



# SAW Components

Data Sheet B5034





**SAW Components**

**B5034**

**Low-Loss Filter**

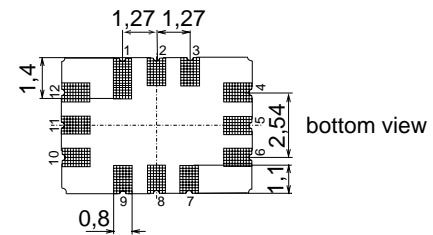
**456,00 MHz**

**Data Sheet**

Ceramic SMD package QCC12E

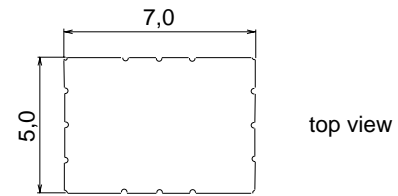
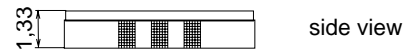
**Features**

- Low-loss filter for WiMAX
- Usable bandwidth 4,2 MHz
- Low insertion attenuation
- Package for Surface Mounted Technology (SMT)



**Terminals**

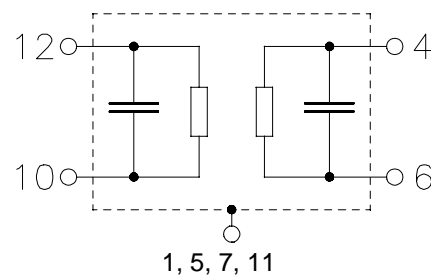
- Gold plated



Dimensions in mm, approx. weight 0,2 g

**Pin configuration**

- |             |               |
|-------------|---------------|
| 10          | Input         |
| 12          | Input Ground  |
| 4           | Output        |
| 6           | Output Ground |
| 2, 3, 8, 9  | Ground        |
| 1, 5, 7, 11 | Case ground   |



Type	Ordering code	Marking and Package according to	Packing according to
B5034	B39461-B5034-H810	C61157-A7-A103	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	$V_{DC}$	3	V	between input, output and ground
DC voltage	$V_{DC}$	0	V	between 10, 12 and between 4,6



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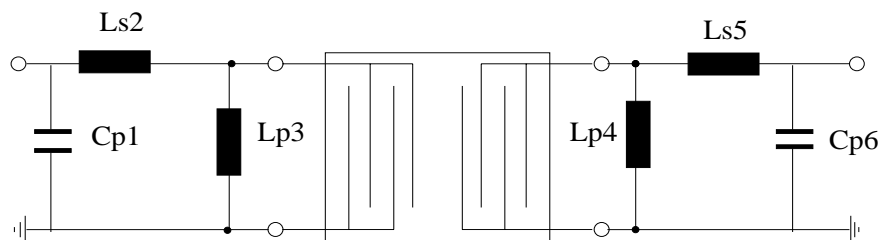
**Characteristics**

Operating temperature:  $T = -30 \dots +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $50 \text{ } \Omega$  single ended and matching network  
 Terminating load impedance:  $50 \text{ } \Omega$  single ended and matching network

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	456,00	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	6,8	9,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$ $f_N \pm 2,1 \text{ MHz}$	—	0,4	1,3	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$ $f_N \pm 2,1 \text{ MHz}$	—	75	250	ns
<b>Impulse response attenuation</b> (Time/Height values are relative to the main time response lobe) > 3 $\mu\text{s}$		30	55	—	dB
<b>Relative attenuation</b> (relative to $\alpha_{\min}$ )	$\alpha_{\text{rel}}$				
365 MHz ... 371 MHz		40	48	—	dB
412 MHz		45	57	—	dB
412 MHz ... 450,0 MHz		40	48	—	dB
$f_N \pm 5,3 \text{ MHz} \dots f_N \pm 6,0 \text{ MHz}$		35	45	—	dB
462,0 MHz ... 600 MHz <sup>1)</sup>		40	50	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-18	—	ppm/K

1) A narrow response around 550 MHz of up to 37 dB is possible

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



$C_{p1}=12 \text{ pF}$      $L_{s2}=8,2 \text{ nH}$      $L_{p3}$  not used     $L_{p4}=12 \text{ nH}$      $L_{s5}=15 \text{ nH}$      $C_{p6}$  not used



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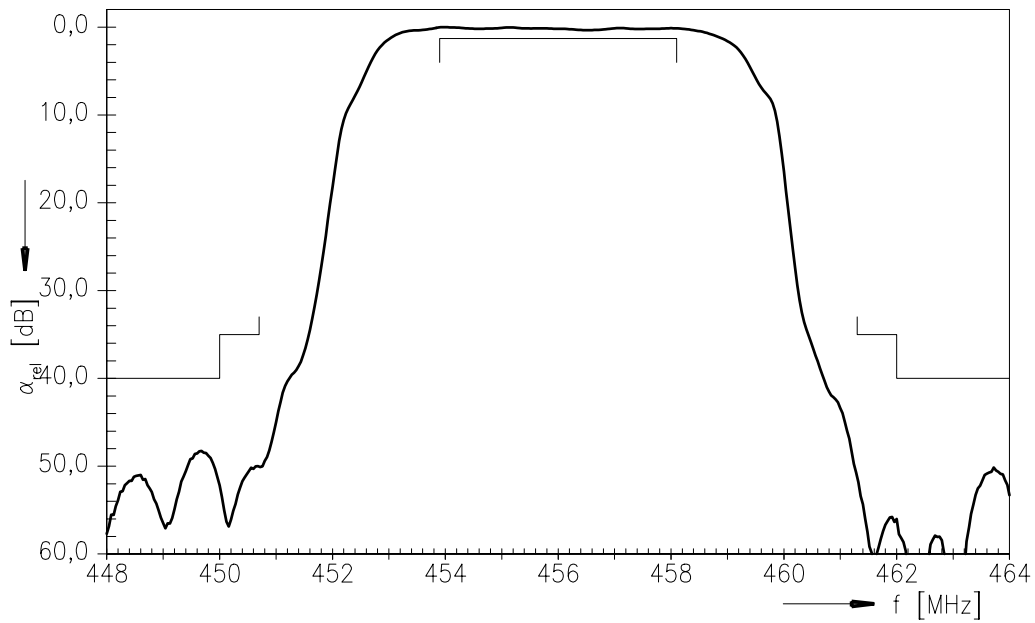
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Low-Loss Filter

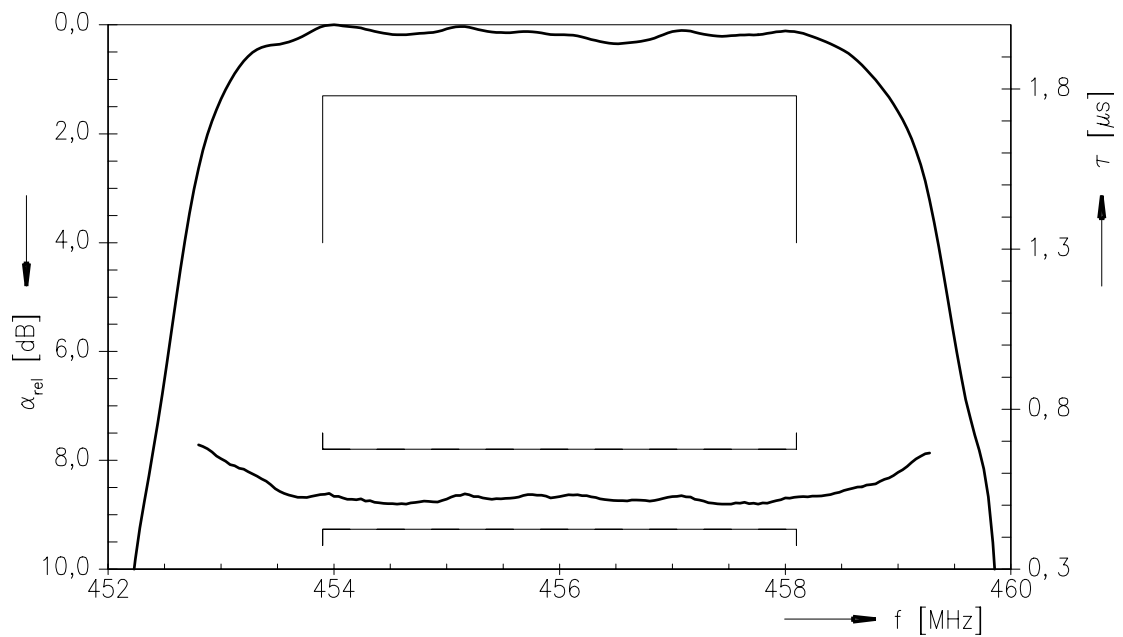
456,00 MHz

Data Sheet

Normalized transfer function



Normalized transfer function (pass band)





SAW Components

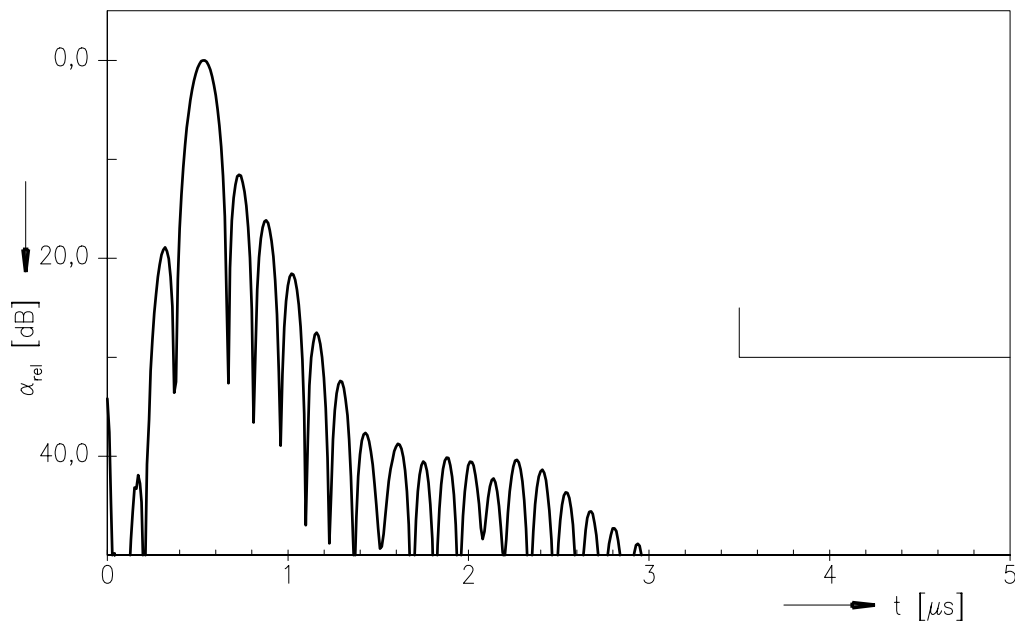
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Low-Loss Filter

456,00 MHz

Data Sheet

### Transfer function (Impulse response)



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