



## **SAW Components**

### **SAW RF low loss filter**

Digital radio

<b>Series/type:</b>	<b>B8753</b>
<b>Ordering code:</b>	<b>B39232-B8753-K610</b>
<b>Date:</b>	<b>January 17, 2008</b>
<b>Version:</b>	<b>1.0</b>



## SAW Components

B8753

### SAW RF low loss filter

2338.755 MHz

#### Data sheet



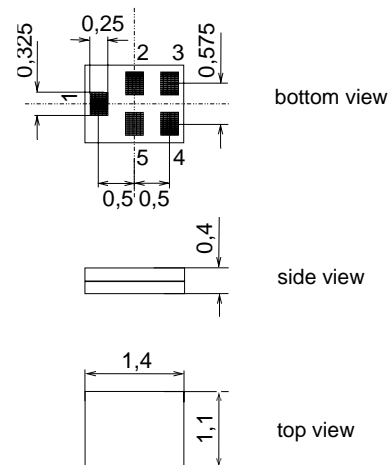
#### Application

- Low-loss RF filter for digital radio
- Impedance transformation from 50  $\Omega$  to 100  $\Omega$
- Unbalanced to balanced operation
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 12.5 MHz
- no matching network required



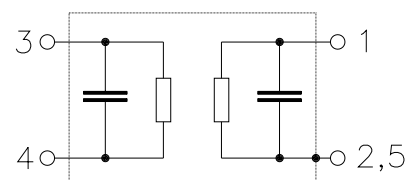
#### Features

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Maximum height of 0.45 mm
- Package code QCS5F
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



#### Pin configuration

- 1 Input unbalanced
- 3,4 Output balanced
- 2,5 To be grounded





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#### Characteristics

Temperature range for specification:  $T = +25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 100\ \Omega$  (balanced)

	min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b> $f_N$	—	2338.755	—	MHz
<b>Maximum insertion attenuation</b> $\alpha_{\max}$ 2332.5 ... 2345.0 MHz		2.0	2.5	dB
<b>Amplitude ripple (p-p)</b> $\Delta\alpha$ 2332.5 ... 2345.0 MHz		0.2	0.8	dB
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ ) 2332.5 ... 2345.0 MHz	-1.0	$\pm 0.3$	1.0	dB
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ ) 2332.5 ... 2345.0 MHz	-7.0	$\pm 3.0$	7.0	°
<b>Input return loss</b>	12	18	—	dB
<b>Output return loss</b>	12	16	—	dB
<b>Attenuation</b> $\alpha$				
88.0 ... 108.0 MHz	50	65	—	dB
880.0 ... 960.0 MHz	45	60	—	dB
1710.0 ... 1990.0 MHz	35	50	—	dB
2305.0 MHz	—	11	—	dB
2310.0 MHz	—	9	—	dB
2315.0 MHz	—	10	—	dB
2320.0 MHz	—	4.4	—	dB
2450.0 MHz	22	26	—	dB
3060.0 MHz	38	49	—	dB
<b>Group delay ripple (p-p)</b> 2332.5 ... 2345.0 MHz	—	1.5	10	ns



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#### Characteristics

Temperature range for specification:  $T = -20\text{ °C to }+85\text{ °C}$   
Terminating source impedance:  $Z_S = 50\ \Omega$   
Terminating load impedance:  $Z_L = 100\ \Omega$  (balanced)

	min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b> $f_N$	—	2338.755	—	MHz
<b>Maximum insertion attenuation</b> $\alpha_{\max}$ 2332.5 ... 2345.0 MHz		2.0	3.6	dB
<b>Amplitude ripple (p-p)</b> $\Delta\alpha$ 2332.5 ... 2345.0 MHz		0.2	1.7	dB
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ ) 2332.5 ... 2345.0 MHz	-1.0	$\pm 0.3$	1.0	dB
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ ) 2332.5 ... 2345.0 MHz	-7.0	$\pm 3.0$	7.0	°
<b>Input return loss</b>	12	18	—	dB
<b>Output return loss</b>	8	16	—	dB
<b>Attenuation</b> $\alpha$				
88.0 ... 108.0 MHz	50	65	—	dB
880.0 ... 960.0 MHz	45	60	—	dB
1710.0 ... 1990.0 MHz	35	50	—	dB
2305.0 MHz	—	11	—	dB
2310.0 MHz	—	9	—	dB
2315.0 MHz	—	10	—	dB
2320.0 MHz	—	4.4	—	dB
2450.0 MHz	22	26	—	dB
3060.0 MHz	38	49	—	dB
<b>Group delay ripple (p-p)</b> 2332.5 ... 2345.0 MHz	—	1.5	15	ns

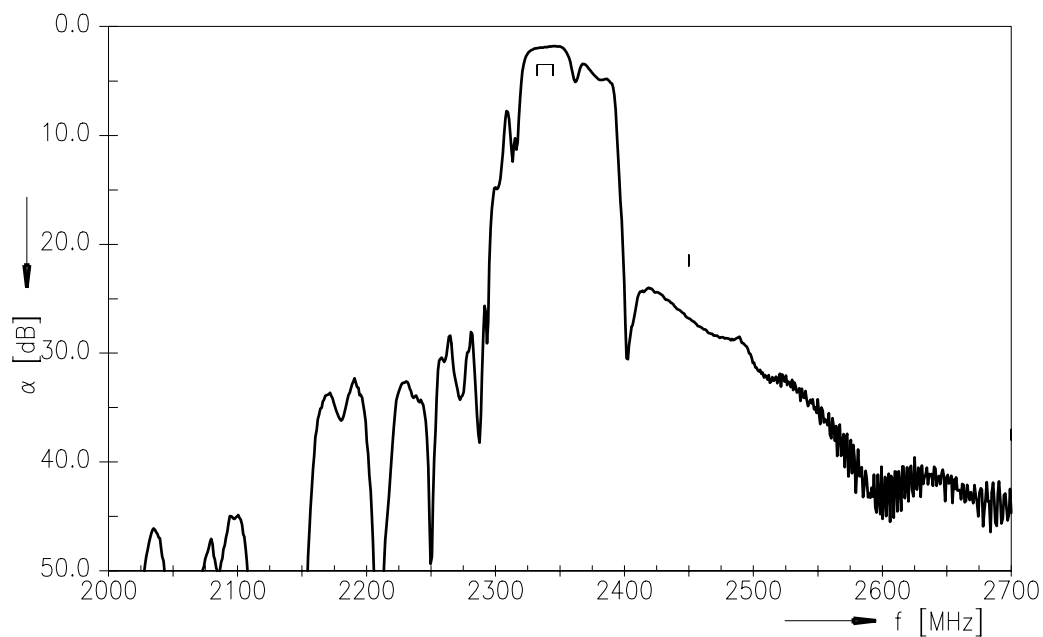
**SAW Components****B8753****SAW RF low loss filter****2338.755 MHz**

Data sheet

**Maximum ratings**

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input power at 2332.5 MHz...2345.0 MHz	P <sub>IN</sub>	tbd	dBm	source impedance 50 Ω

<sup>1)</sup> according to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

**Transfer function**

Please read *cautions and warnings* and *important notes* at the end of this document.



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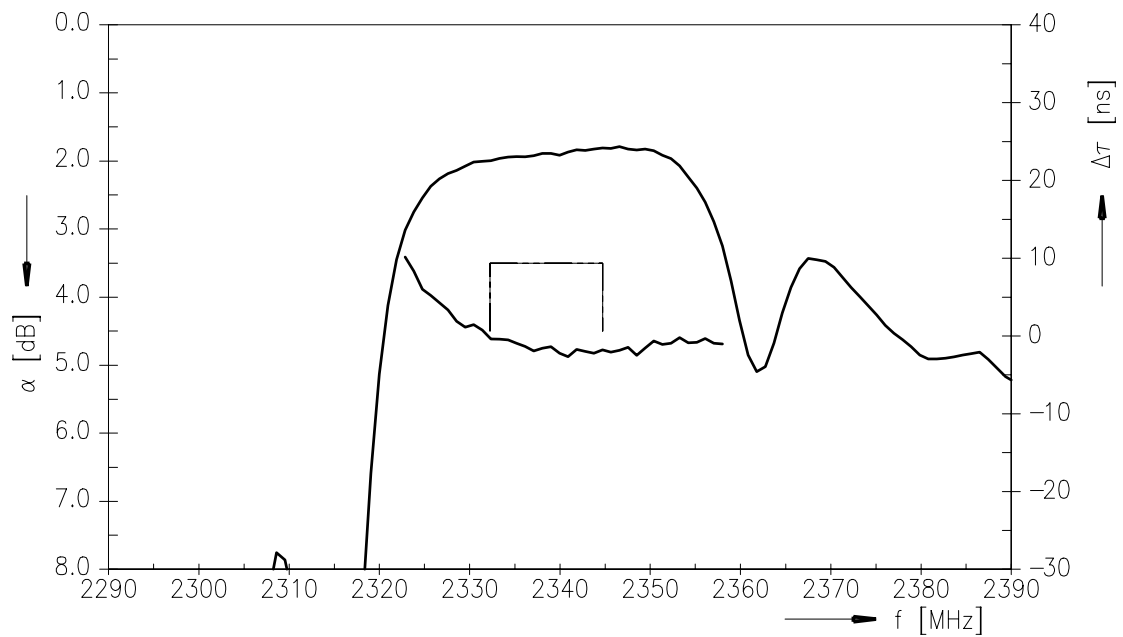
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2338.755 MHz

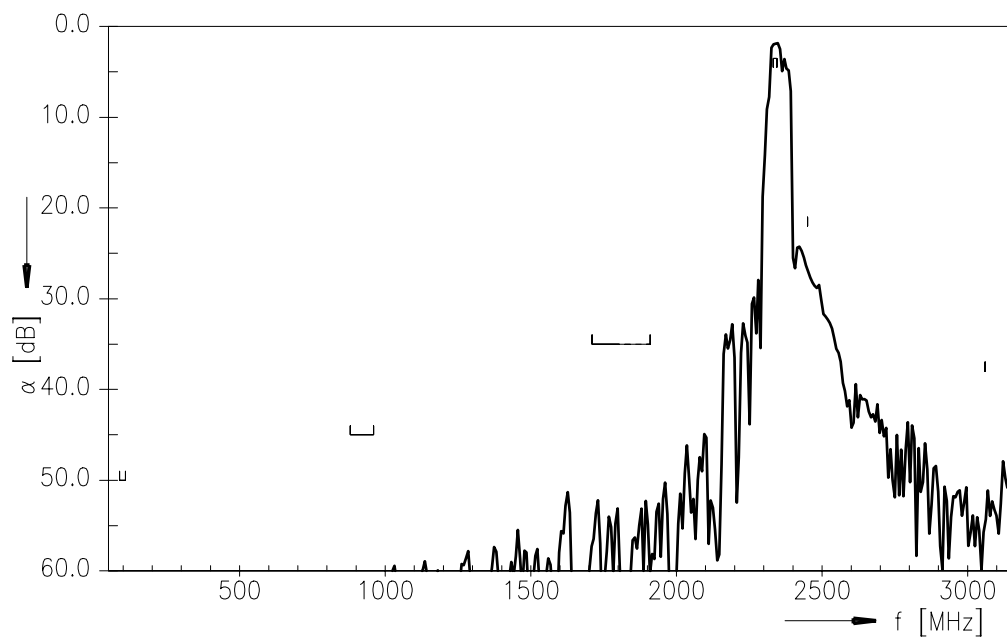
Data sheet



Transfer function (passband)



Transfer function (wide band)



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Data sheet

**References**

<b>Type</b>	B8753
<b>Ordering code</b>	B39232-B8753-K610
<b>Marking and package</b>	C61157-A8-A1
<b>Packaging</b>	F61074-V8212-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8753_NB.s3p B8753_WB.s3p
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.

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