



SAW Components

SAW IF filter

cdma2000

Series/type:	B5050
Ordering code:	B39880-B5050-H810
Date:	Mar 16, 2007
Version:	2.0



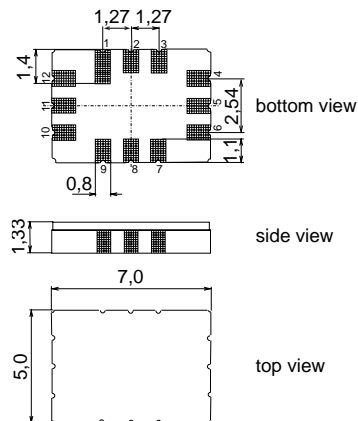
Application

- Low-loss IF filter for cdma2000 base station
- Unbalanced or balanced operation possible
- Usable passband 3.78 MHz



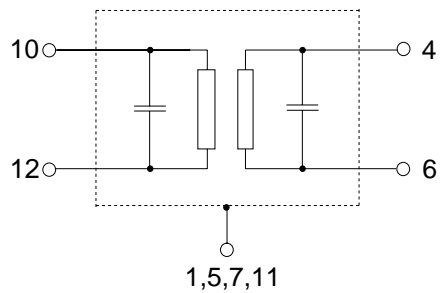
Features

- 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)**
- Filter surface passivated



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





SAW Components

B5050

SAW IF filter

88.5 MHz

Data Sheet



Characteristics

Operating temperature range: $T = -10$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$ and matching network
 Terminating load impedance: $Z_L = 50 \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	88.5	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	7.4	9.0	dB
Passband width $\alpha_{rel} \leq 1$ dB	$B_{1.0dB}$	3.78	5.2	—	MHz
Amplitude ripple (p-p) $f_N \pm 1.89$ MHz	$\Delta\alpha$	—	0.4	1.0	dB
Deviation from linear phase (p-p) $f_N \pm 1.89$ MHz	$\Delta\varphi$	—	3	6	°
Deviation from linear phase (rms) $f_N \pm 1.89$ MHz	$\Delta\varphi$	—	0.6	1.2	°
Relative attenuation (relative to α_{min}) $f_N \pm 15.5$... $f_N \pm 50.0$ MHz	α_{rel}	50	60	—	dB
Return loss					
Input	$f_N \pm 1.89$ MHz	10	13	—	dB
Output	$f_N \pm 1.89$ MHz	10	15	—	dB
Temperature coefficient of frequency	TC_f	—	-87	—	ppm/K



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B5050

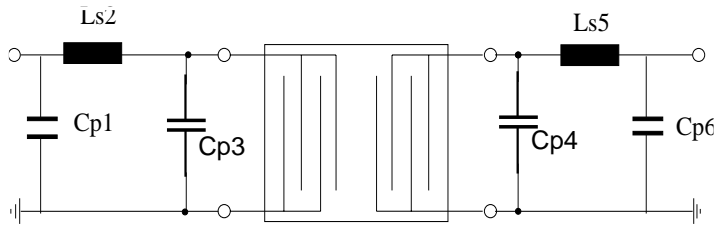
SAW IF filter

88.5 MHz

Data Sheet



Matching network to 50 Ω



- $C_{p1} = 56 \text{ pF}$
- $L_{s2} = 121 \text{ nH}$
- $C_{p3} = 18 \text{ pF}$
- $C_{p4} = 6.8 \text{ pF}$
- $L_{s5} = 82 \text{ nH}$
- $C_{p6} = 68 \text{ pF}$

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}	10	dBm	

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



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B5050

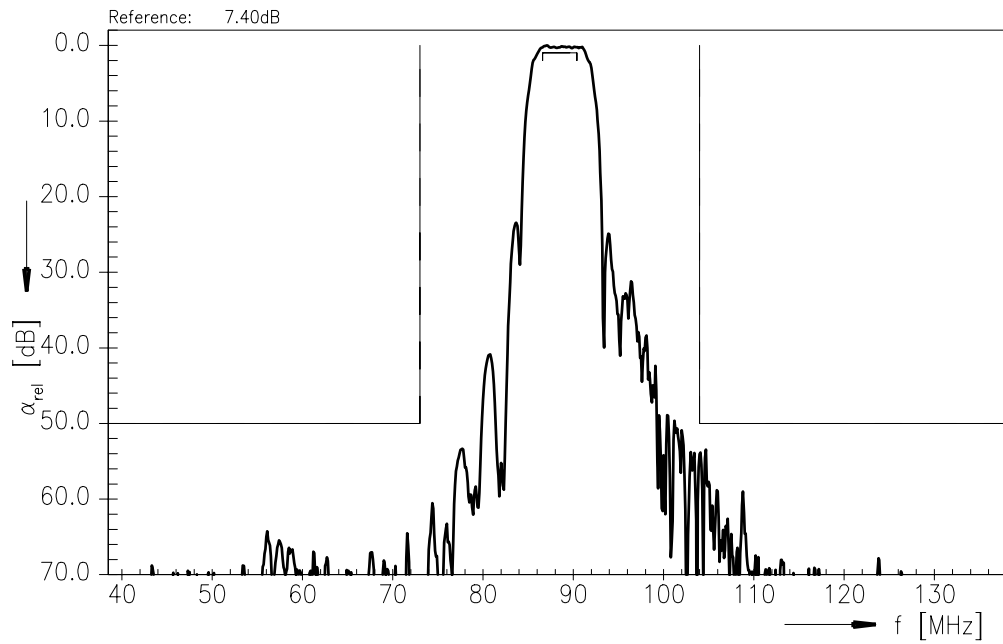
SAW IF filter

88.5 MHz

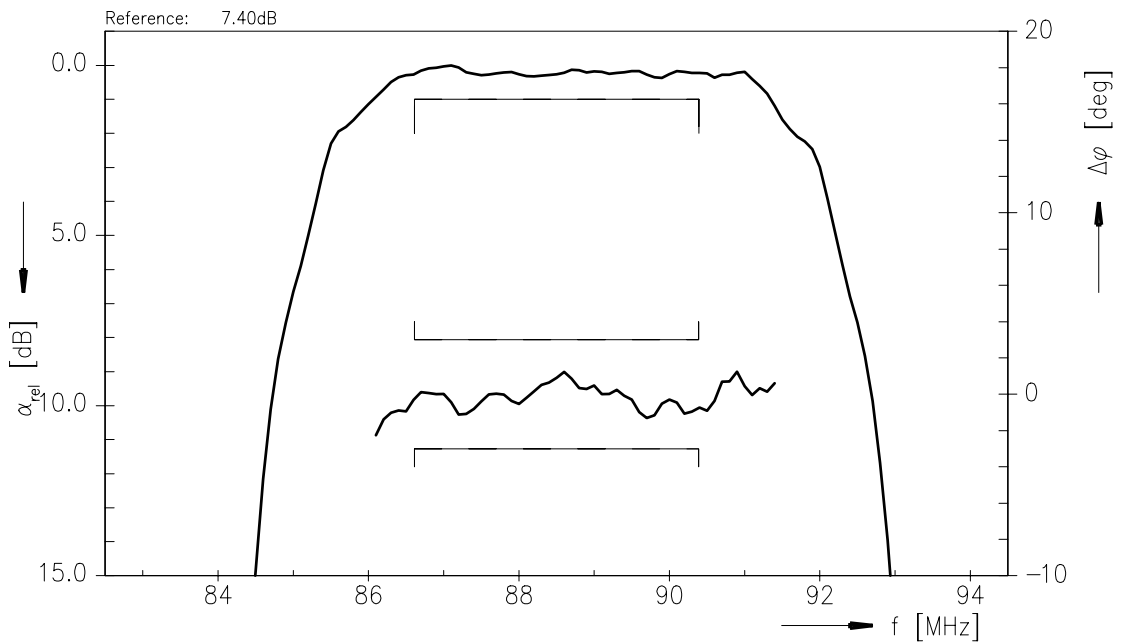
Data Sheet



Transfer function



Transfer function (passband)



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



SAW Components	B5050
SAW IF filter	88.5 MHz
Data Sheet	

References

Type	B5050
Ordering code	B39880-B5050-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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