



SAW Components

SAW IF filter

WiMAX

Series/type:	B5040
Ordering code:	B39471-B5040-H810
Date:	Mar 16, 2006
Version:	2.1



SAW Components

B5040

SAW IF filter

468.0 MHz

Data Sheet

SMD

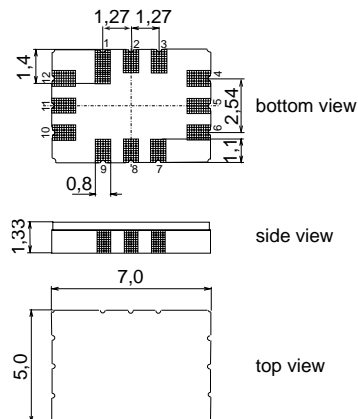
Application

- Low-loss IF filter for WiMAX
- Usable passband 4.5 MHz



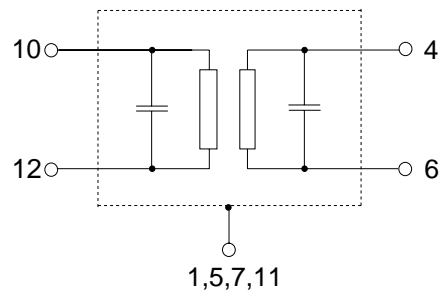
Features

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



Pin configuration

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



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


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Characteristics

Operating temperature range:	T = -40 to 85 °C
Terminating source impedance:	Z _S = 50 Ω single ended and matching network
Terminating load impedance:	Z _L = 50 Ω single ended and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f _N	—	468.0	—	MHz
Minimum insertion attenuation (including matching network)	α _{min}	—	11.2	13.0	dB
Amplitude ripple (p-p)	Δα				
	f _N ± 2.25 MHz	—	0.6	1.2	dB
	f _N ± 2.50 MHz	—	1.3	2.0	dB
Group delay ripple (p-p)	Δτ				
	f _N ± 2.25 MHz	—	120	250	ns
Absolute group delay					
	f _N ± 2.50 MHz	—	0.5	1.5	μs
Relative attenuation (relative to α_{min})	α _{rel}				
	f _N ± 3.5 ... f _N ± 5.0 MHz	10	15	—	dB
	f _N ± 5.0 ... f _N ± 10.0 MHz	35	42	—	dB
	f _N ± 10.0 ... f _N ± 20.0 MHz	40	48	—	dB
	30.0 MHz ... f _N - 20.0 MHz	50	57	—	dB
	f _N + 20.0 MHz ... f _N + 24.0 MHz	45	52	—	dB
	f _N + 24.0 MHz ... 1000 MHz	50	55	—	dB
Return loss, input	f _N ± 2.25 MHz	8	12	—	dB
Return loss, output	f _N ± 2.25 MHz	8	20	—	dB
Temperature coefficient of frequency¹⁾	TC _f	—	-0.036	—	ppm/K ²
Turnover temperature	T ₀	—	20	—	°C

¹⁾ Temperature dependence of f_c: f_c(T_A) = f_c(T₀) (1 + TC_f(T_A - T₀)²)



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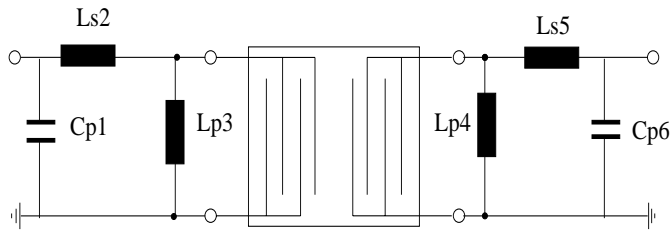
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Matching network to 50 Ω



C_{p1} = not used
 L_{s2} = 47.0 nH
 L_{p3} = 22.0 nH
 L_{p4} = not used
 L_{s5} = 18.0 nH
 C_{p6} = 18.0 pF

Maximum ratings

Operable temperature range	T	-40/+85	°C	HBM; 5 pulse +/-
Storage temperature range	T _{sta}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	500 ¹⁾	V	
Input power (average)	P _{IN}	5	dBm	
Input power (peak)	P _{IN}	15	dBm	

1) acc. to JESD22A-A114-B (Human body model, 5 pulses +/-).



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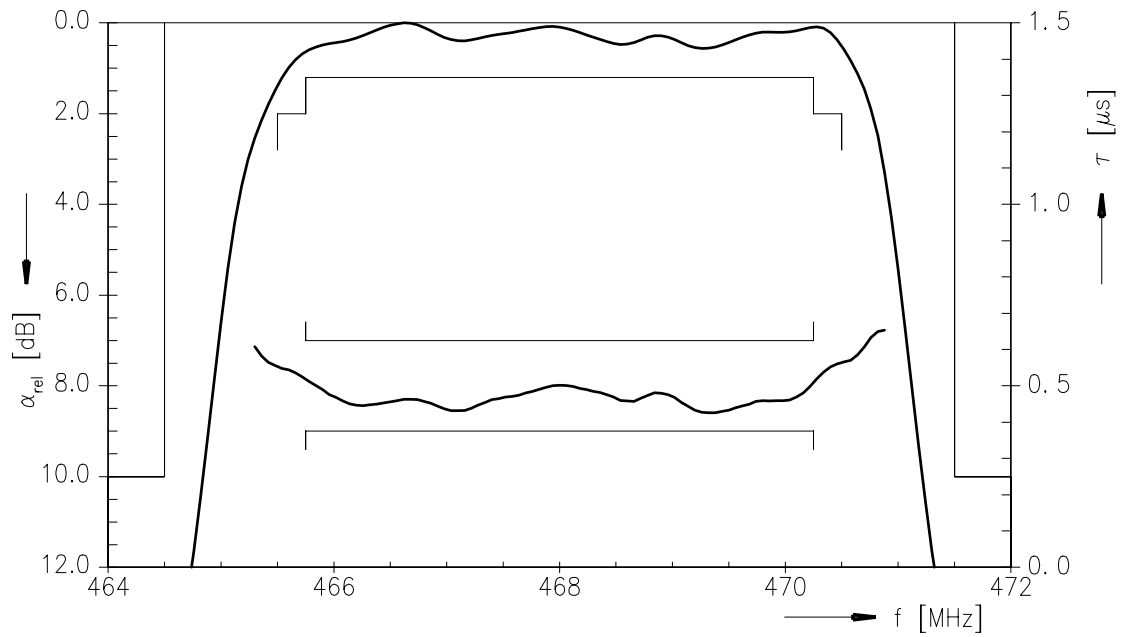
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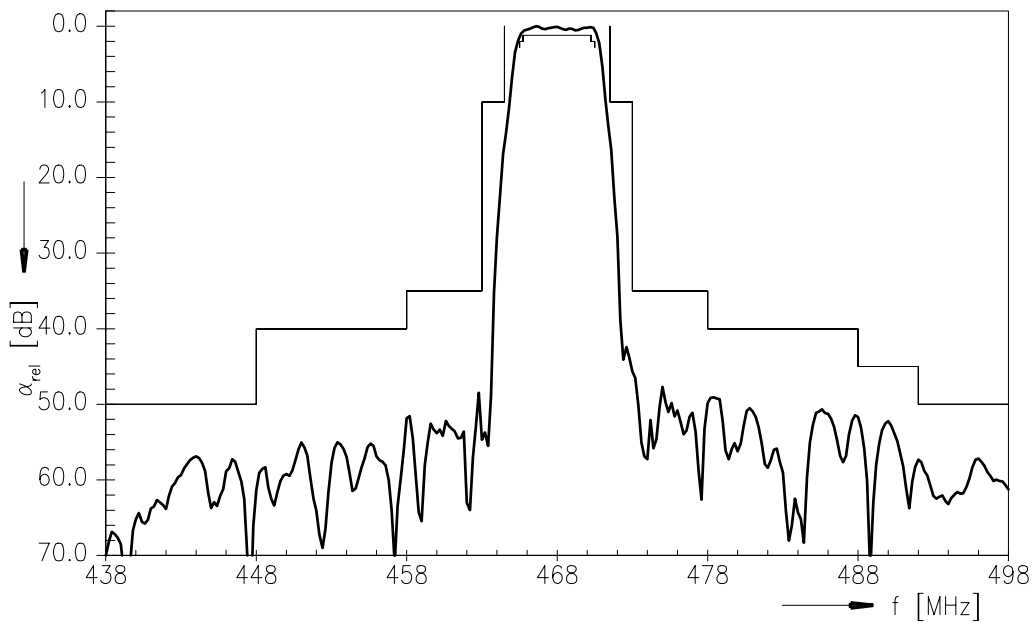
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Transfer function



Transfer function (wideband)



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References

Type	B5040
Ordering code	B39471-B5040-H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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

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