SAW Components

SAW IF filter

cdma2000

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

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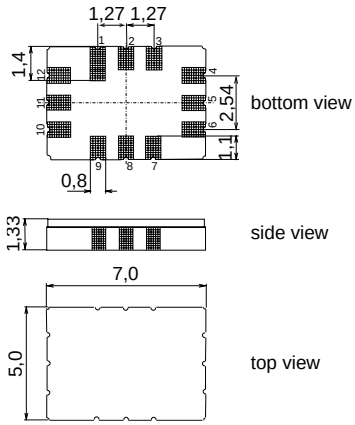
Application

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



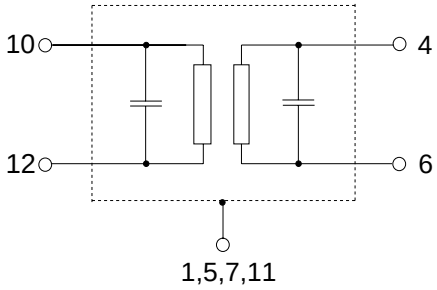
Features

- Package size 7.0 x 5.0 x 1.33 mm^3
- Package code QCC12E
- RoHS compatible
- Approx. weight 0.2 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**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



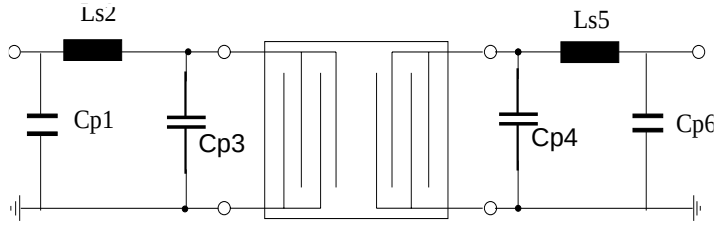
Data Sheet SMD

Characteristics

Operating temperature range: T = –10 to +85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω 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

Matching network to 50 Ω



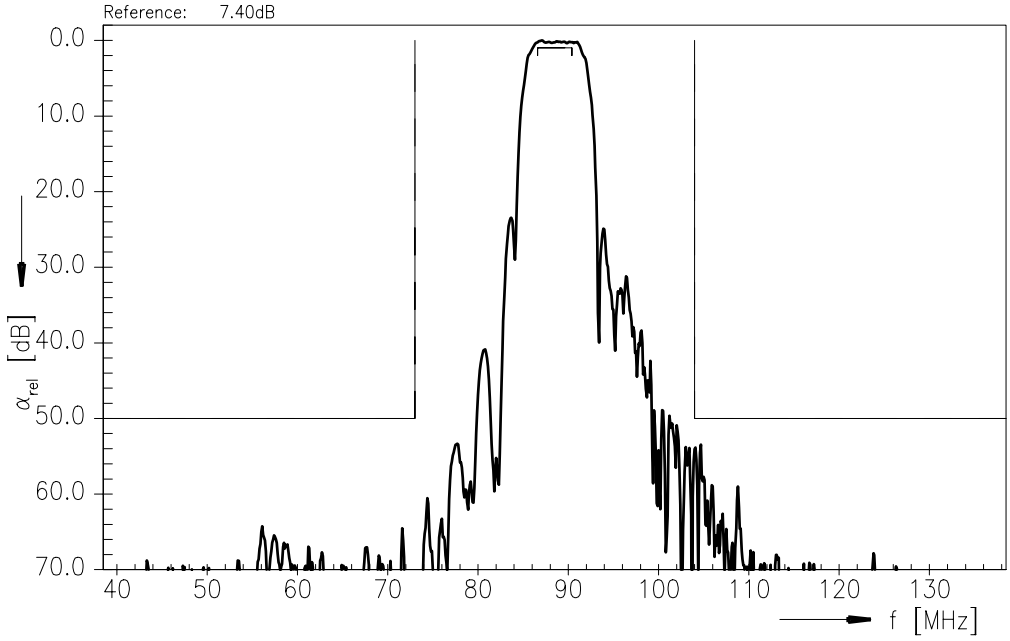
C_{p1} = 56 pF
L_{s2} = 121 nH
C_{p3} = 18 pF
C_{p4} = 6.8 pF
L_{s5} = 82 nH
C_{p6} = 68 pF

Maximum ratings

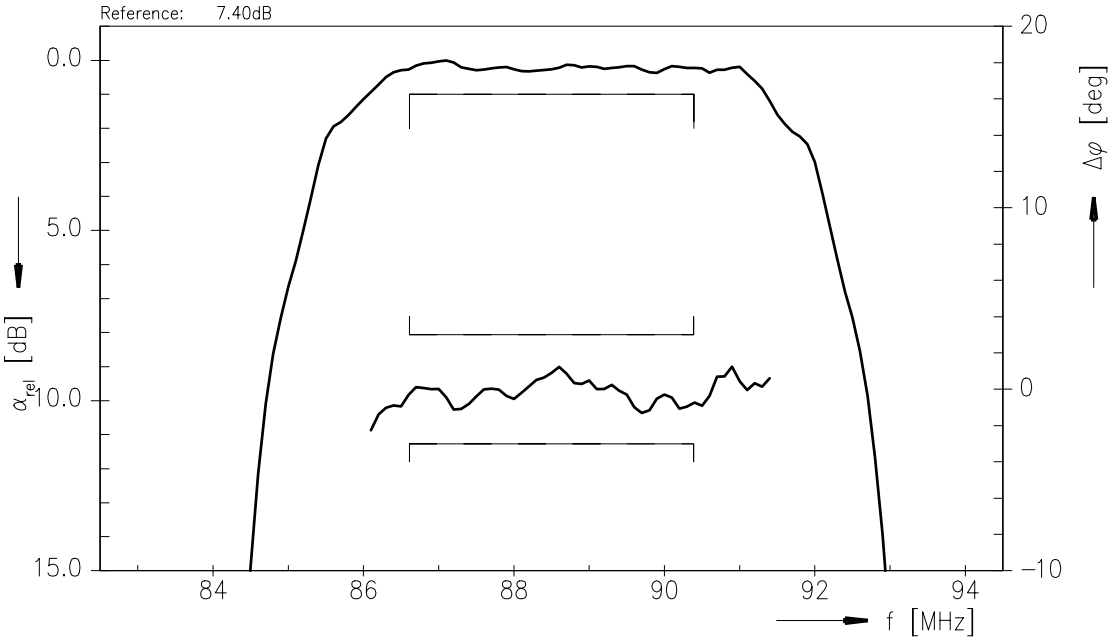
Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	200[1)]	V	machine model, 1 pulse
Input power	P_{IN}	10	dBm	

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

Transfer function



Transfer function (passband)



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."

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