EPCOS

SAW Components

Preliminary Data Sheet B3608

Preliminary Data Sheet

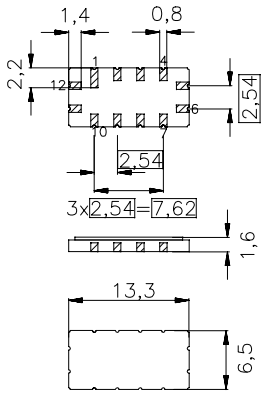
Ceramic package **QCC 12**

Features

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

Terminals

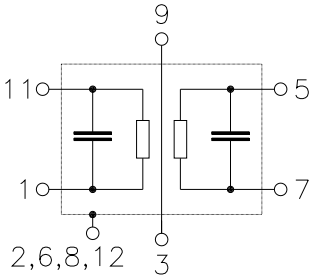
- Gold plated



Dimensions in mm, approx. weight 0,4 g

Pin configuration

11	Input or balanced Input
1	Input-Ground or bal. Input
5	Output or balanced Output
7	Output-Ground or bal. Output
2, 3, 4, 6, 8, 9, 10, 12	Must be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3608	B39141B3608Z510	C61157A0007A055	F61074V8026Z000

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
Source power	P_s	20	dBm	s. imp. 50 Ω, duty cycle 1:100

Characteristics

Operating temperature: T = 25 ˚C
Terminating source impedance: Z_S = 50 Ω and matching circuit
Terminating load impedance: Z_L = 50 Ω and matching circuit

		min.	typ.	max.	
Center frequency (Center between 3dB points)	f_C	139,75	140,00	140,25	MHz
Insertion attenuation at f_C	α_C	—	10	11	dB
Group delay at f_C	τ_C	1,18	1,23	1,28	µs

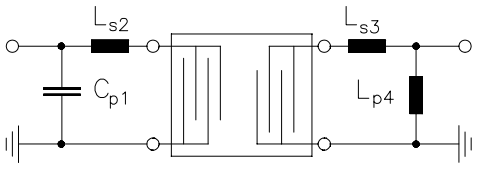
Characteristics

Operating temperature: T = -40 ˚C ... +85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching circuit
Terminating load impedance: Z_L = 50 Ω and matching circuit
Group delay aperture: 200 kHz

		min.	typ.	max.	
Center frequency (Center between 3dB points)	f_C	138,85	140,00	141,15	MHz
Insertion attenuation at f_C	α_C	—	—	13	dB
Amplitude ripple (max peak to adjacent valley)	$\Delta\alpha$				
(80% of B_{3dB}) 133,60 ... 146,40 MHz		—	0,5	0,9	dB
Phase ripple (p-p)	$\Delta\varphi$				
(80% of B_{3dB}) 133,60 ... 146,40 MHz		—	7	14	°
Pass bandwidth					
$\alpha_{rel} \leq$ 1 dB	B_{1dB}	15,0	16,0	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	16,0	16,8	—	MHz
$\alpha_{rel} \leq$ 40 dB	B_{40dB}	—	21,0	22,0	MHz
Relative attenuation relative to α_C	α_{rel}				
100,00 ... 128,70 MHz		40	45	—	dB
128,70 ... 129,00 MHz		37	43	—	dB
151,00 ... 152,30 MHz		24	30	—	dB
152,30 ... 180,00 MHz		40	45	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
(80% of B_{3dB}) 133,60 ... 146,40 MHz		—	80	140	ns
Reflected wave signal suppression 0,70 µs … 3,75 µs after main pulse		35	38	—	dB
Temperature coefficient of frequency	TC_f	—	– 87	—	ppm/K

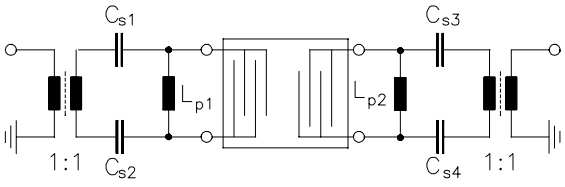
Matching circuit: Element values depending on PCB layout

Input and output unbalanced



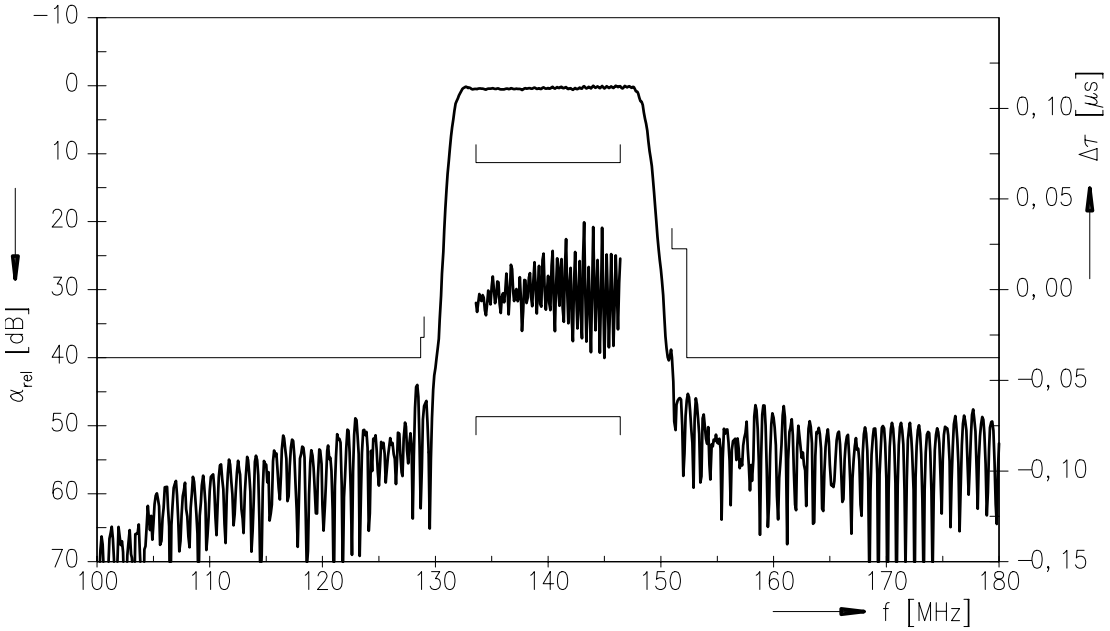
C_{p1}=33pF
L_{s2}=100nH
L_{s3}=56nH
L_{p4}=39nH

Input and output balanced

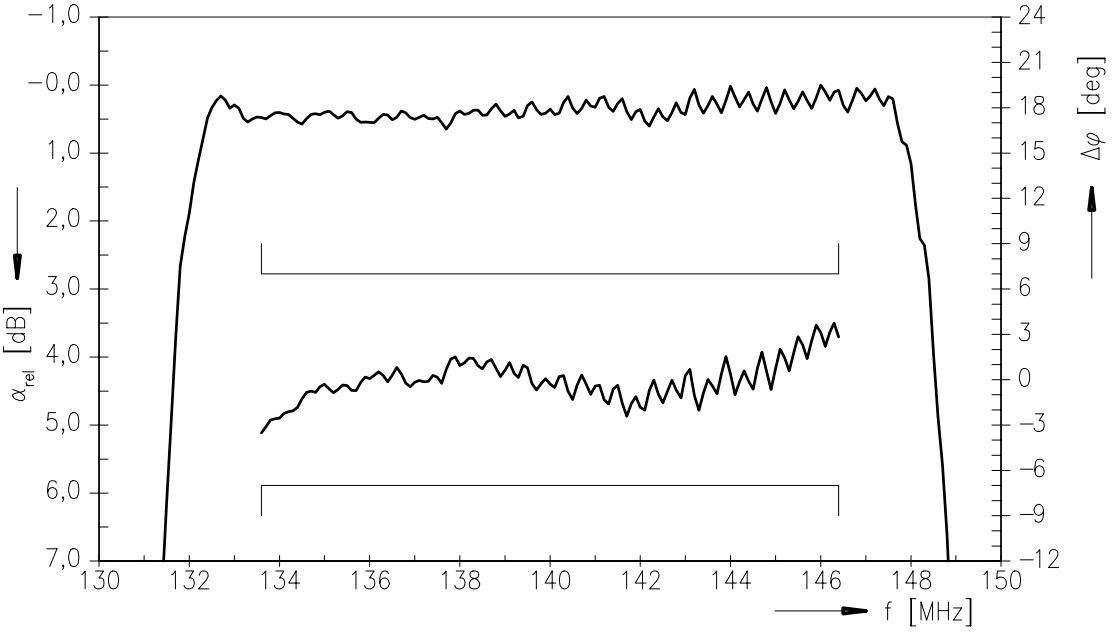


C_{s1}=27pF (Pin 1)
C_{s2}=22pF (Pin 11)
L_{p1}=62nH
L_{p2}=62nH
C_{s3}=13,5pF (Pin 5)
C_{s4}=20,7pF (Pin 7)

Normalized frequency response



Normalized frequency response



Attachment

Pyroelectric pulse amplitude < 100 mV.

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