



# SAW filters for infrastructure systems

## Series/Type: B4542

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39111B4542H310	B39111B5232H310	2012-01-13	2012-12-31	2013-03-30

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SAW Components

B4542

Low-Loss Filter

110,59 MHz

Data Sheet



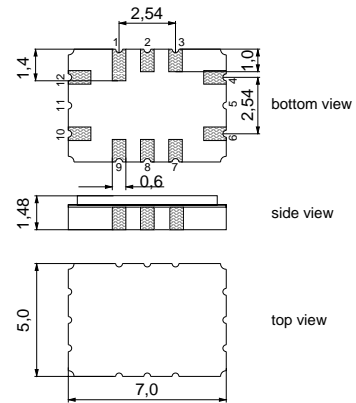
Ceramic package QCC12C

**Features**

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

**Terminals**

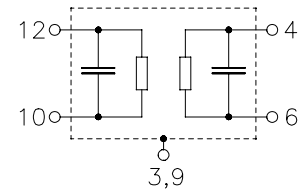
- Ni, gold-plated



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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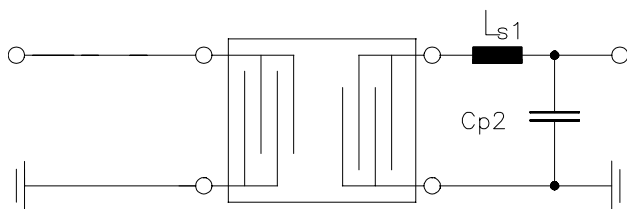


**Characteristics**

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.	
<b>Nominal frequency</b>	$f_N$	—	110,59	—	MHz
<b>Center frequency</b> (center frequency between 10 dB points)	$f_c$	110,48	110,59	110,70	MHz
<b>Minimum insertion attenuation</b> (including loss in matching coils)	$\alpha_{\min}$	—	12,2	13,5	dB
<b>Passband width</b>	$B_{3\text{dB}}$		1,1		MHz
	$B_{30\text{dB}}$		2,3		MHz
<b>Group delay ripple (p-p)</b> $f_N - 600\ \text{kHz} \quad \dots \quad f_N + 600\ \text{kHz}$	$\Delta\tau$	—	270	350	ns
	<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$			
$f_N \pm 1,6\ \text{MHz} \quad \dots \quad f_N \pm 3,1\ \text{MHz}$		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
<b>Impedance at <math>f_N</math></b>	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	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 18	—	ppm/K

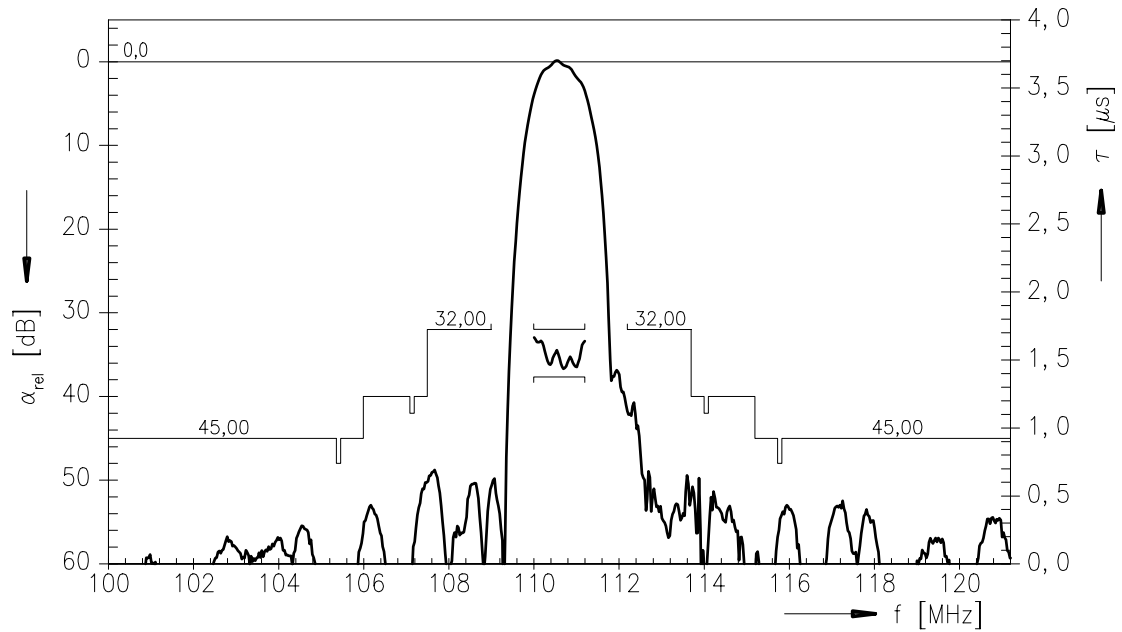
**Matching network to 50  $\Omega$**  (element values depend on PCB layout):



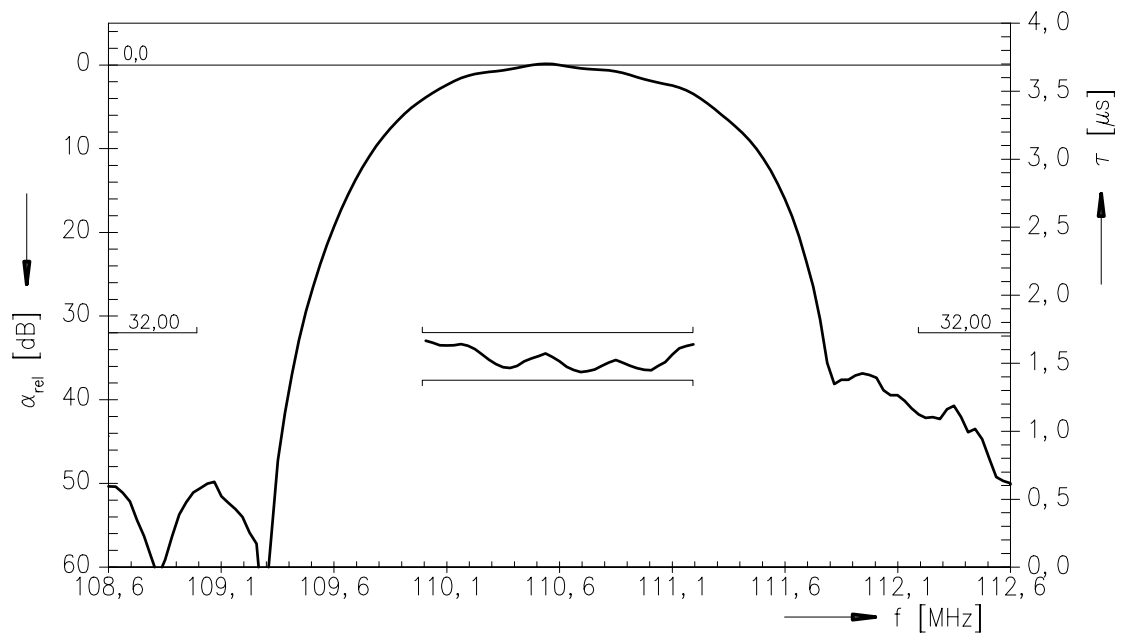
$L_{s1} = 82\ \text{nH}$   
 $C_{p2} = 47\ \text{pF}$



Transfer function:



Transfer function (pass band):





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**Low-Loss Filter**

**110,59 MHz**

Data Sheet



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