



SAW Components

SAW IF filter

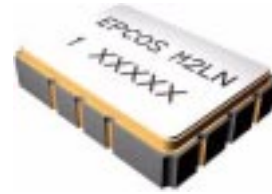
TD-SCDMA

Series/type:	B5213
Ordering code:	B39121B5213H310
Date:	February 24, 2009
Version:	2.0



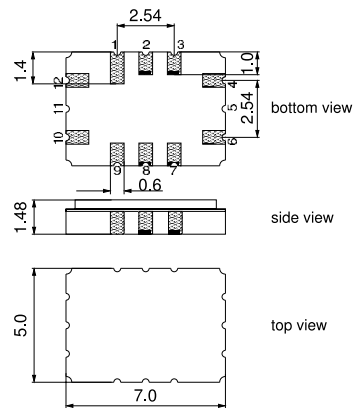
Application

- Low-loss IF filter for TD-SCDMA base station
- Usable passband 20.0 MHz
- Unbalanced or balanced operation



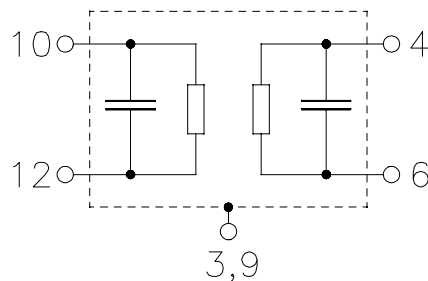
Features

- Package size 7.0 x 5.0 x 1.48 mm³
- Package code QCC12C
- RoHS compatible
- Approximate weight 0.25 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 or balanced input
- 4 Output
- 6 Output ground or balanced output
- 1, 2, 7, 8 To be grounded
- 3, 9 Case ground




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115.2 MHz
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Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ unbalanced and matching network
 Terminating load impedance: $Z_L = 50\ \Omega$ unbalanced and matching network

		min.	typ. @ 25 °C	max.		
Nominal frequency	f_N	—	115.2	—	MHz	
Minimum insertion attenuation (including matching network)	α_{\min}	—	7.9	9.0	dB	
Passband width						
	$\alpha_{\text{rel}} \leq 1.0\text{ dB}$	$B_{1.0\text{dB}}$	20.0	22.6	—	MHz
Amplitude ripple (p-p)						
	$f_N \pm 10.0\text{ MHz}$	$\Delta\alpha$	—	0.3	1.0	dB
Group delay ripple (p-p)						
	$f_N \pm 10.0\text{ MHz}$	$\Delta\tau$	—	25	60	ns
Absolute group delay (mean)						
	$f_N \pm 10.0\text{ MHz}$	$\bar{\tau}$	—	0.44	—	μs
Relative attenuation (relative to α_{\min})						
	α_{rel}					
	10.0 MHz ... 48.4 MHz		58	65	—	dB
	153.6 MHz		45	60	—	dB
	182.0 MHz ... 202.0 MHz		58	65	—	dB
	202.0 MHz ... 1.0 GHz		40	53	—	dB
1dB compression point			12	—	—	dBm
Input IP3			35	—	—	dBm
Temperature coefficient of frequency	TC_f	—	-78	—	ppm/K	



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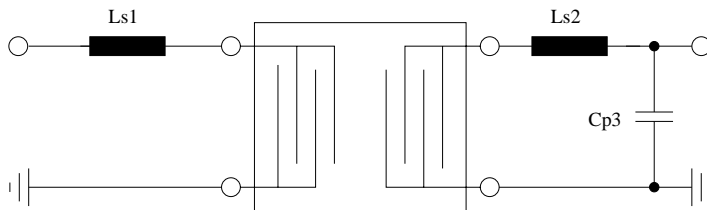
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SMD

Matching network to 50 Ω



$$L_{s1} = 220 \text{ nH}$$

$$L_{s2} = 180 \text{ nH}$$

$$C_{p3} = 27 \text{ pF}$$

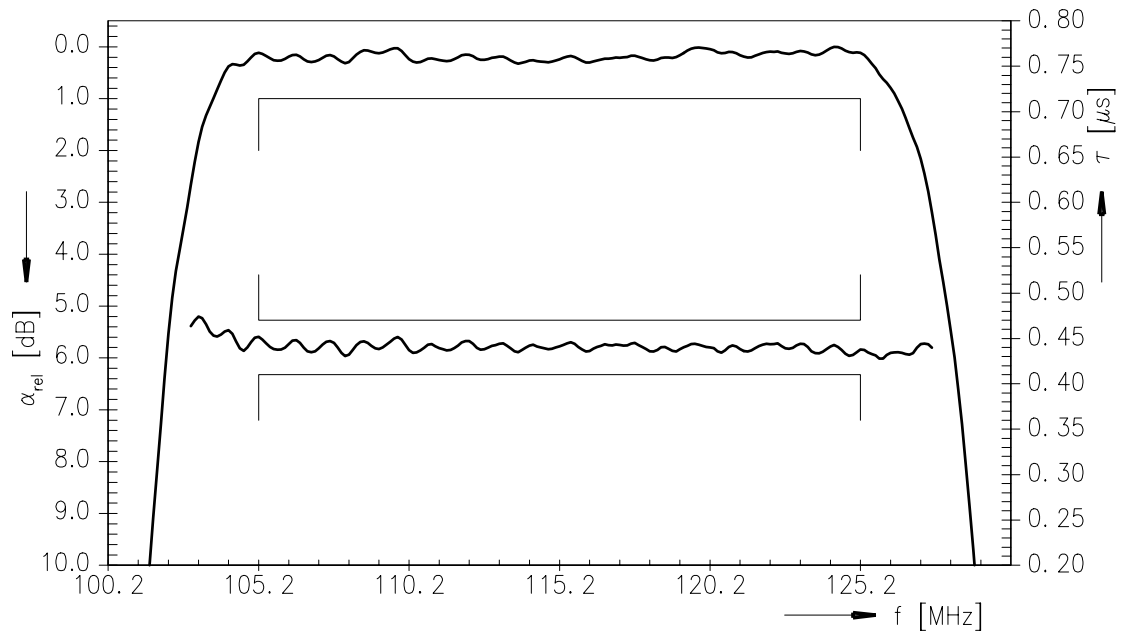
Element values depend upon board layout and properties.

Maximum ratings

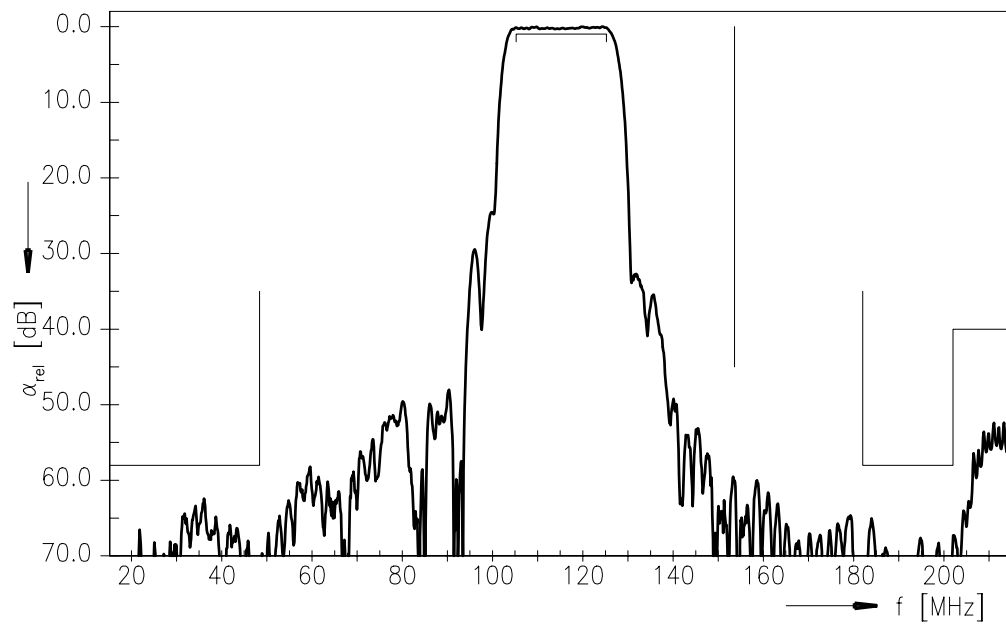
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
Input power	P _{IN}	10	dBm	



Transfer function (S21, narrowband, normalized)



Transfer function (S21, wideband, normalized)





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References

Type	B5213
Ordering code	B39121B5213H310
Marking and package	C61157-A7-A95
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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