EPCOS

SAW Components

Data Sheet B3605

Data Sheet

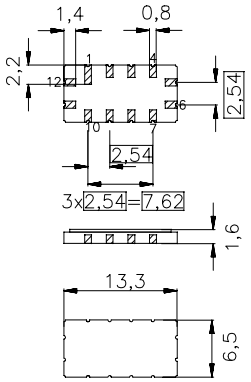
Ceramic package **QCC12**

Features

- High performance IF bandpass filter
- Constant group delay
- Hermetically sealed ceramic package
- Filter surface passivated

Terminals

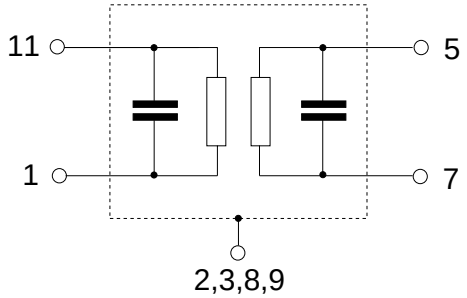
- Gold plated



Dimensions in mm, approx. weight 0,4 g

Pin configuration

11	Input
1	Input - ground
5	Output
7	Output - ground
2, 3, 8, 9	Case - ground
4, 6, 10, 12	Ground



Type	Ordering code	Marking and Package according to	Packing according to
B3605	B39700-B3605-Z510	C61157-A7-A55	F61074-V8163-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 40/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	source impedance 50 Ω

Data Sheet

Characteristics

Operating temperature: T = -40 ˚C... 85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching circuit(Unbalanced)
Terminating load impedance: Z_L = 50 Ω and matching circuit(Unbalanced)
Group delay aperture 80 kHz

		min.	typ.	max.	
Center frequency (Center between 6dB points)	f_C	69,50	70,00	70,50	MHz
Insertion attenuation at f_C	α_C	—	9,6	10,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
67,00 ... 73,00 MHz		—	0,6	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
65,50 ... 74,50 MHz		—	15,0	18,0	°
Pass bandwidth					
$\alpha_{rel} \leq$ 1 dB	B_{1dB}	8,1	8,3	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	9,1	9,3	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	12,8	13,2	MHz
Relative attenuation (relative to α_C)	α_{rel}				
50,00 ... 62,50 MHz		43	47	—	dB
62,50 ... 63,00 MHz		34	38	—	dB
77,00 ... 77,50 MHz		28	36	—	dB
77,50 ... 90,00 MHz		35	41	—	dB
Group delay at f_C	τ_C	—	1,1	—	µs
Group delay ripple (p-p)	$\Delta\tau$				
65,50 ... 74,50 MHz		—	80	200	ns
Temperature coefficient of frequency	TC_f	—	– 87	—	ppm/K

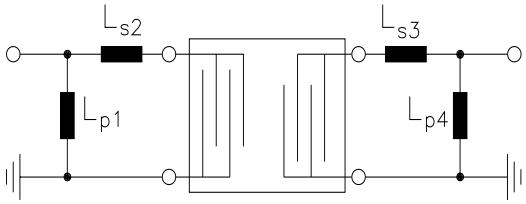
Data Sheet

Characteristics

Operating temperature: T = -40 ˚C... 85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching circuit(Balanced)
Terminating load impedance: Z_L = 50 Ω and matching circuit(Balanced)
Group delay aperture 80 kHz

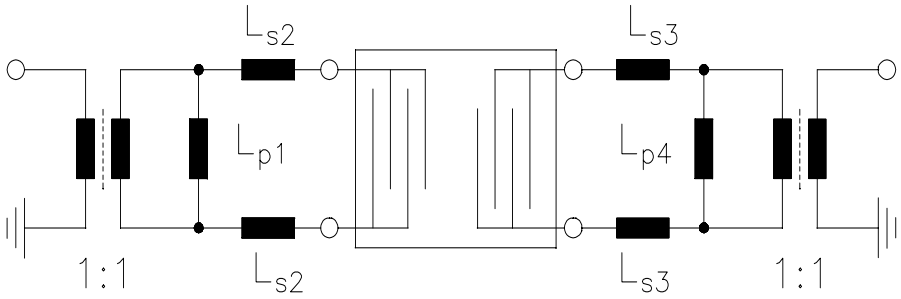
		min.	typ.	max.	
Center frequency (Center between 6dB points)	f_C	69,50	70,00	70,50	MHz
Insertion attenuation at f_C	α_C	—	9,8	10,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
67,00 ... 73,00 MHz		—	0,6	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
65,50 ... 74,50 MHz		—	17,0	20,0	°
Pass bandwidth					
$\alpha_{rel} \leq$ 1 dB	B_{1dB}	8,1	8,3	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	9,1	9,3	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	12,8	13,2	MHz
Relative attenuation (relative to α_C)	α_{rel}				
50,00 ... 62,50 MHz		43	45	—	dB
62,50 ... 63,00 MHz		34	38	—	dB
77,00 ... 77,50 MHz		26	35	—	dB
77,50 ... 90,00 MHz		35	38	—	dB
Group delay at f_C	τ_C	—	1,1	—	µs
Group delay ripple (p-p)	$\Delta\tau$				
65,50 ... 74,50 MHz		—	80	200	ns
Temperature coefficient of frequency	TC_f	—	– 87	—	ppm/K

Matching circuit: unbalanced - unbalanced



L_{s1}=180nH
L_{s2}=100nH
L_{s3}=18nH
L_{s4}=270nH

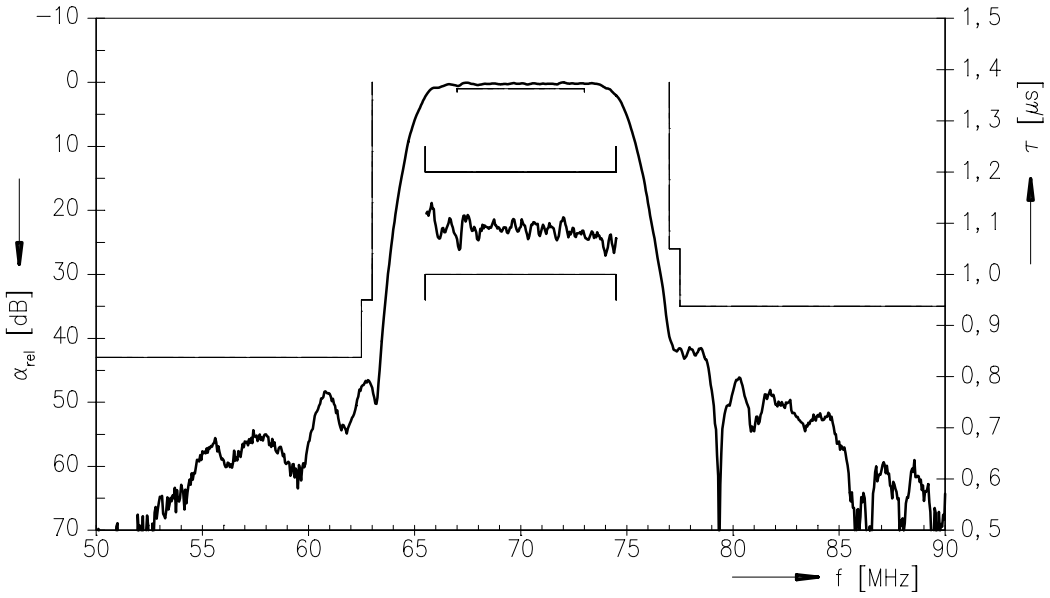
Matching circuit: balanced - balanced



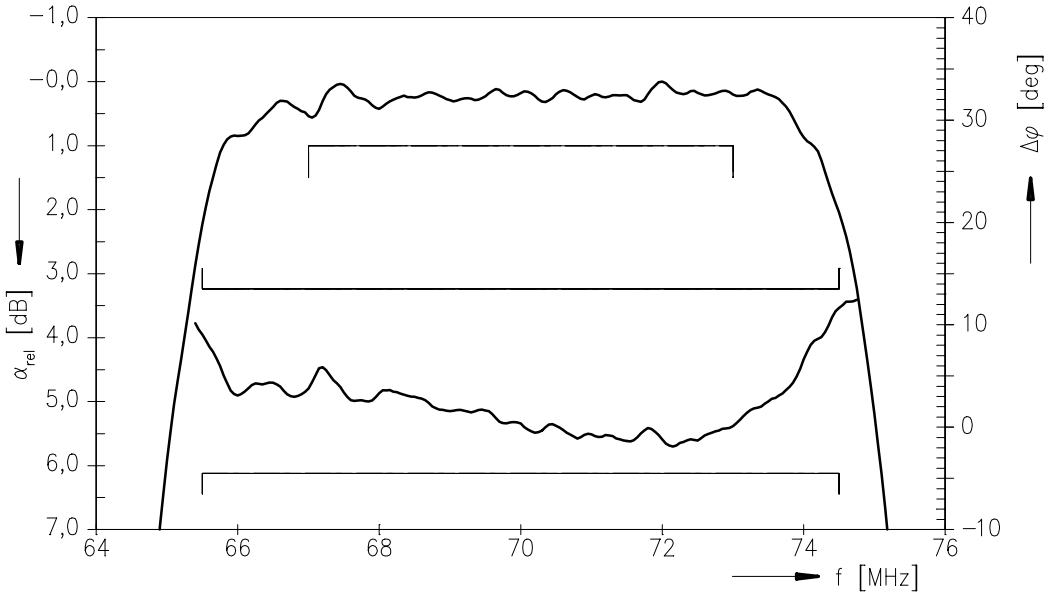
L_{s1}=180nH
L_{s2}=56nH
L_{s3}=10nH
L_{s4}=270nH

Note: Component values depend on PCB layout.

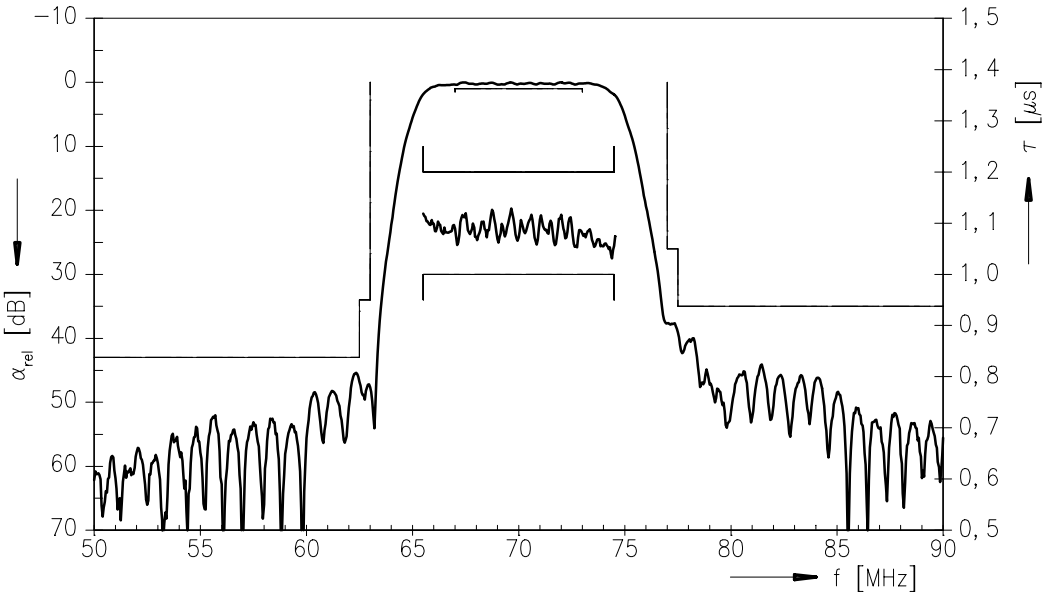
Normalized frequency response(unbalanced-unbalanced)



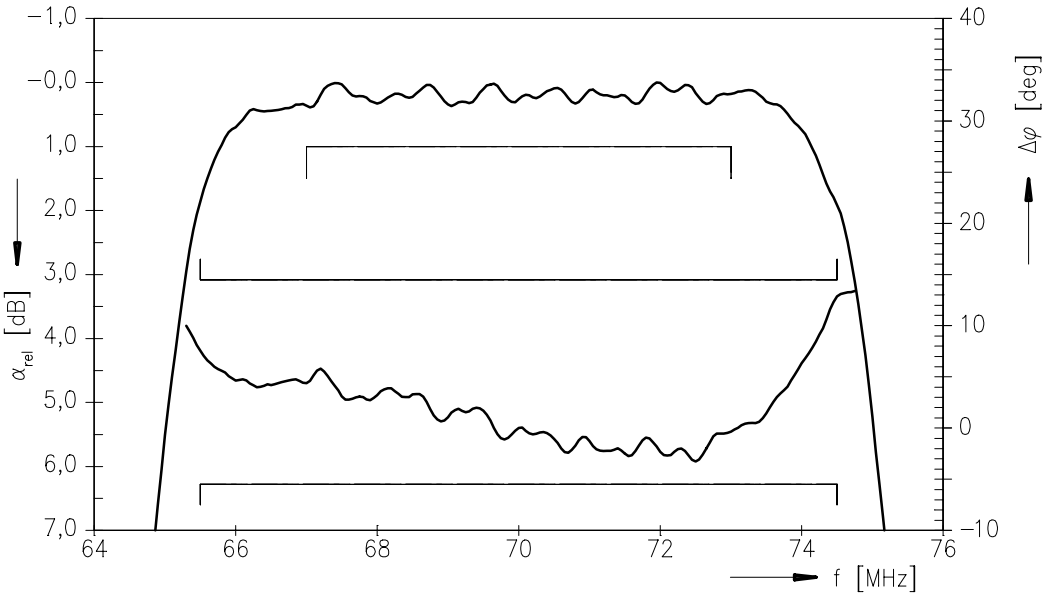
Normalized frequency response



Normalized frequency response(balanced-balanced)



Normalized frequency response



Attachment

1) For a duration < 50 ms source power may be raised to 20 dBm.

2) Pyroelectric pulse amplitude < 50 mV.

3) If external impedances are the same, input port and output port may be reversed without any changes of the performance.

Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC IS
P.O. Box 80 17 09, 81617 Munich, GERMANY

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.