



**THE DATASHEET OF  
B39232-B8307-P810**





# SAW filters for mobile communications

**Series/Type: B8307**

The following products presented in this data sheet are being withdrawn.

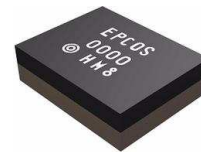
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39232B8307P810	B39242B9498P810	2015-11-20	2016-03-01	2016-06-30

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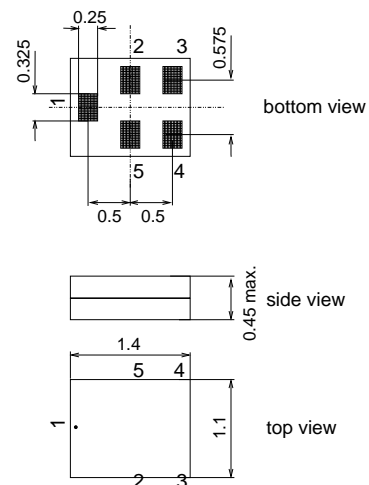
Data sheet

**Application**

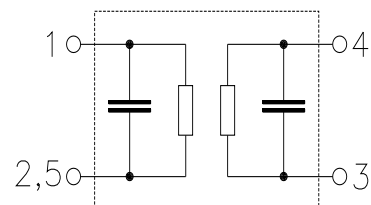
- Low-loss RF filter for mobile telephone TD-SCDMA systems
- Usable passband 50 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 100 Ω


**Features**

- Package size 1.4 x 1.1 mm<sup>2</sup>
- max. Package height 0.45 mm
- RoHS compatible
- Approx. weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (ESD)
- **M**oisture **S**ensitive **L**evel 3


**Pin configuration**

- 1 Input unbalanced
- 3,4 Output balanced
- 2,5 Case ground



**SAW Components**
**B8307**
**SAW Rx Filter**
**2345.0 MHz**

Data sheet


**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 100\ \Omega$  (balanced)

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	2345.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1.6	2.4	dB
2320.0 ... 2370.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.6	1.4	dB
2320.0 ... 2370.0 MHz					
<b>Input VSWR</b>		—	1.8	2.1	
2320.0 ... 2370.0 MHz					
<b>Output VSWR</b>		—	1.9	2.2	
2320.0 ... 2370.0 MHz					
<b>CMRR</b> ( $ S_{21}-S_{31}  /  S_{21}+S_{31} $ )		20	25	—	dB
2320.0 ... 2370.0 MHz					
<b>Attenuation</b>	$\alpha$	35	50	—	dB
0.1 ... 2215.0 MHz					
2215.0 ... 2240.0 MHz		35	41	—	dB
2240.0 ... 2280.0 MHz					
2412.0 ... 2472.0 MHz	$\alpha_{\text{WLAN}}^{1)}$	22	27	—	dB
2410.0 ... 2485.0 MHz					
2485.0 ... 6000.0 MHz		25	36	—	dB

**Annotation for characteristics section**

1) Attenuation of WLAN signal ("Powertransferfunction",  $\alpha_{\text{WLAN}}$ ) is determined by

$$\int_{-\infty}^{\infty} |S_{\text{ds21}}(f)H_{\text{RECT}}(f - f_{\text{Carrier}})|^2 df$$

$f_{\text{Carrier}}$  according to IEEE802.11 n (e.g. for WLAN,  $f_{\text{Carrier}}$  ranges from 2412 MHz (lowest channel) to 2472 MHz (highest channel)).  $H_{\text{RECT}}(f)$  is the transfer function of a rectangular shaped filter (BW=18MHz) with the following normalization:

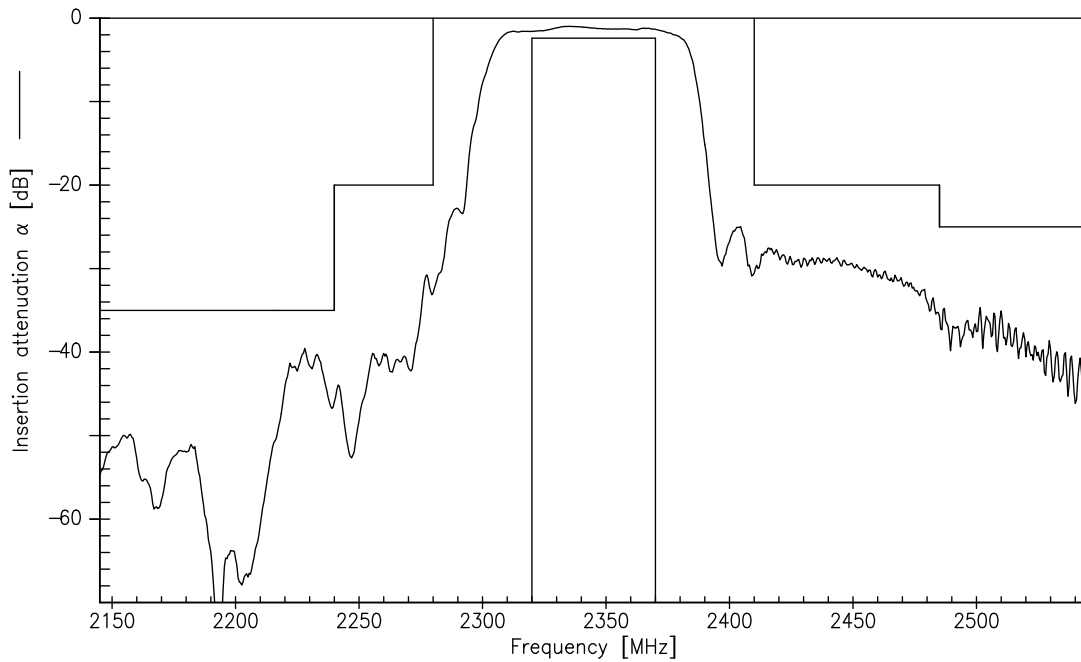
$$\int_{-\infty}^{\infty} |H_{\text{RECT}}(f)|^2 df = 1$$

**Maximum ratings**

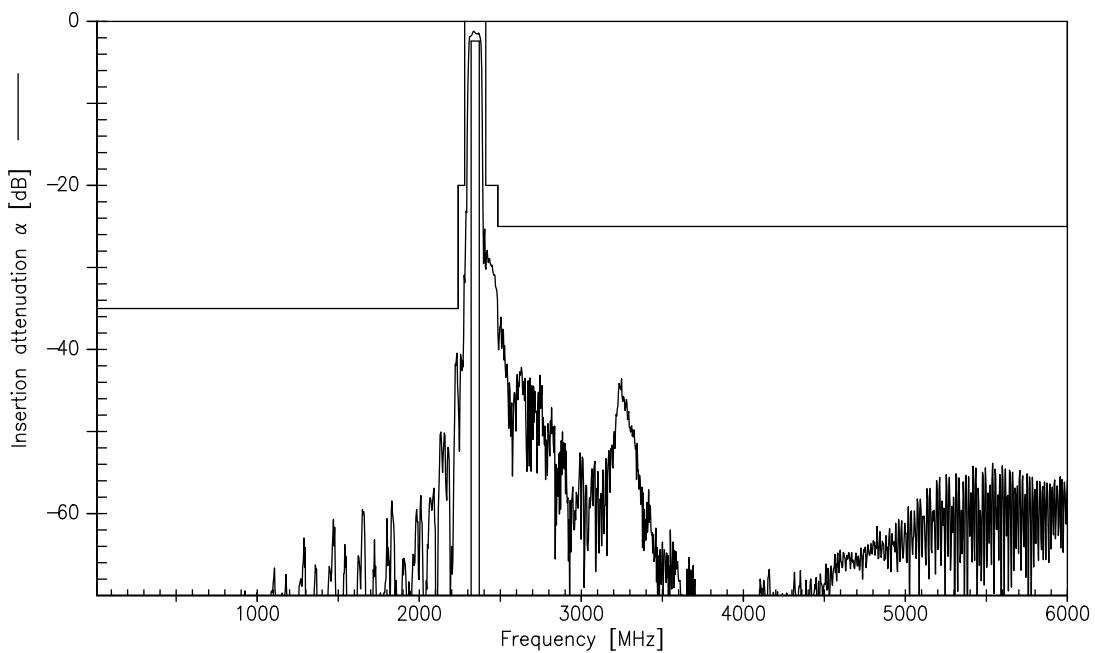
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input Power at 2320.0...2370.0 MHz	P <sub>IN</sub>	11	dBm	effective power in the on-state duty cycle 4:8

1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

Transfer function (narrowband)



Transfer function (wideband)

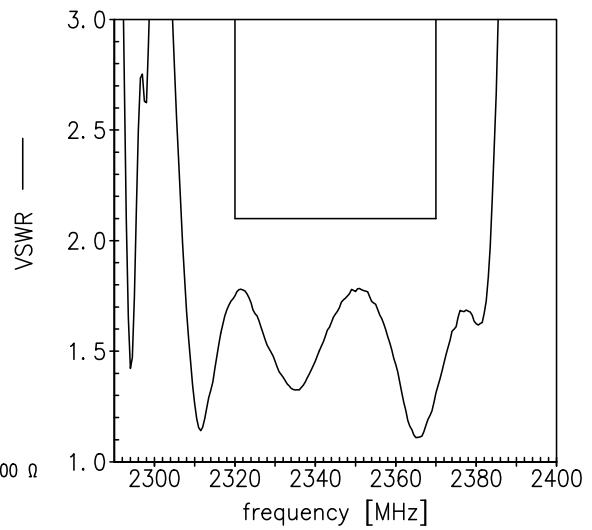
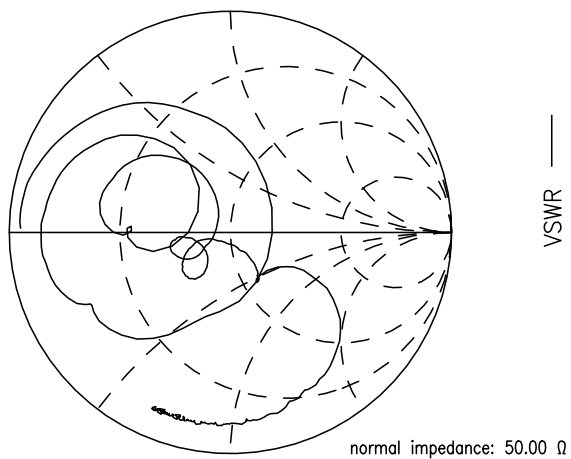


Data sheet

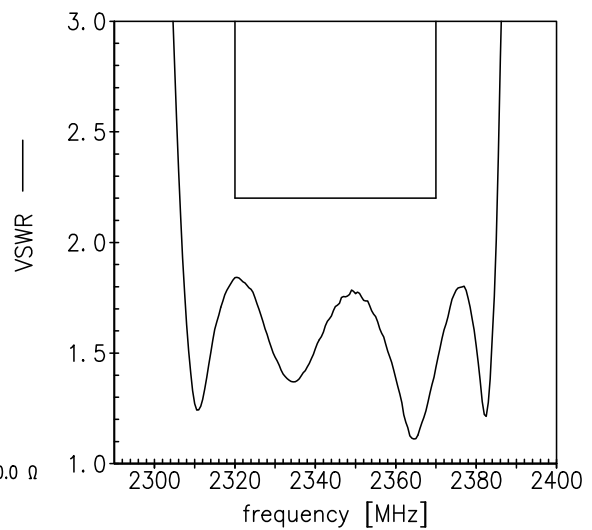
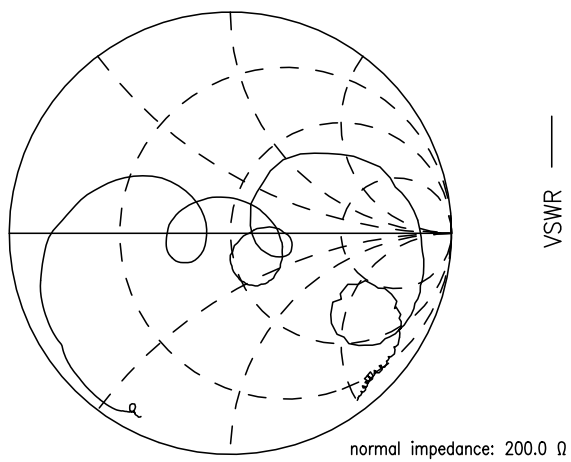


Smith charts

S<sub>11</sub> function



S<sub>22</sub> function



<b>SAW Components</b>	<b>B8307</b>
<b>SAW Rx Filter</b>	<b>2345.0 MHz</b>

Data sheet



<b>Type</b>	B8307
<b>Ordering code</b>	B39232B8307P810
<b>Marking and package</b>	C61157-A8-A14
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8307_NB.s3p, B8307_WB.s3p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."
<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>

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