



# SAW filters for infrastructure systems

## Series/Type: **B3893**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39251B3893H310		2012-01-13	2012-12-31	2013-03-30

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**SAW Components**

**B3893**

**SAW IF filter**

**248.6 MHz**

Data sheet



**Revision History: Changes compared to previous iteration issue**

ISSUE	ORIGINATOR	DETAIL SPEC CHANGES	DATE
B3893			
2.0	T. Gaertner	pass band width changed from 240 kHz to 704 kHz	28.02.2008



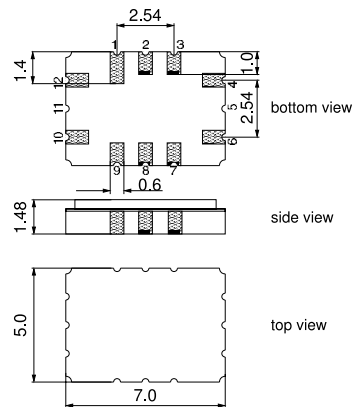
**Application**

- Low-loss IF filter for GSM base station
- Clean-up filter
- Ceramic SMD package



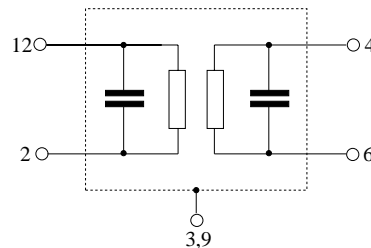
**Features**

- Package size 7.0 x 5.0 x 1.33 mm<sup>3</sup>
- Package code QCC12C
- RoHS compatible
- Approximate weight 0.25 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated



**Pin configuration**

- 12 Input
- 2 Input ground
- 4, 6 Balanced output
- 1, 7, 8, 10 To be grounded
- 3, 9 Case ground





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**Characteristics**

Temperature range for specification: T = -20 °C to +85 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω  
 Terminating load impedance: Z<sub>L</sub> = 200 Ω

		min.	typ.	max.	
<b>Nominal frequency</b>	f <sub>N</sub>	—	248.6	—	MHz
<b>Minimum insertion attenuation</b>	α <sub>min</sub>	—	1.3	3.5	dB
<b>Passband width</b>					
	α <sub>rel</sub> ≤ 3.0 dB	B <sub>3.0dB</sub>	5.0	7.2	— MHz
<b>Amplitude ripple (p-p)</b>					
	f <sub>N</sub> ± 352.0 kHz	Δα	—	0.2	0.5 dB
<b>Group delay ripple (p-p)</b>					
	f <sub>N</sub> ± 352.0 kHz	Δτ	—	30	100 ns
<b>Relative attenuation (relative to α<sub>min</sub>)</b>					
	10.0 MHz ... f <sub>N</sub> - 29.2 MHz	α <sub>rel</sub>	45	70	— dB
	@ f <sub>N</sub> + 22.80 MHz		45	60	— dB
	@ f <sub>N</sub> + 52.00 MHz		45	70	— dB
	@ f <sub>N</sub> + 74.80 MHz		45	70	— dB
	@ f <sub>N</sub> + 104.0 MHz		45	55	— dB
	@ f <sub>N</sub> + 126.8 MHz		45	70	— dB
<b>Temperature coefficient of frequency</b>	TC <sub>f</sub>	—	-36	—	ppm/K

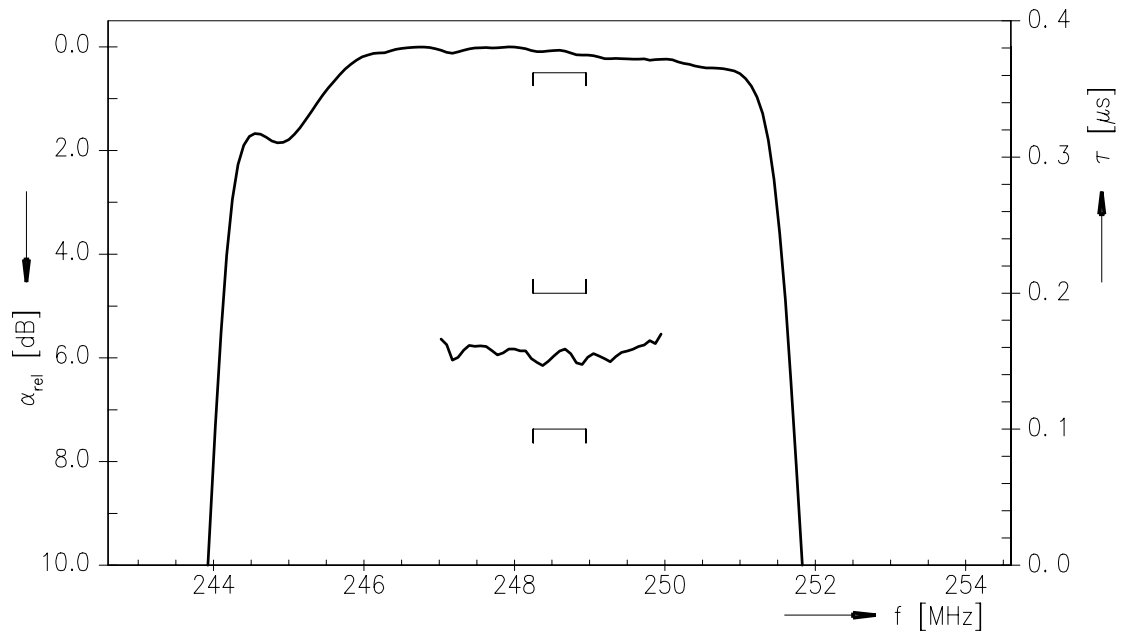
**Maximum ratings**

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	
Input Power	P <sub>IN</sub>	20	dBm	t ≤ 100 hours

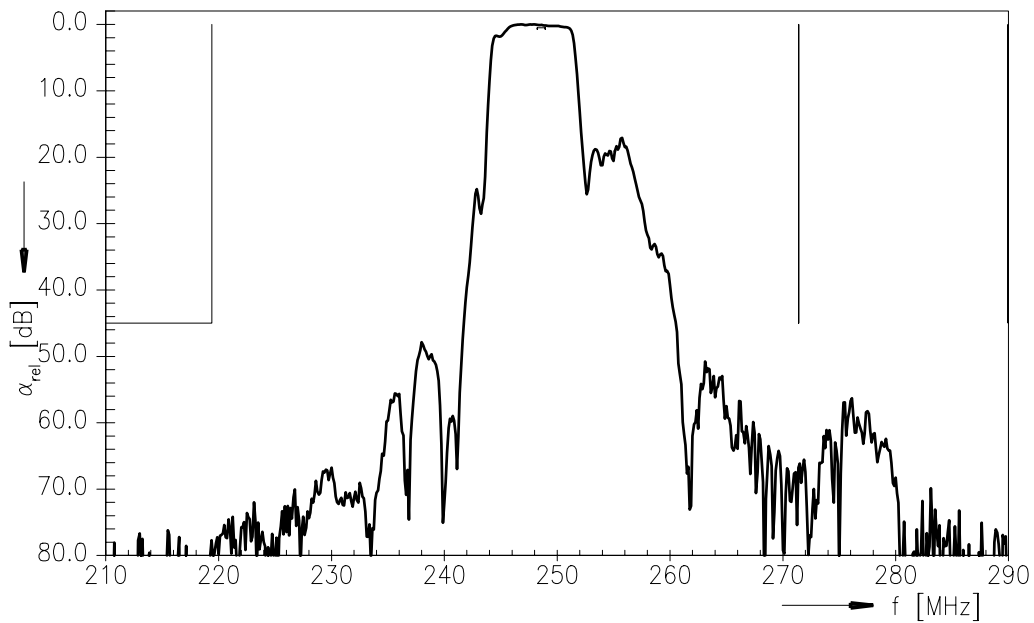
Please read *cautions and warnings and important notes* at the end of this document.



Normalized transfer function (S21, Narrowband)



Normalized transfer function (S21, Wideband)





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## References

Type	B3893
Ordering code	B39251B3893H310
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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Please read *cautions and warnings and important notes* at the end of this document.



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