



SAW Components

Data Sheet B3688

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a bright, circular highlight in the center of each, giving them a three-dimensional appearance. They are set against a dark, textured background that includes a faint, glowing globe and circuitry patterns, suggesting a high-tech or electronic theme.



SAW Components

B3688

Low-Loss Filter

499,25 MHz

Data Sheet

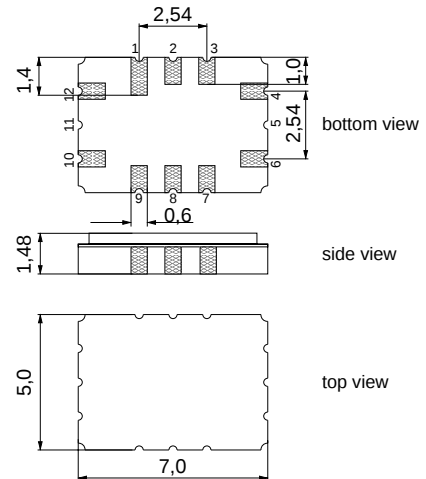
Ceramic package QCC12C

Features

- Low-loss filter
- Temperature stable
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package

Terminals

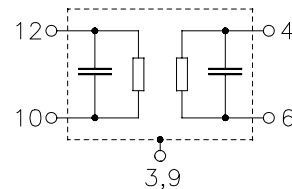
- Gold-plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

10	Input
12	Input ground or bal. input
4	Output
6	Output ground or bal. output
3, 9	Case - ground
1, 2, 7, 8	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3688	B39501-B3688-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 45/+ 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



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Characteristics

Operating temperature:

$T = -25 \dots +75 \text{ }^{\circ}\text{C}$

Terminating source impedance:

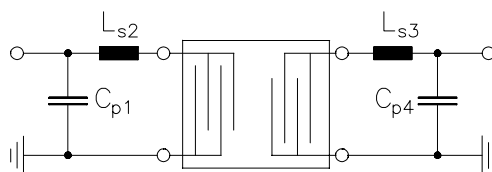
$Z_S = 50 \text{ } \Omega$ and matching network

Terminating load impedance:

$Z_L = 50 \text{ } \Omega$ and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	499,25	—	MHz
Insertion attenuation at f_N ($T=25 \text{ }^{\circ}\text{C}$)	α_N	6,0	8,0	9,0	dB
Variation of insertion att. (rel. to α_N)	α_{rel}	—	—	$\pm 0,9$	dB
Frequency response					
3 dB Lower frequency	$f_{L \text{ 3dB}}$	—	498,27	498,75	MHz
3 dB Upper frequency	$f_{U \text{ 3dB}}$	499,75	500,23	—	MHz
35 dB Lower frequency	$f_{L \text{ 35dB}}$	496,25	496,75	—	MHz
35 dB Upper frequency	$f_{U \text{ 35dB}}$	—	501,85	502,25	MHz
Amplitude ripple (peak to adjacent valley) $f_N \pm 100 \text{ kHz}$		—	—	0,5	dB
Relative attenuation	α_{rel}				
$f_N - 200,0 \text{ MHz} \dots f_N - 10,0 \text{ MHz}$		40	55	—	dB
$f_N - 10,0 \text{ MHz} \dots f_N - 3,0 \text{ MHz}$		35	48	—	dB
$f_N + 3,0 \text{ MHz} \dots f_N + 10,0 \text{ MHz}$		35	43	—	dB
$f_N + 10,0 \text{ MHz} \dots f_N + 200,0 \text{ MHz}$		40	51	—	dB
Temperature coefficient of frequency ¹⁾	TC_f	—	- 0,036	—	ppm/K ²
Turnover temperature	T_0	—	25	—	$^{\circ}\text{C}$

Matching circuit:



$C_{p1} = 14 \text{ pF}$ ²⁾

$L_{s2} = 21 \text{ nH}$ ²⁾

$L_{s3} = 22 \text{ nH}$ ²⁾

$C_{p4} = 13 \text{ pF}$ ²⁾

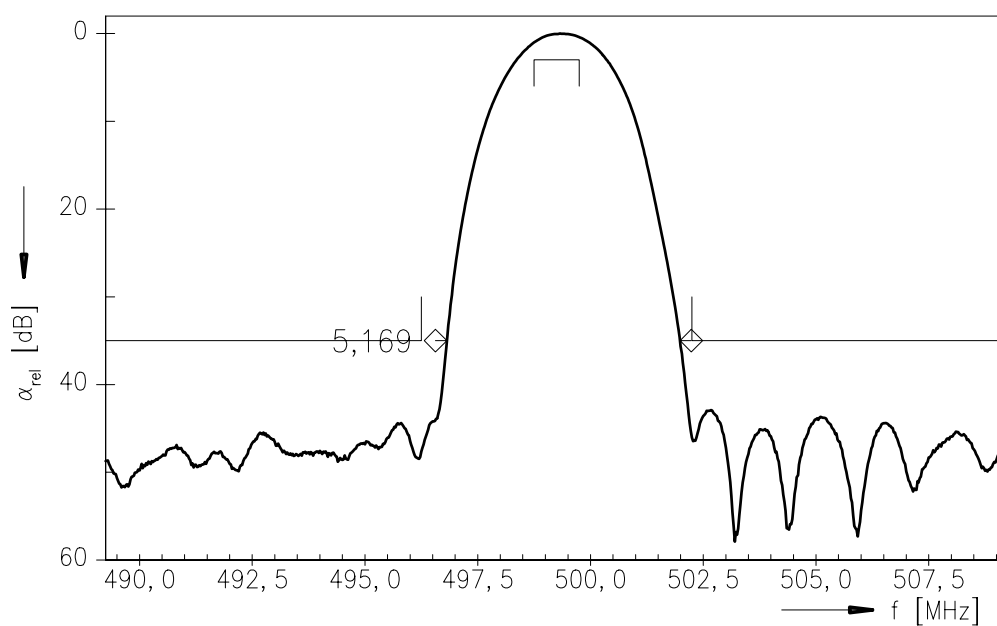
¹⁾ Temperature dependance of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

²⁾ Element values depend on PCB layout

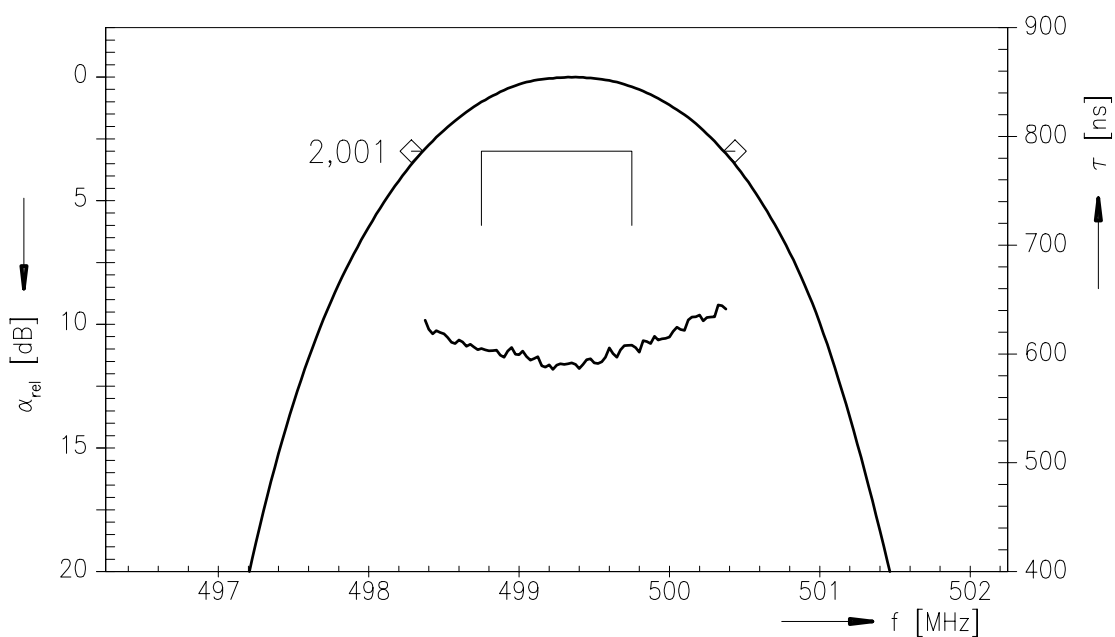


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Normalized frequency response



Normalized frequency response (pass band)





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