EPCOS

SAW Components

Data Sheet B3605

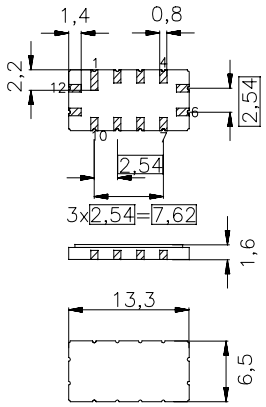
Ceramic package **QCC12**

Features

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

Terminals

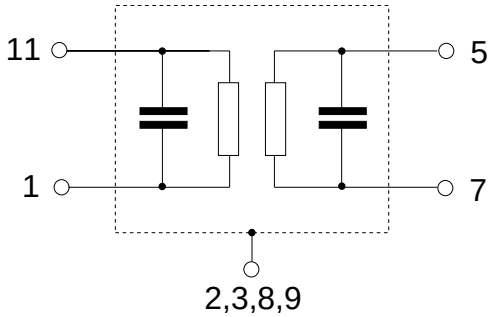
- Gold plated



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

Characteristics

Operating temperature: T = -40 ˚C... 85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching circuit(Balanced)
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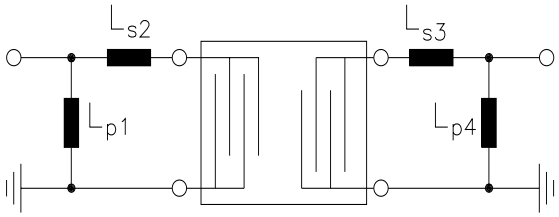
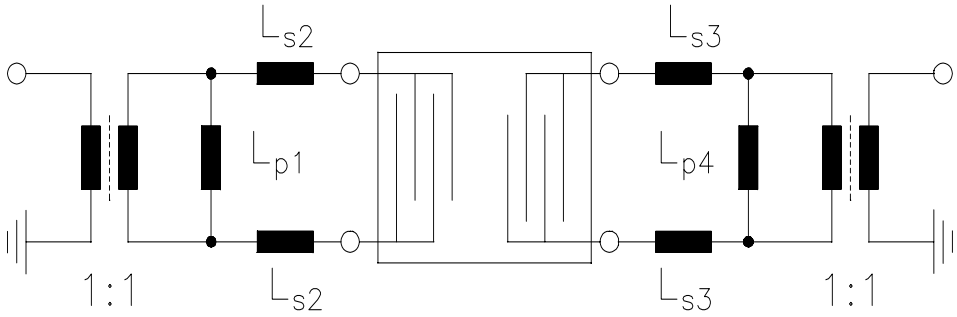
67,00 ... 73,00 MHz		—	0,6	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
65,50 ... 74,50 MHz		—	17,0	20,0	°
Pass bandwidth					
$\alpha_{rel} \leq$ 1 dB	B_{1dB}	8,1	8,3	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	9,1	9,3	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	12,8	13,2	MHz
Relative attenuation (relative 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

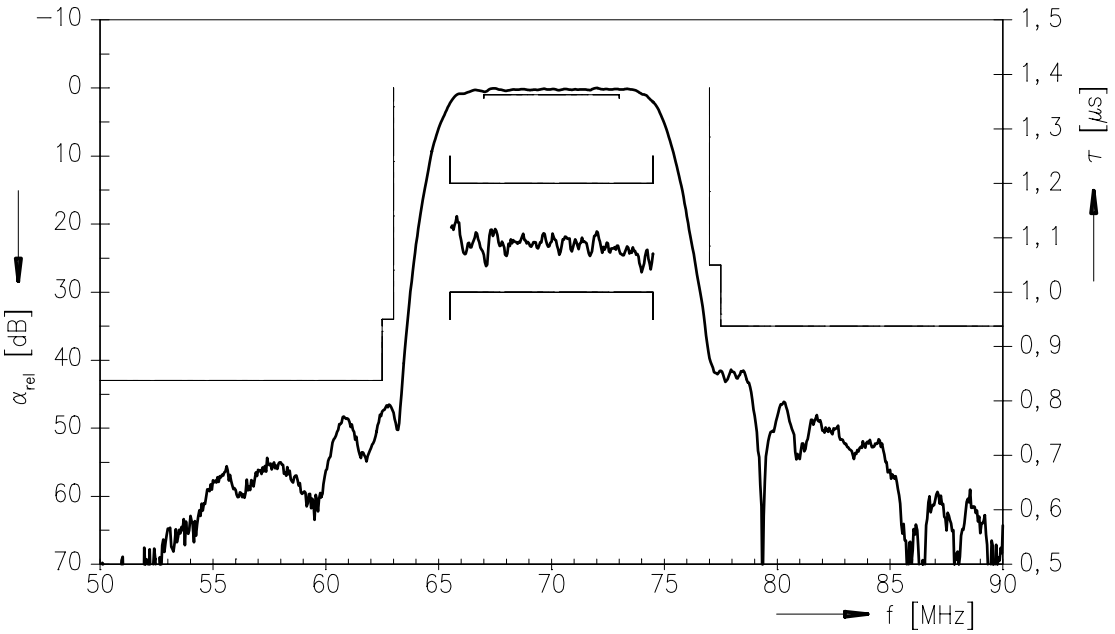
Matching circuit: balanced - balanced



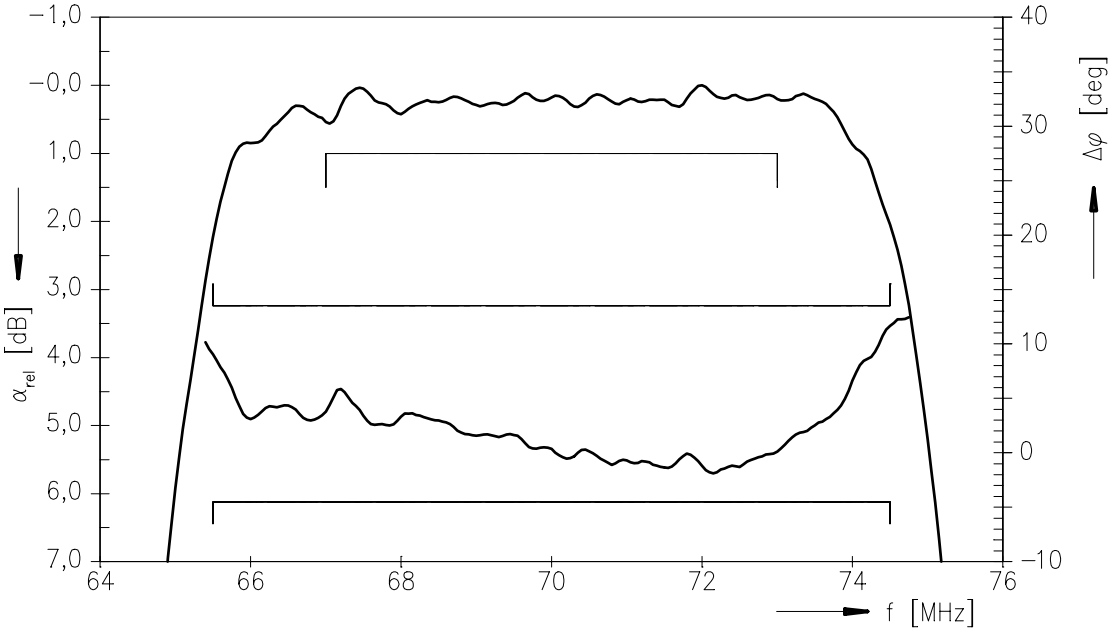
L_{s1}=180nH
L_{s2}=56nH
L_{s3}=10nH
L_{s4}=270nH

Note: Component values depend on PCB layout.

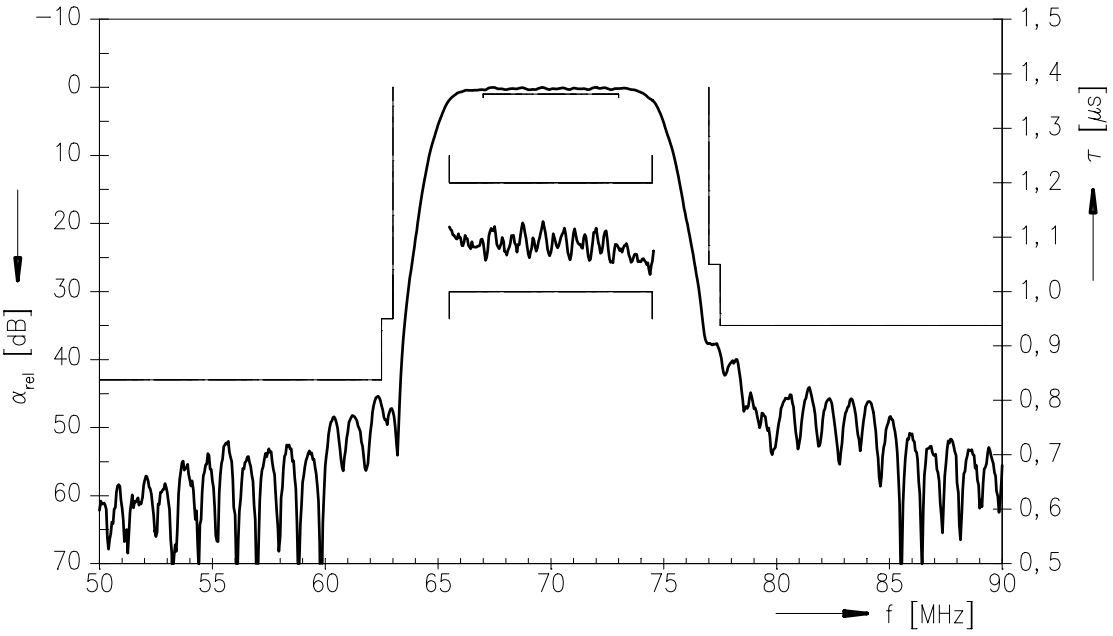
Normalized frequency response(unbalanced-unbalanced)



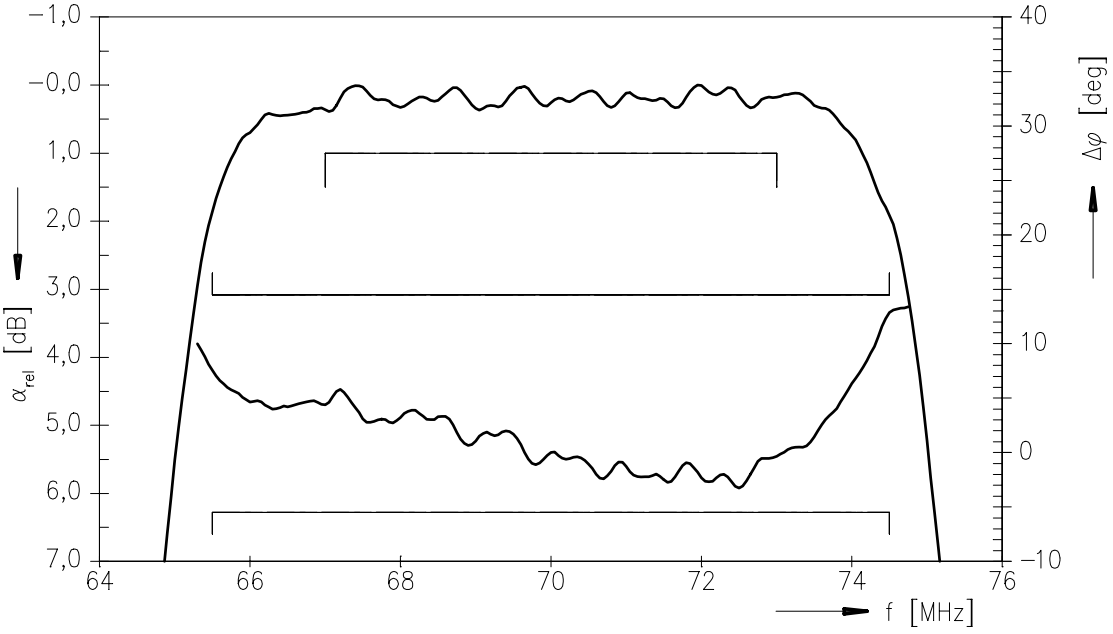
Normalized frequency response



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.

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