



# SAW Components

## SAW IF filter for base stations

GSM Base Station

**Series/type:** B5233  
**Ordering code:** B39141B5233H810

**Date:** May 29, 2014  
**Version:** 2.1

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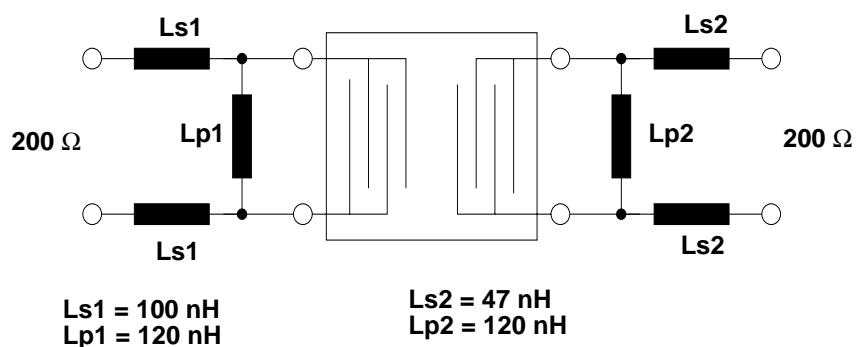
**SAW Components**
**B5233**
**SAW IF filter**
**138.2 MHz**

Data sheet


**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 200\ \Omega$  balanced and matching network  
 Terminating load impedance:  $Z_L = 200\ \Omega$  balanced and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	138.2	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	10.4	12	dB
<b>Passband width</b>	$\alpha_{\text{rel}} \leq 1.2\text{ dB}$				
	$B_{1.2\text{dB}}$	35	41	—	MHz
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 17.6\text{ MHz}$	—	0.7	1.4	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	$f_N \pm 17.6\text{ MHz}$	—	30	100	ns
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
	28.0 ... 64.0 MHz	40	58	—	dB
	212.0 ... 464.0 MHz	40	44	—	dB
	464.0 ... 3000.0 MHz	45	60	—	dB
<b>Absolute group delay (mean)</b>	$\bar{\tau}$				
	$f_N \pm 17.6\text{ MHz}$	0.527	0.537	0.547	$\mu\text{s}$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-75	—	ppm/k

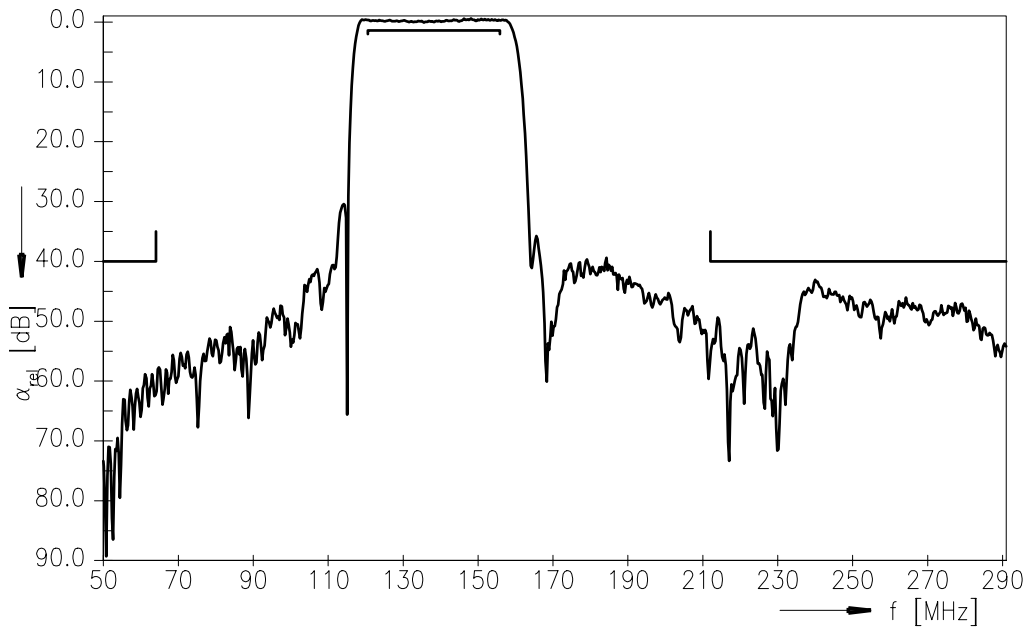
**Matching network to 200  $\Omega$  balanced input - 200  $\Omega$  balanced output**


(Element values depend upon PCB properties and layout)

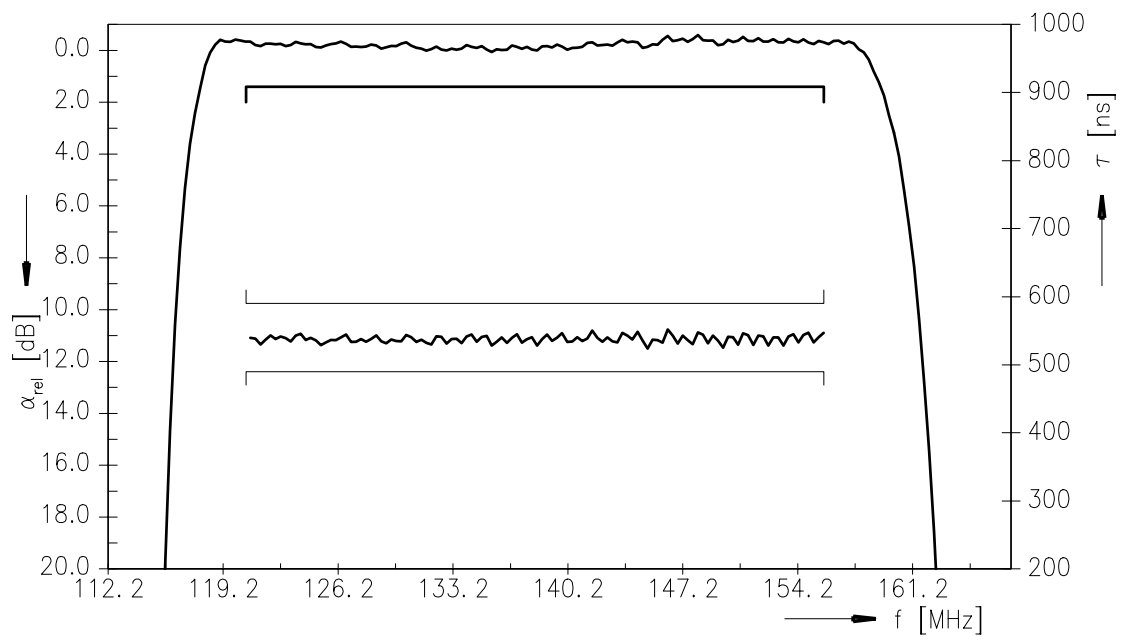
**Maximum ratings**

Operable temperature range	T	-40/+85	$^{\circ}\text{C}$	
Storage temperature range	$T_{\text{sta}}$	-55/+125	$^{\circ}\text{C}$	
DC voltage	$V_{\text{DC}}$	0	V	
Input power at 120.6-155.8 MHz	$P_{\text{IN}}$	20	dBm	CW

Transfer function (S21, wideband, normalised)



Transfer function (S21, narrowband, normalised)



<b>SAW Components</b>	<b>B5233</b>
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## References

<b>Type</b>	B5233
<b>Ordering code</b>	B39141B5233H810
<b>Marking and package</b>	C61157-A7-A103
<b>Packaging</b>	F61074-V8170-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5233_NB.s2p B5233_WB.s2p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
<b>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

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**Published by EPCOS AG**  
**Systems, Acoustics, Waves Business Group**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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