



SAW Components

Data Sheet B4542





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B4542

Low-Loss Filter

110,59 MHz

Data Sheet



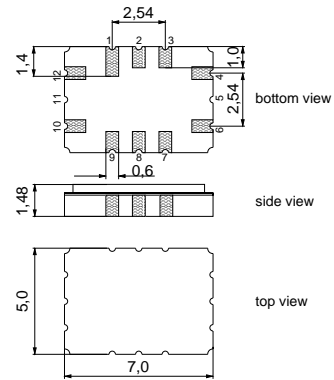
Ceramic package QCC12C

Features

- Low-loss IF filter for cordless application
- Channel selection in DECT system
- Ceramic package for **Surface Mounted Technology (SMT)**

Terminals

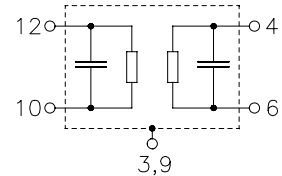
- Ni, gold-plated



Dimensions in mm, approx. weight 0,23 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4542	B39111-B4542-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (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



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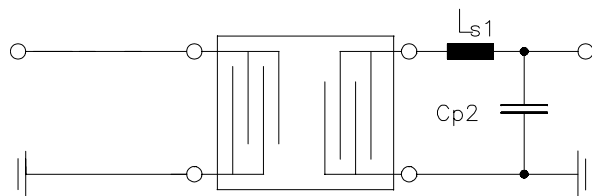


Characteristics

Operating temperature range: $T = +25\text{ }^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 130\ \Omega \parallel 62\ \text{nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	110,59	—	MHz
Center frequency (center frequency between 10 dB points)	f_c	110,48	110,59	110,70	MHz
Minimum insertion attenuation (including loss in matching coils)	α_{\min}	—	12,2	13,5	dB
Passband width	$B_{3\text{dB}}$		1,1		MHz
	$B_{30\text{dB}}$		2,3		MHz
Group delay ripple (p-p) $f_N - 600\ \text{kHz} \quad \dots \quad f_N + 600\ \text{kHz}$	$\Delta\tau$	—	270	350	ns
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 1,6\ \text{MHz} \quad \dots \quad f_N \pm 3,1\ \text{MHz}$		32	44	—	dB
$f_N \pm 3,1\ \text{MHz} \quad \dots \quad f_N \pm 4,6\ \text{MHz}$		40	49	—	dB
$f_N \pm 4,6\ \text{MHz} \quad \dots \quad f_N \pm 20\ \text{MHz}$		45	52	—	dB
$f_N \pm 1,728\ \text{MHz}$		32	44	—	dB
$f_N \pm 2 \times 1,728\ \text{MHz}$		42	53	—	dB
$f_N \pm 3 \times 1,728\ \text{MHz}$		48	55	—	dB
Impedance at f_N					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	170 \parallel 30	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	170 \parallel 30	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency	TC_f	—	- 18	—	ppm/K

Matching network to 50 Ω (element values depend on PCB layout):



$L_{s1} = 82\ \text{nH}$
 $C_{p2} = 47\ \text{pF}$



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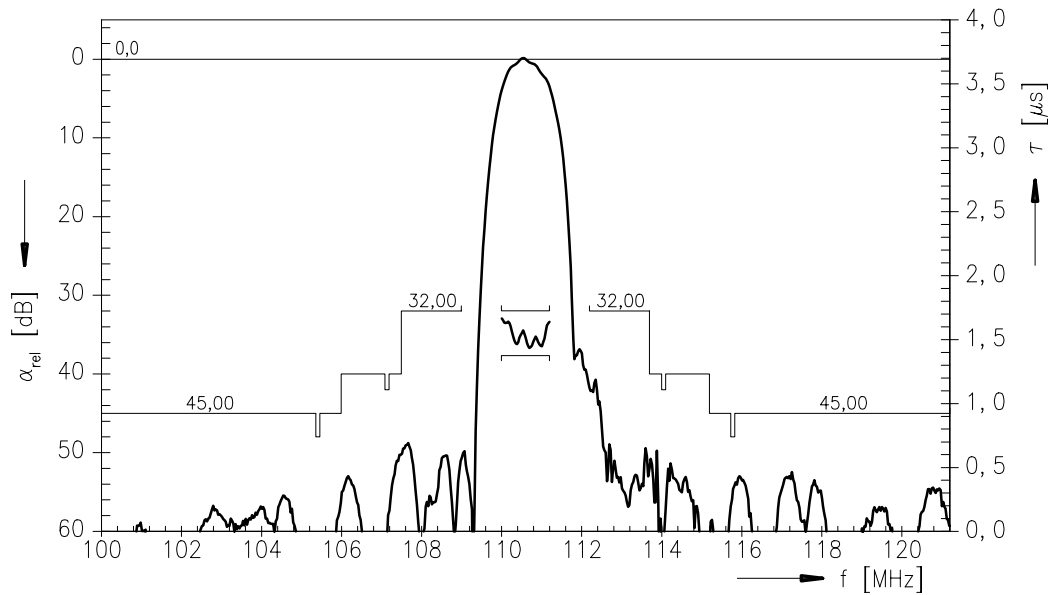
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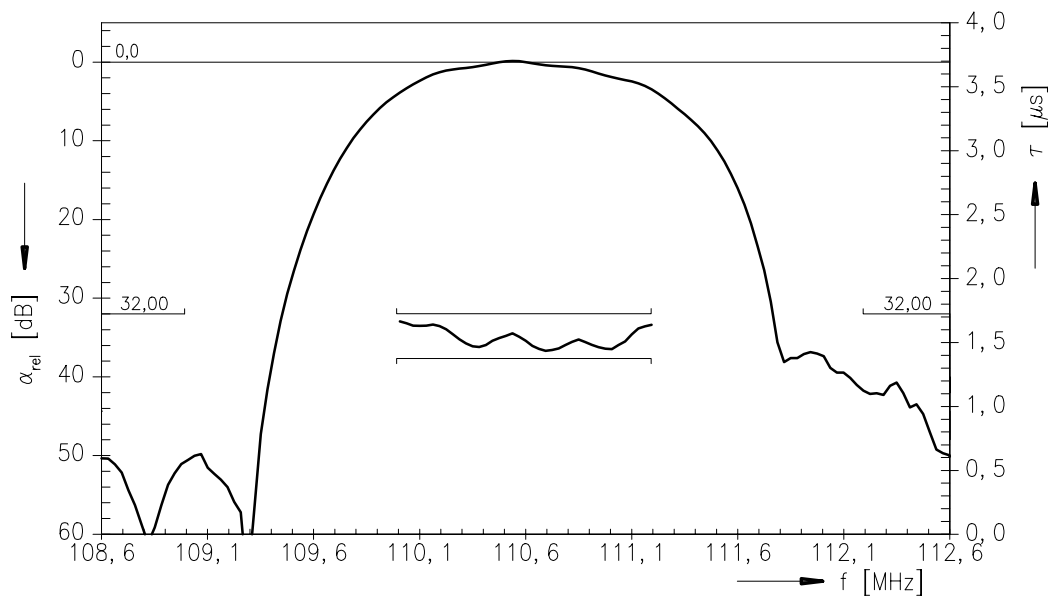
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Transfer function:



Transfer function (pass band):





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