



SAW Components

SAW RF low loss filter

Digital radio

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

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2338.755 MHz

Data sheet



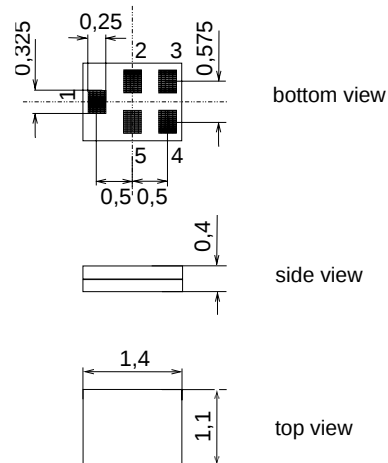
Application

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



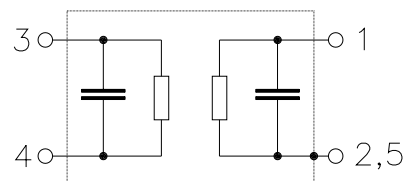
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- 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



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



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Characteristics

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

	min.	typ. @ 25 °C	max.	
Nominal frequency f_N	—	2338.755	—	MHz
Maximum insertion attenuation $\alpha_{\max}$ 2332.5 ... 2345.0 MHz		2.0	2.5	dB
Amplitude ripple (p-p) $\Delta\alpha$ 2332.5 ... 2345.0 MHz		0.2	0.8	dB
Output amplitude balance ($ S_{31} / S_{21} $) 2332.5 ... 2345.0 MHz	-1.0	± 0.3	1.0	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$) 2332.5 ... 2345.0 MHz	-7.0	± 3.0	7.0	°
Input return loss	12	18	—	dB
Output return loss	12	16	—	dB
Attenuation α				
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
Group delay ripple (p-p) 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.	
Nominal frequency f_N	—	2338.755	—	MHz
Maximum insertion attenuation $\alpha_{\max}$ 2332.5 ... 2345.0 MHz		2.0	3.6	dB
Amplitude ripple (p-p) $\Delta\alpha$ 2332.5 ... 2345.0 MHz		0.2	1.7	dB
Output amplitude balance ($ S_{31} / S_{21} $) 2332.5 ... 2345.0 MHz	-1.0	± 0.3	1.0	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$) 2332.5 ... 2345.0 MHz	-7.0	± 3.0	7.0	°
Input return loss	12	18	—	dB
Output return loss	8	16	—	dB
Attenuation α				
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
Group delay ripple (p-p) 2332.5 ... 2345.0 MHz	—	1.5	15	ns

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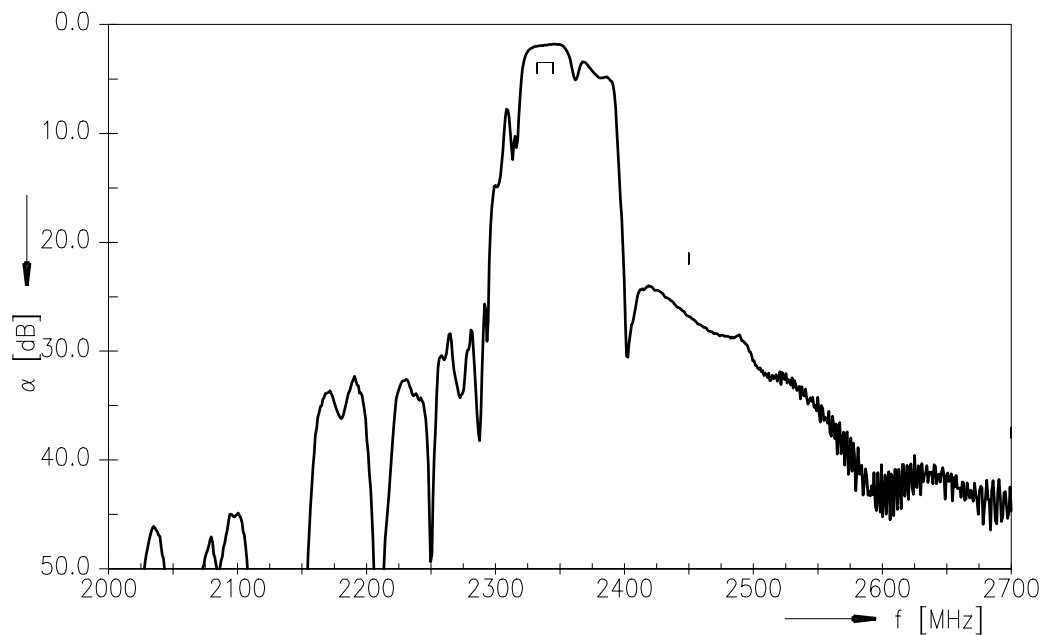
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**Maximum ratings**

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

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

Transfer function

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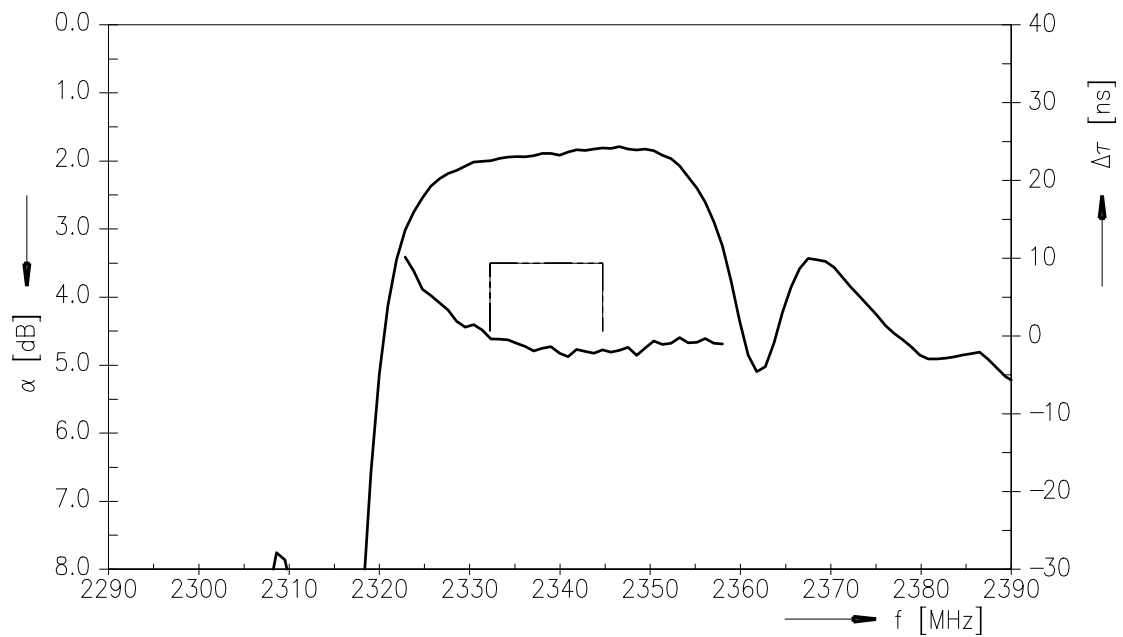
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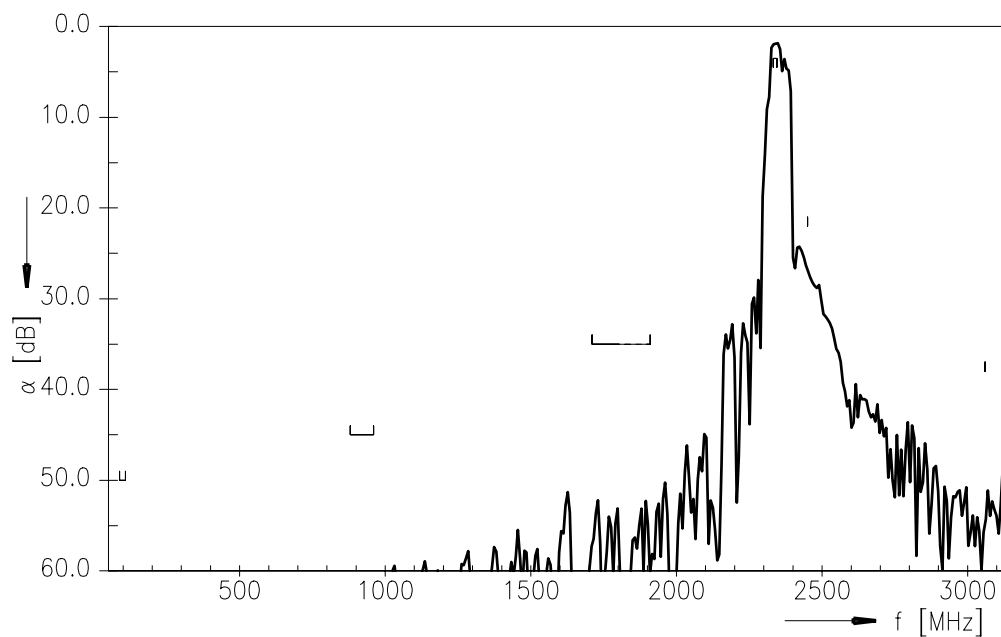
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SMD

Transfer function (passband)



Transfer function (wide band)



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**References**

Type	B8753
Ordering code	B39232-B8753-K610
Marking and package	C61157-A8-A1
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B8753_NB.s3p B8753_WB.s3p
Soldering profile	S_6001
RoHS compatible	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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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