



# SAW Components

## SAW Rx Filter

GSM 900

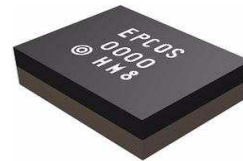
<b>Series/type:</b>	<b>B9858</b>
<b>Ordering code:</b>	<b>B39941B9858P810</b>
<b>Date:</b>	<b>November 20, 2012</b>
<b>Version:</b>	<b>2.0</b>

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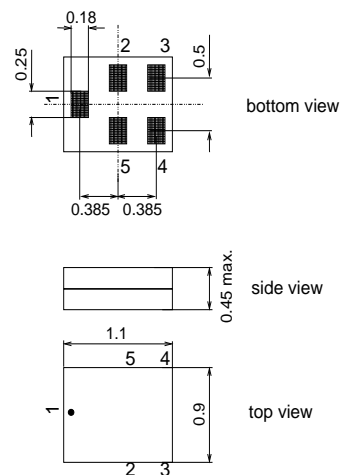
EPCOS AG is a TDK Group Company.

**Application**

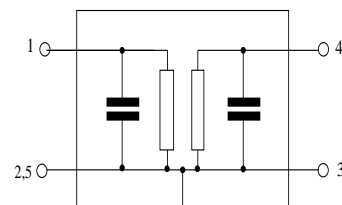
- Low loss RF filter for mobile telephone GSM900 systems, receive path (Rx)
- Usable passband 35 MHz
- Unbalanced to unbalanced operation
- Low amplitude ripple
- Suitable for GPRS class 1 to 12


**Features**

- Package size 1.1x0.9 mm<sup>2</sup>
- Max. Package height 0.45 mm
- RoHS compatible
- Approx. weight 0.001g
- 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
- 4 Output, unbalanced
- 2 To be grounded
- 3,5 Case ground



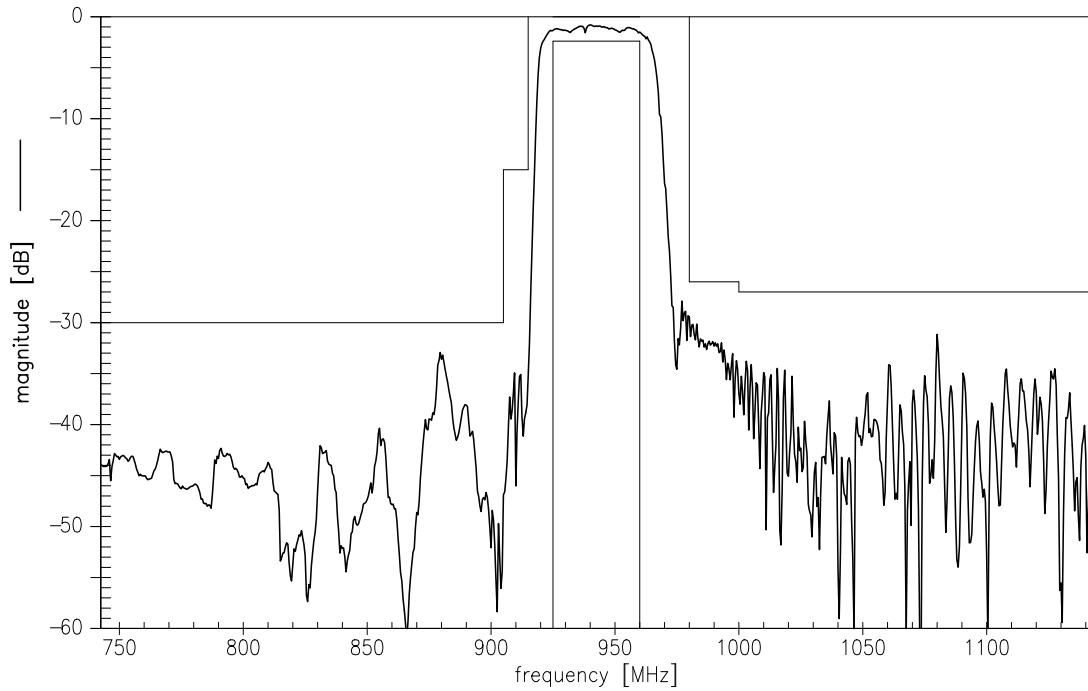
**Data Sheet**

**Characteristics of Filter**

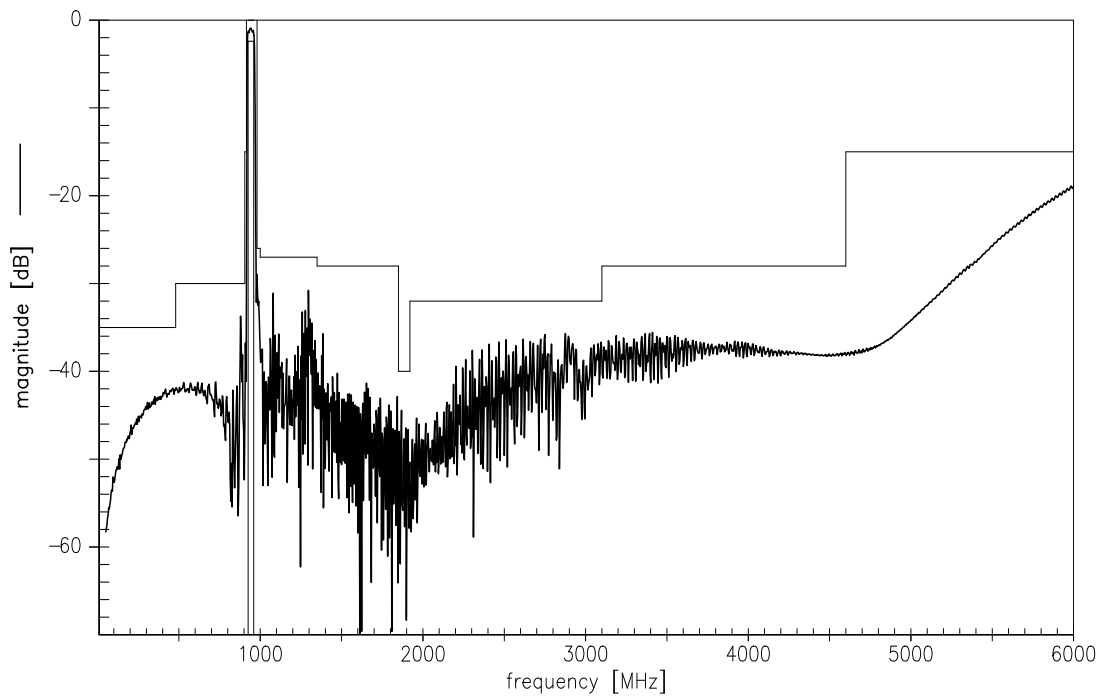
Temperature range for specification:  $T = -20\text{ }^{\circ}\text{C to }+85\text{ }^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_c$	—	942.5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1.6	2.4	dB
925.0 ... 960.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.6	1.6	dB
925.0 ... 960.0 MHz					
<b>Input VSWR</b>		—	1.9	2.1	
925.0 ... 960.0 MHz					
<b>Output VSWR</b>		—	2.0	2.1	
925.0 ... 960.0 MHz					
<b>Attenuation</b>	$\alpha$				
10.0 ... 480.0 MHz		38	41	—	dB
480.0 ... 905.0 MHz		30	33	—	dB
905.0 ... 915.0 MHz		15	23	—	dB
980.0 ... 1000.0 MHz		26	29	—	dB
1000.0 ... 1350.0 MHz		27	30	—	dB
1350.0 ... 1850.0 MHz		32	35	—	dB
1850.0 ... 1920.0 MHz		41	44	—	dB
1920.0 ... 3100.0 MHz		32	35	—	dB
3100.0 ... 4600.0 MHz		31	35	—	dB
4600.0 ... 6000.0 MHz		15	18	—	dB

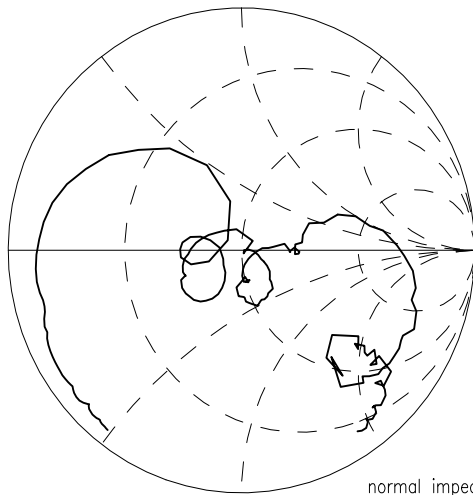
Transfer function (narrowband)



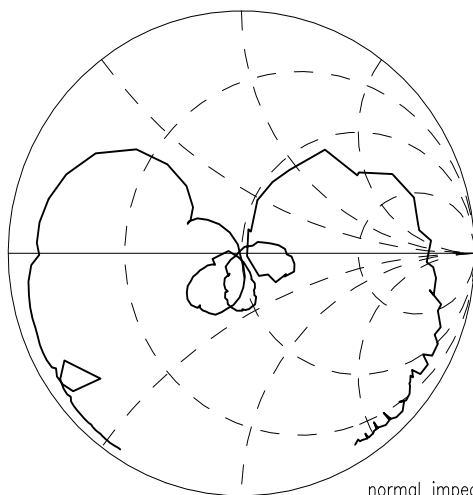
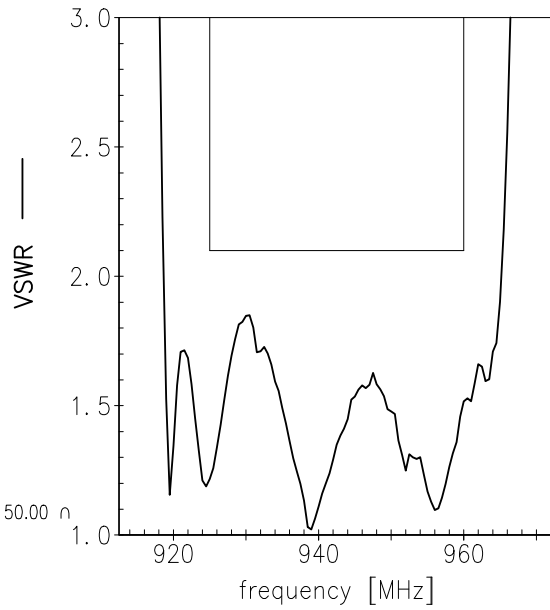
Transfer function (wideband)



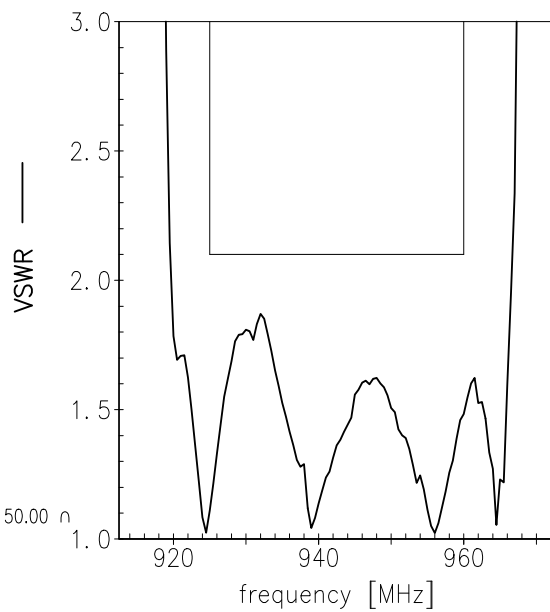
Please read *cautions and warnings* and *important notes* at the end of this document.



normal impedance: 50.00 Ω



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<b>SAW Components</b>	<b>B9858</b>
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<b>SAW Rx Filter</b>	<b>942.5 MHz</b>
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Data Sheet

**SMD**

**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>	100 <sup>1)</sup>	V	machine model, 10 pulses
Input Power at				
GSM850, GSM900	P <sub>IN</sub>	15	dBm	effective power in the on-state, duty cycle 4:8
GSM1800, GSM1900	P <sub>IN</sub>	15	dBm	
Tx bands				

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

<b>SAW Components</b>	<b>B9858</b>
<b>SAW Rx Filter</b>	<b>942.5 MHz</b>
Data Sheet	

## References

<b>Type</b>	B9858
<b>Ordering code</b>	B39941B9858P810
<b>Marking and package</b>	C61157-Z8-C29
<b>Packaging</b>	F61074-V8255-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9858_NB.s2p B9858_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 8 <sup>th</sup> , 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>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<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.

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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

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7 November 20, 2012

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