



SAW Components

SAW Filter

WiMAX

Series/Type:	B5033
Ordering code:	B39561-B5033-H810
Date:	Dec 19, 2005
Version:	2



SAW Components

B5033

Low-Loss Filter for WiMAX

556.00 MHz

Data Sheet



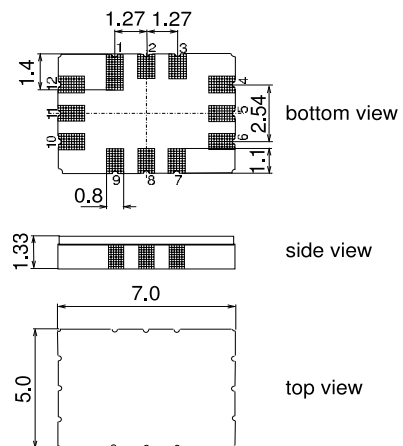
Application

- Low-loss IF filter for WiMAX
- Usable bandwidth 3.7 MHz
- Temperature stable
- Ceramic SMD package



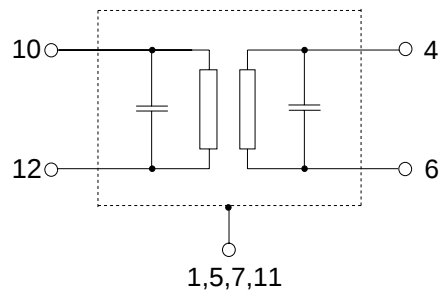
Features

- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- RoHS compatible
- Approx. weight 0.2 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals



Pin configuration

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





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Characteristics

Operating temperature range:

$T = -40\text{ °C to }+85\text{ °C}$

Terminating source impedance:

$Z_S = 50\ \Omega$ single ended and matching network

Terminating load impedance:

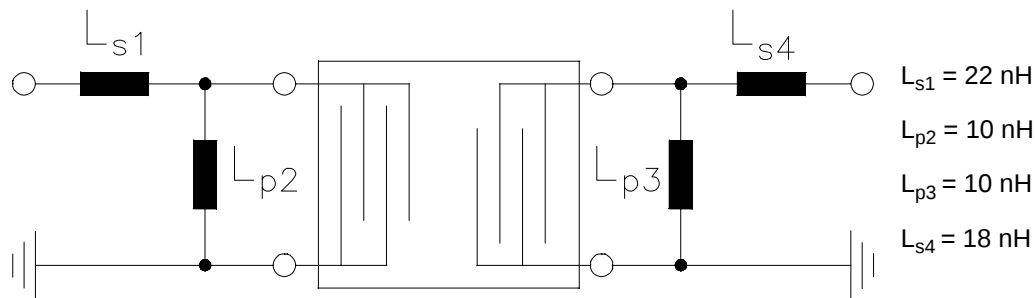
$Z_L = 50\ \Omega$ single ended and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	556.00	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	—	9.5	11.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_N \pm 1.70\text{ MHz}$	—	0.3	1.0	dB
	$f_N \pm 1.85\text{ MHz}$	—	1.0	3.0	dB
Absolute group delay (at f_N)	τ	—	0.5	3.0	μs
Group delay ripple (p-p)	$\Delta\tau$				
	$f_N \pm 1.70\text{ MHz}$	—	120	250	ns
Input and output return loss		7	14	—	dB
Impulse response attenuation (Time/Height values are relative to the main time response lobe)					
	1-2 μs	15	33	—	dB
	2-3 μs	30	45	—	dB
	> 3 μs	40	55	—	dB
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
	1 MHz ... 356 MHz	30	70	—	dB
	356 MHz ... 460 MHz	40	65	—	dB
	460 MHz ... 516 MHz	50	58	—	dB
	516 MHz ... 552.0 MHz	40	44	—	dB
	552.0 MHz ... 552.65 MHz	18	28	—	dB
	559.35 MHz ... 560.0 MHz	18	28	—	dB
	560.0 MHz ... 565.0 MHz	37	40	—	dB
	565.0 MHz ... 656 MHz	40	45	—	dB
	656 MHz ... 946 MHz	30	50	—	dB
Temperature coefficient of frequency¹⁾	TC_f	—	-0.036	—	ppm/K ²
Turnover temperature	T_0	—	30	—	°C

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

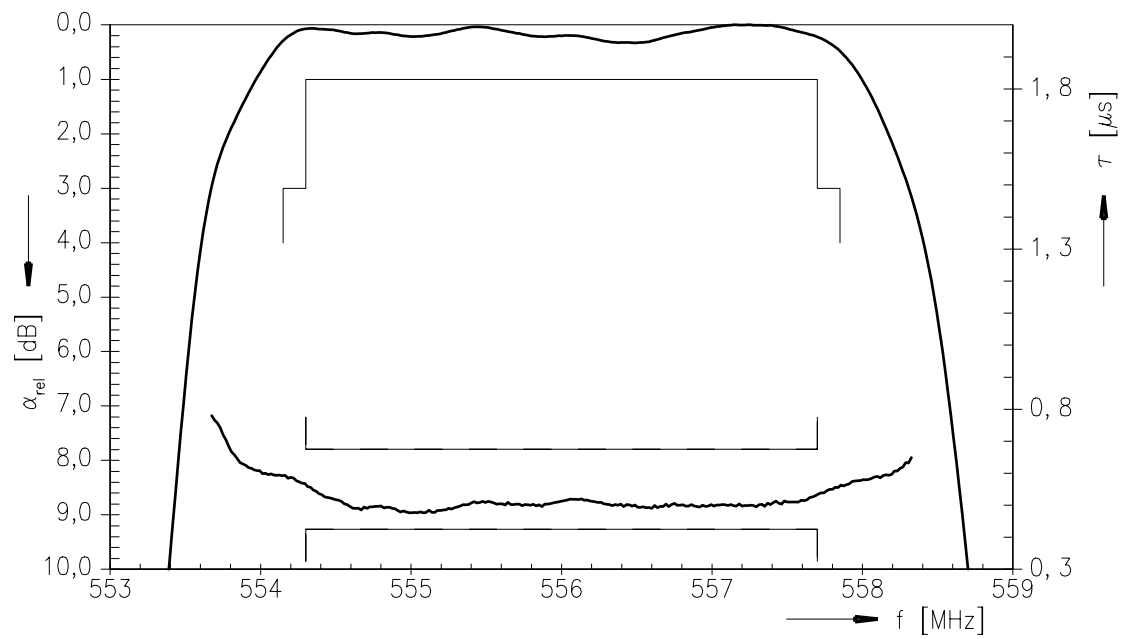
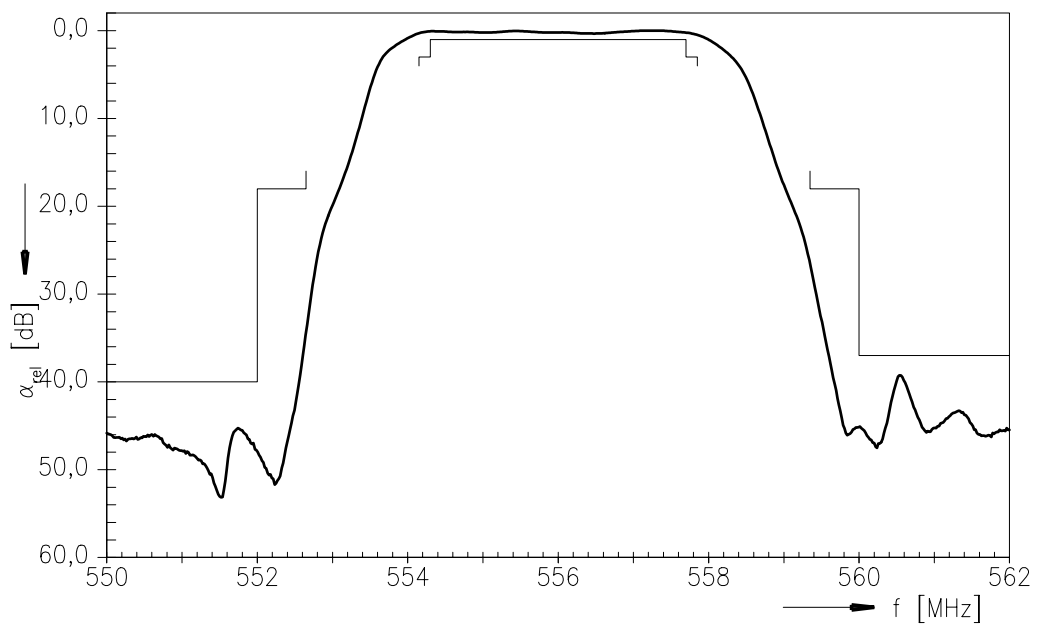
**SAW Components****B5033****Low-Loss Filter for WiMAX****556.00 MHz****Data Sheet****Matching network to 50 Ω single ended**

(element values depend on PCB layout)

**Maximum ratings**

Operable temperature range	T	-40/+85	°C	machine model, 1 pulse
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	200 ¹⁾	V	
Input power	P _{IN}	0	dBm	

¹⁾ acc. to J-STD22A-0115A (machine model, 1 pulse +/-).

**SAW Components****B5033****Low-Loss Filter for WiMAX****556.00 MHz****Data Sheet****Transfer function****Transfer function (wideband)**

Please read *cautions and warnings* and *important notes* at the end of this document.



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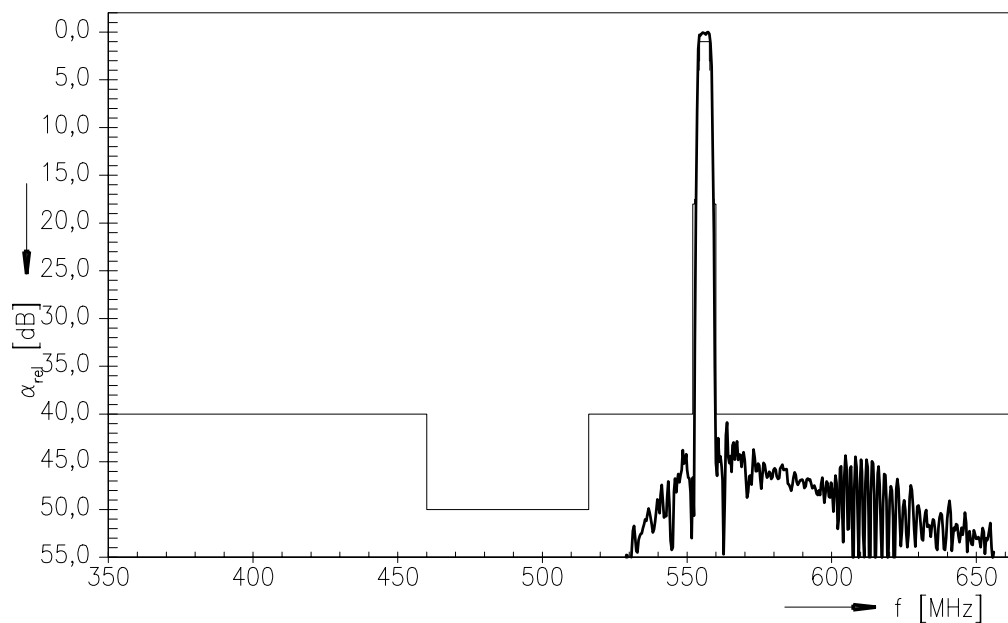
Low-Loss Filter for WiMAX

556.00 MHz

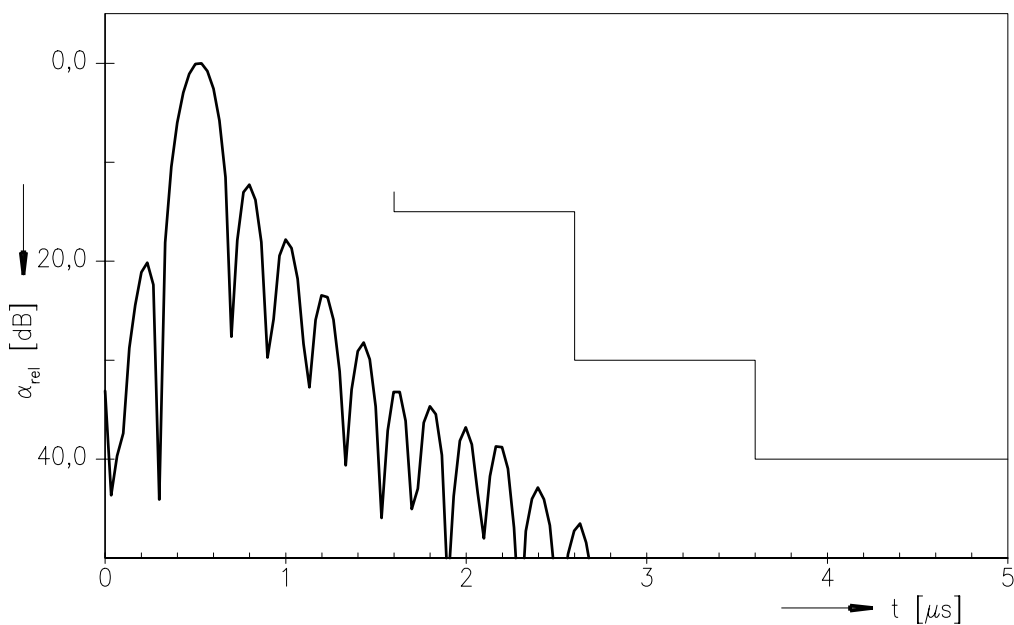
Data Sheet

SMD

Normalized transfer function



Transfer function (Impulse response)



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Data Sheet



Type	B5033	
Ordering code	B39561-B5033-H810	
Marking and Package	C61157-A7-A103	
Packaging	F61074-V8170-Z000	
Date Codes	L_1126	
S-Parameters		
Soldering profile	S_6001	

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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