



SAW Components

Preliminary Data Sheet B3608

Data Sheet

An abstract, grayscale graphic featuring a large, stylized, and slightly blurred "EPCOS" logo. The logo is set against a background of curved, overlapping bands and a faint world map, creating a sense of global connectivity and technology.



SAW Components

B3608

Low-Loss Filter

140 MHz

Preliminary Data Sheet

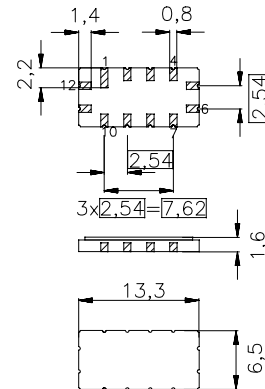
Ceramic package **QCC 12**

Features

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

Terminals

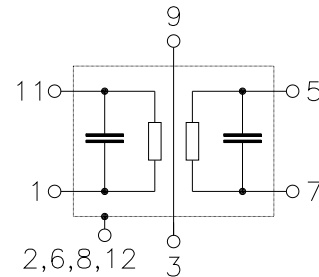
- Gold plated



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 Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40/+ 85	°C	source impedance 50 Ω s. imp. 50 Ω , duty cycle 1:100
Storage temperature range	T_{stg}	- 40/+ 85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	
Source power	P_s	20	dBm	



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Characteristics

Operating temperature:

$T = 25\text{ }^{\circ}\text{C}$

Terminating source impedance:

$Z_S = 50\text{ }\Omega$ and matching circuit

Terminating load impedance:

$Z_L = 50\text{ }\Omega$ 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



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Characteristics

Operating temperature: $T = -40\text{ °C} \dots +85\text{ °C}$
Terminating source impedance: $Z_S = 50\ \Omega$ and matching circuit
Terminating load impedance: $Z_L = 50\ \Omega$ 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) (80% of B_{3dB})	$\Delta\alpha$ 133,60 ... 146,40 MHz	—	0,5	0,9	dB
Phase ripple (p-p) (80% of B_{3dB})	$\Delta\phi$ 133,60 ... 146,40 MHz	—	7	14	°
Pass bandwidth					
$\alpha_{rel} \leq 1\text{ dB}$	B_{1dB}	15,0	16,0	—	MHz
$\alpha_{rel} \leq 3\text{ dB}$	B_{3dB}	16,0	16,8	—	MHz
$\alpha_{rel} \leq 40\text{ dB}$	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) (80% of B_{3dB})	$\Delta\tau$ 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



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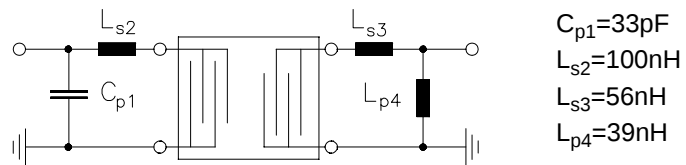
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140 MHz

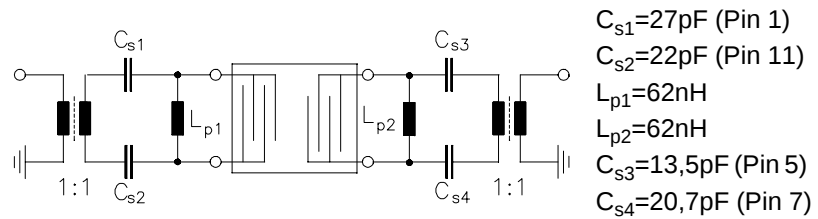
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Matching circuit: Element values depending on PCB layout

Input and output unbalanced



Input and output balanced





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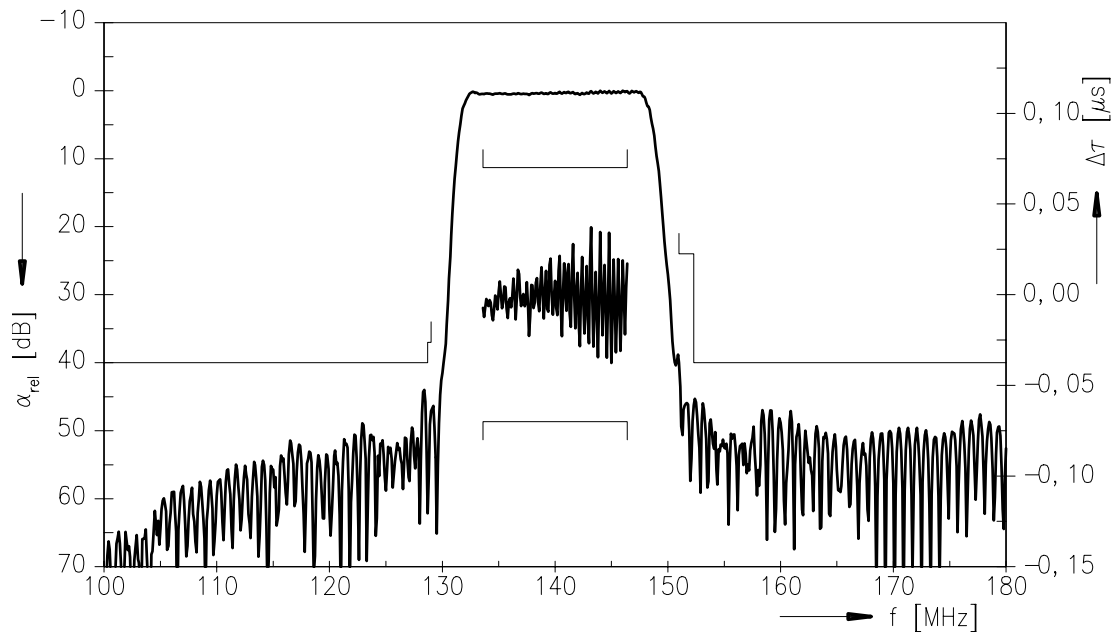
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Low-Loss Filter

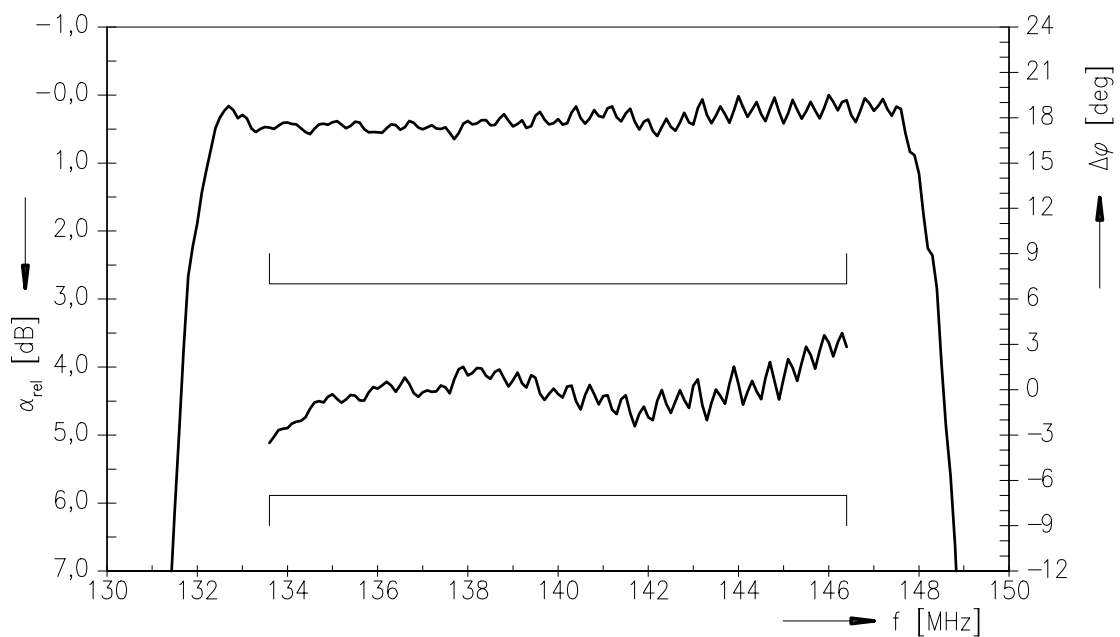
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Preliminary Data Sheet

Normalized frequency response



Normalized frequency response





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Attachment

Pyroelectric pulse amplitude < 100 mV.



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Published by EPCOS AG

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