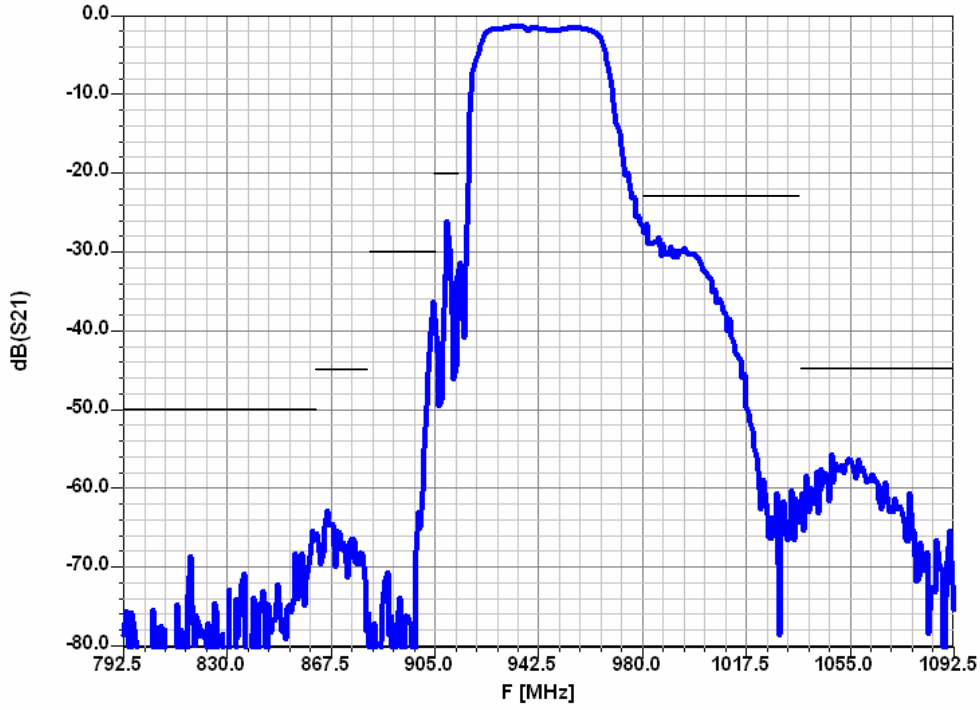
Item		Min.	Typ.	Max.	Unit
Center Frequency		-	942.5	-	MHz
Insertion Loss	925 … 960 MHz	-	1.6	2.1	dB
Amplitude Ripple	925 … 960 MHz	-	0.9	1.1	dB
Input VSWR	925 … 960 MHz	-	2.0	2.2	-
Output VSWR	925 … 960 MHz	-	2.0	2.2	-
Absolute Attenuation					
	100 … 860 MHz	50	56	-	dB
	860 … 880 MHz	45	56	-	dB
	880 … 905 MHz	30	50	-	dB
	905 … 915 MHz	22	26		dB
	980 … 1030 MHz	23	26	-	dB
	1030 … 1040 MHz	45	52		dB
	1040 … 2500 MHz	45	48	-	dB
	2500 … 6000 MHz	35	51	-	dB
Amplitude Balance		-0.8	-0.4/+0.4	0.8	dB
Phase Balance		-8.0	-4/+4	8.0	deg.
Input Impedance (unbalanced)		50			ohm
Output Impedance (balanced)		150//82nH			ohm

2) at operating temp from -20 to 85°C.

Item		Min.	Typ.	Max.	Unit
Center Frequency		-	942.5	-	MHz
Insertion Loss	925 … 960 MHz	-	1.6	2.6	dB
Amplitude Ripple	925 … 960 MHz	-	0.9	1.7	dB
Input VSWR	925 … 960 MHz	-	2.0	2.2	-
Output VSWR	925 … 960 MHz	-	2.0	2.2	-
Absolute Attenuation					
	100 … 860 MHz	50	56	-	dB
	860 … 880 MHz	45	56	-	dB
	880 … 905 MHz	30	50	-	dB
	905 … 915 MHz	20	26		dB
	980 … 1030 MHz	23	26	-	dB
	1030 … 1040 MHz	45	52		dB
	1040 … 2500 MHz	45	48	-	dB
	2500 … 6000 MHz	35	51	-	dB
Amplitude Balance		-0.8	-0.4/+0.4	0.8	dB
Phase Balance		-8.0	-4/+4	8.0	deg.
Input Impedance (unbalanced)		50			ohm
Output Impedance (balanced)		150//82nH			ohm

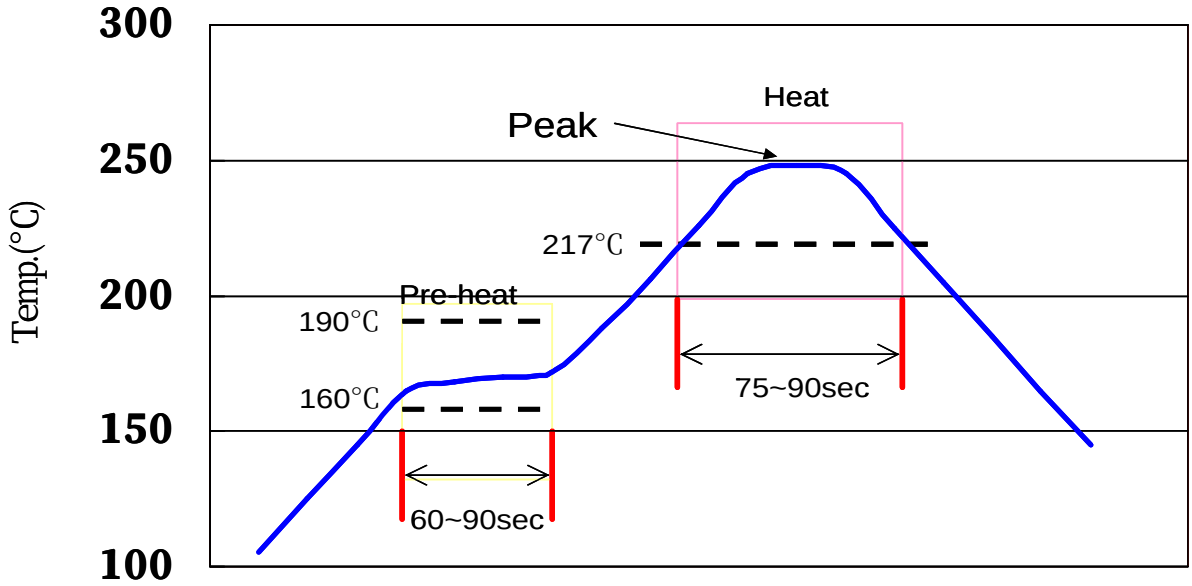
6-2 Measured characteristics





7. Reflow Profile

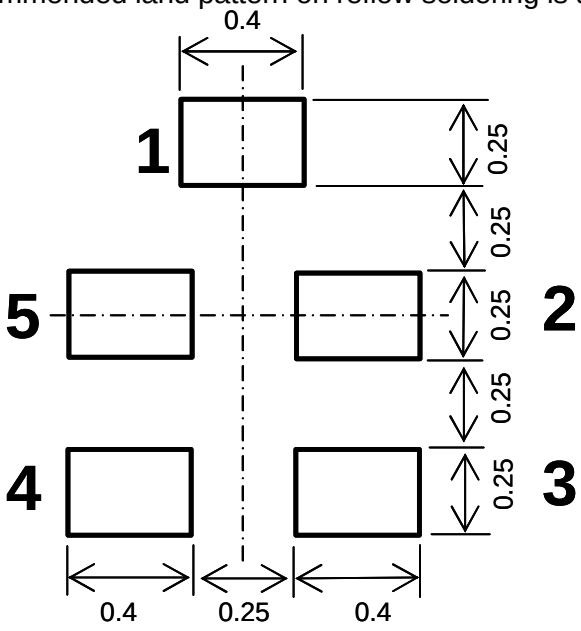
Recommended lead free reflow profile is as follows.



1. Ramp1 : typ2.5℃/sec, max 3.0℃/sec to 160℃
2. Pre-heat : 160~190℃ for 60~90sec, typ75sec
3. Ramp2 : typ2.5℃/sec, max 3.0℃/sec to 240℃(max 260℃)
4. Heat : max temp. peak 260℃, typ245℃
   Liquidus time max 90sec, typ80±5sec
5. Ramp3 : typ-2.5 ℃/sec to room temp

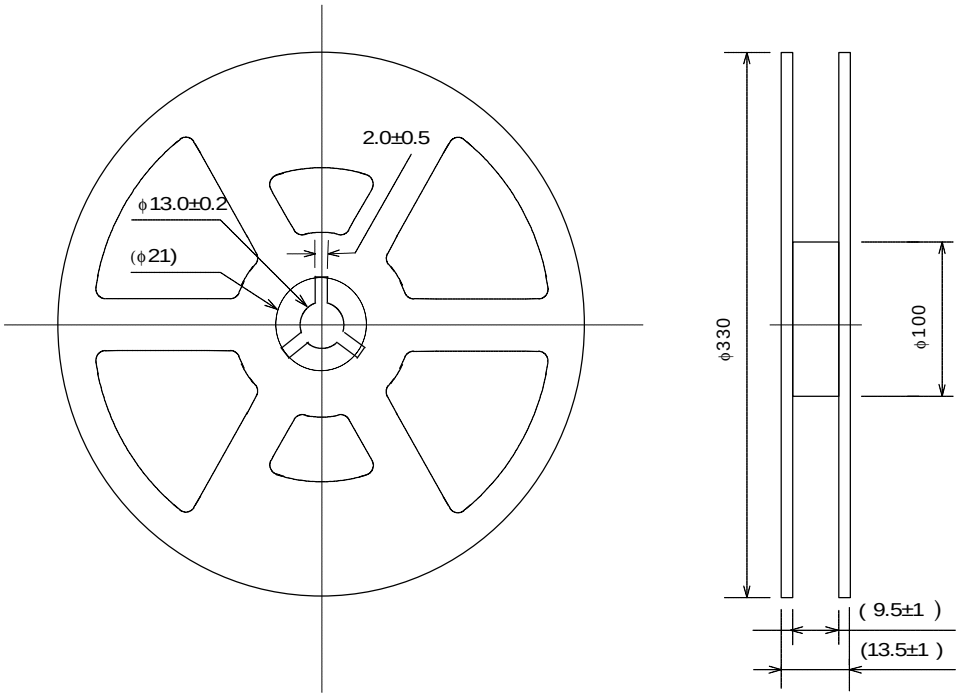
8. Standard Land Pattern

Recommended land pattern on reflow soldering is as follows.



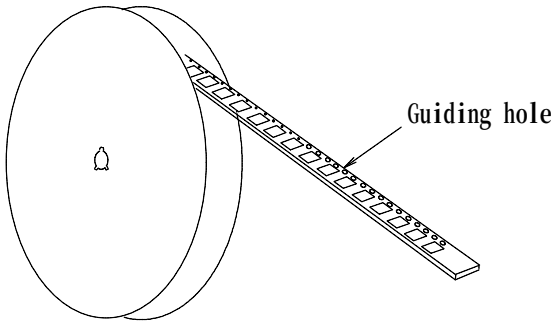
9. Tape and Reel

9-1 Dimension



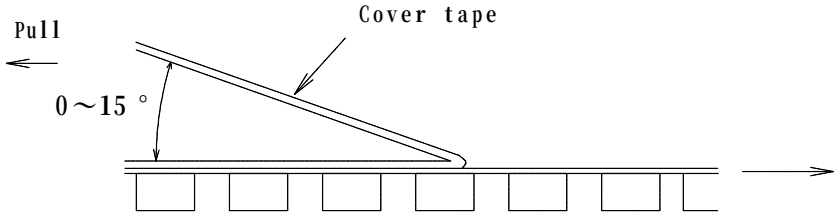
9-2 Pulling direction of tape

Guiding holes are on the right side of a carrier-tape when a tape is pulled off from upper side of the reel toward this side.



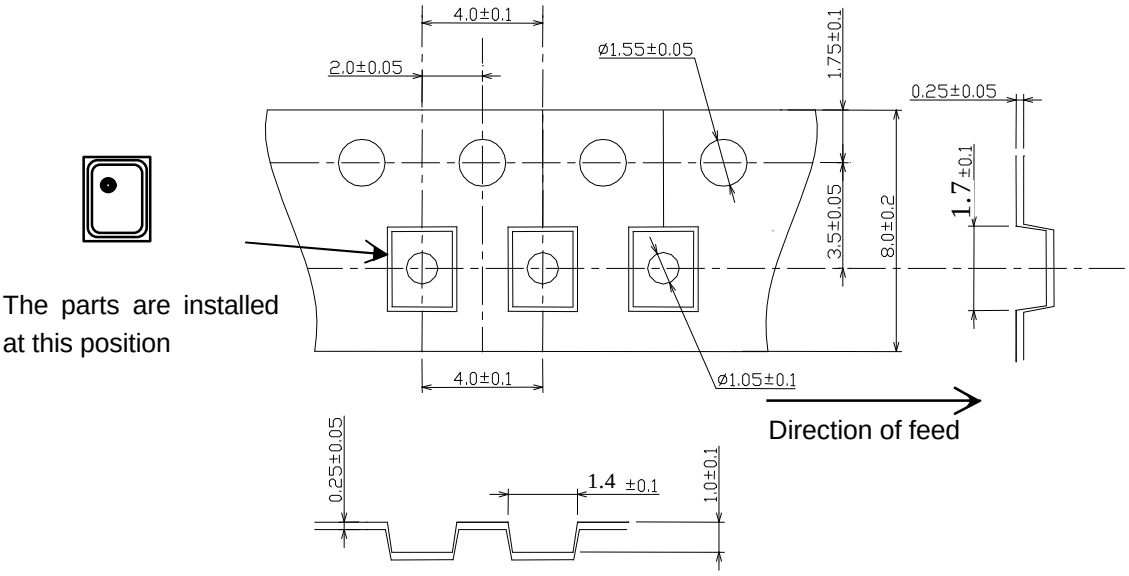
9-3 Cover tape

Pulling Force: 0.2N to 0.8N, Velocity: 300+/-10 mm/min



Cover tape is not to be torn while being pulled off

9-4 Tape dimension



10. Usage Conditions

10-1 Static electricity

Static electricity between signal terminals and grounds may cause degradation or destruction of this component. Please avoid the static electricity when you treat this component.

10-2 Pyro-electricity

The pyro-electricity is phenomenon to make electric charge by applying rapid temperature change on the component. It causes degradation or destruction of this component.

10-3 Cleaning method

Cleaning may cause degradation of the electrical characteristics of the component.

10-4 Soldering with soldering iron

Do not use a soldering iron. Please use the reflow soldering.

10-5 Blower (hot jet)

When you would use a blower machine, please pay attention that temperature of the component doesn't go up to 300^{o}C and use it within 3 seconds.

10-6 Limitation of application

This component is designed for the general cellular phone. If you would use the parts in the other applications, please contact us in advance.