



# SAW Filters for Infrastructure Systems

## Series/Type: **B5213**

The following products presented in this data sheet are being withdrawn.

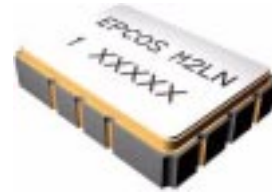
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39121B5213H310		2011-07-15	2011-12-31	2012-03-31

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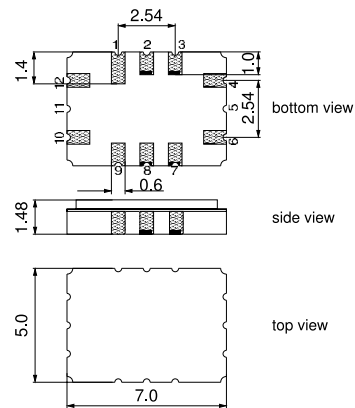
**Application**

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



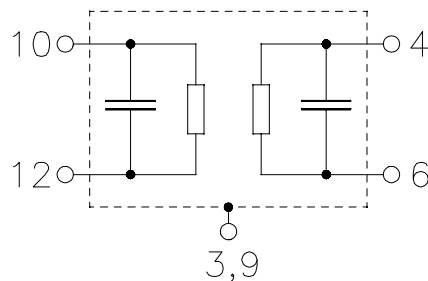
**Features**

- Package size 7.0 x 5.0 x 1.48 mm<sup>3</sup>
- 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





**SAW Components**

**B5213**

**SAW IF filter**

**115.2 MHz**

**Data Sheet**



**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.	
<b>Nominal frequency</b>	$f_N$	—	115.2	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	7.9	9.0	dB
<b>Passband width</b>	$\alpha_{\text{rel}} \leq 1.0\text{ dB}$	$B_{1.0\text{dB}}$	20.0	22.6	— MHz
<b>Amplitude ripple (p-p)</b>	$f_N \pm 10.0\text{ MHz}$	$\Delta\alpha$	—	0.3	1.0 dB
<b>Group delay ripple (p-p)</b>	$f_N \pm 10.0\text{ MHz}$	$\Delta\tau$	—	25	60 ns
<b>Absolute group delay (mean)</b>	$f_N \pm 10.0\text{ MHz}$	$\bar{\tau}$	—	0.44	— $\mu\text{s}$
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
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
<b>1dB compression point</b>		12	—	—	dBm
<b>Input IP3</b>		35	—	—	dBm
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-78	—	ppm/K



SAW Components

B5213

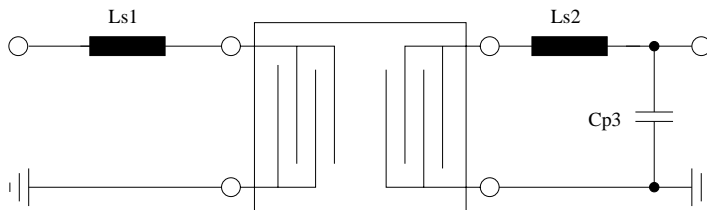
SAW IF filter

115.2 MHz

Data Sheet



Matching network to 50 Ω



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

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

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

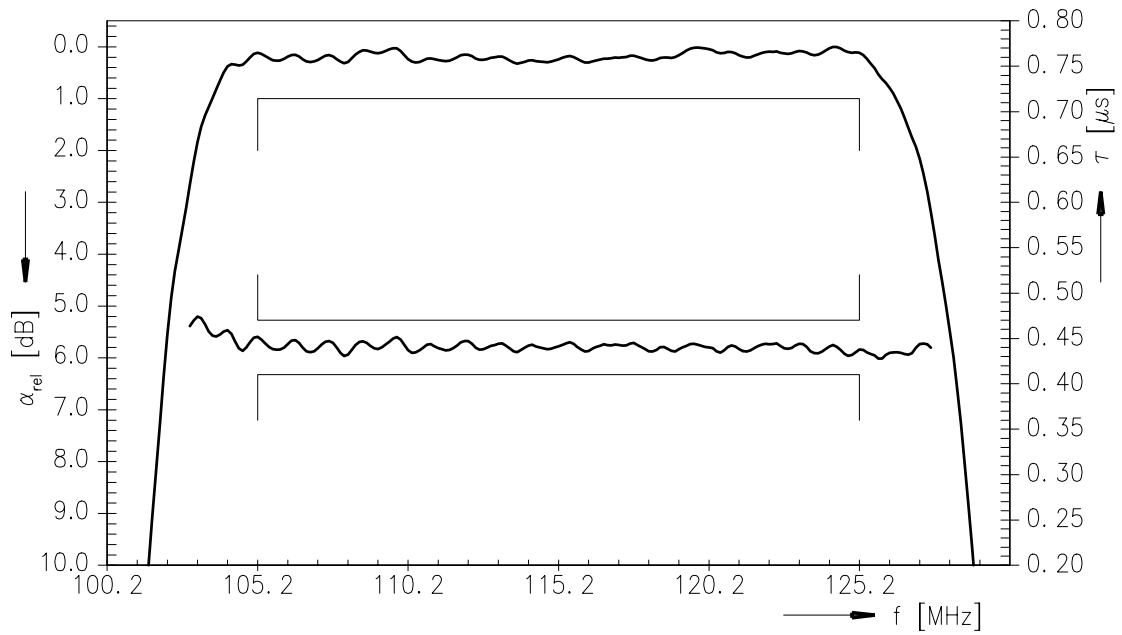
Element values depend upon board layout and properties.

**Maximum ratings**

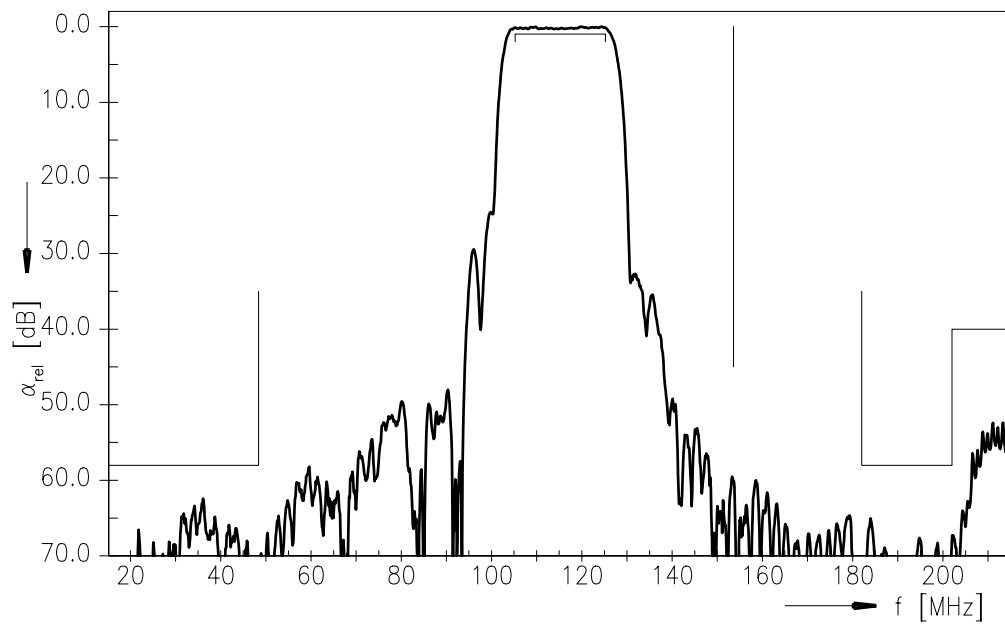
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
Input power	P <sub>IN</sub>	10	dBm	



Transfer function (S21, narrowband, normalized)



Transfer function (S21, wideband, normalized)





**SAW Components**

**B5213**

**SAW IF filter**

**115.2 MHz**

Data Sheet



## 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."

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