



# SAW Components

## SAW Rx filter

TETRA

<b>Series/type:</b>	<b>B5054</b>
<b>Ordering code:</b>	<b>B39461B5054Z810</b>
<b>Date:</b>	<b>April 01, 2008</b>
<b>Version:</b>	<b>2.1</b>

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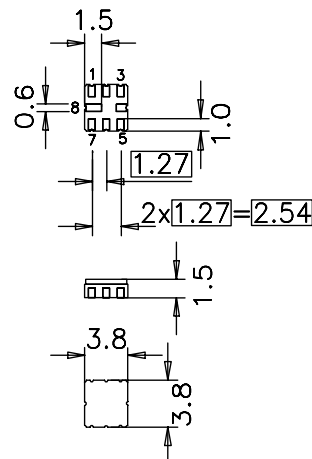
Data sheet


**Application**

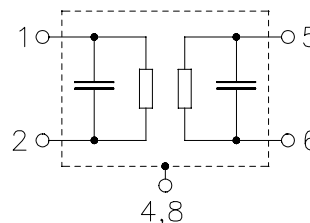
- Low-loss IF filter for base station TETRA systems, receive path (Rx)
- Unbalanced to unbalanced or unbalanced to balanced operation
- Low amplitude ripple
- No external matching required
- Usable passband 10 MHz


**Features**

- Package size 3.8 x 3.8 x 1.35 mm<sup>3</sup>
- Package code QCC8B
- RoHS compatible
- Approximate weight 0.07 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


**Pin configuration**

- 5 Input
- 1 Output / Output balanced
- 2 Output ground / Output balanced
- 3,6,7 To be grounded
- 4,8 Case ground



Data sheet


**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+70\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	455.00	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
450.0 ... 460.0 MHz		—	2.2	3.0 <sup>1)</sup>	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
450.0 ... 460.0 MHz		—	0.9	2.0 <sup>2)</sup>	dB
<b>Return Loss (VSWR)</b>					
450.0 ... 460.0 MHz		—	1.8	2.1	dB
<b>Attenuation</b>	$\alpha$				
50.0 ... 326.0 MHz		27	56	—	dB
326.0 ... 445.0 MHz		12	18	—	dB
465.0 ... 530.0 MHz		6	14	—	dB
530.0 ... 611.0 MHz		27	50	—	dB
611.0 ... 623.0 MHz		45	49	—	dB
623.0 ... 1706.0 MHz		27	32	—	dB
1706.0 ... 2100.0 MHz		27	30	—	dB

<sup>1)</sup> 2.5dB max at +15°C to +35°

<sup>2)</sup> 1.5dB max at +15°C to +35°

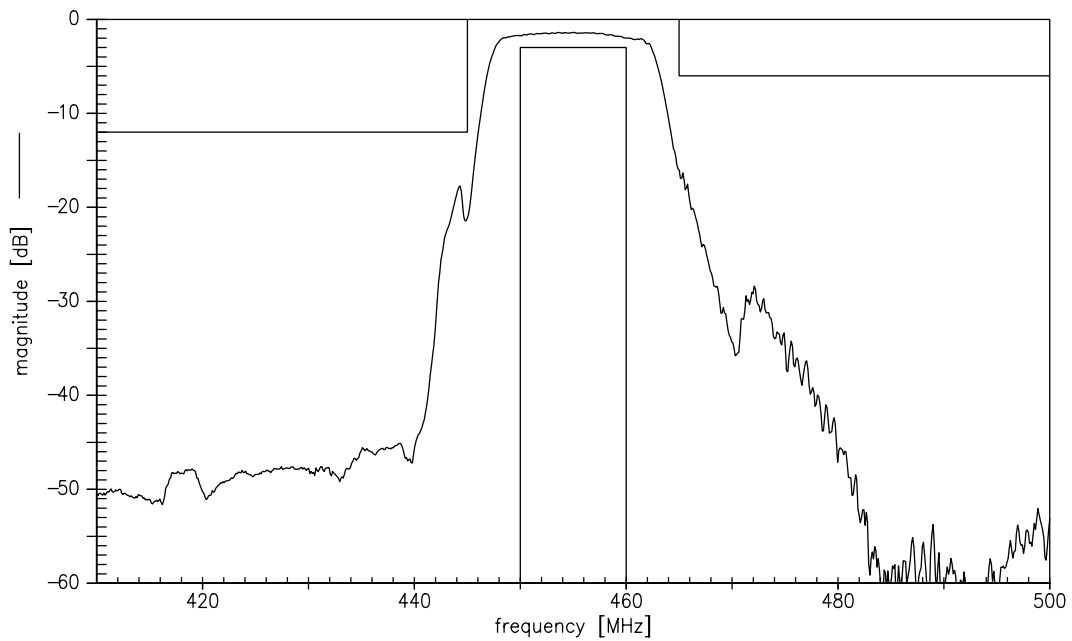

**Maximum ratings**

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, 1 pulse
Input power at 450.0 ... 460.0MHz	P <sub>IN</sub>	15	dBm	Continuous Wave

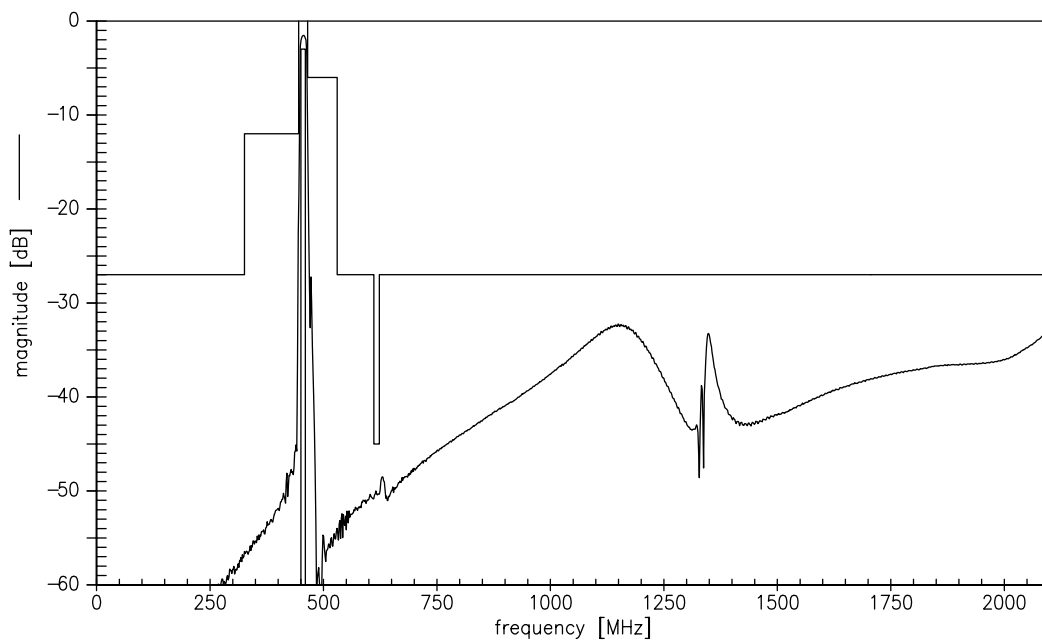
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)

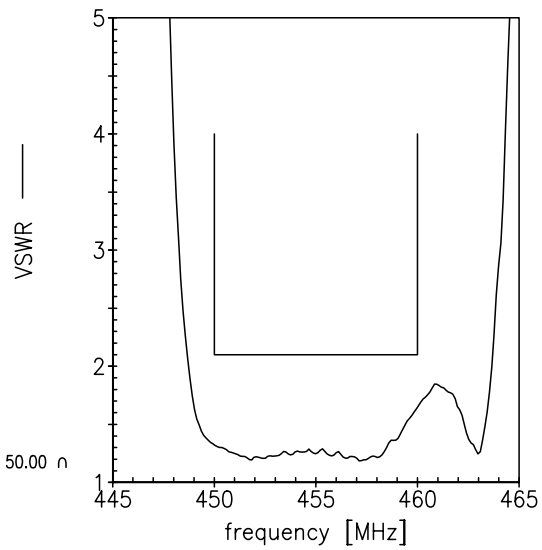
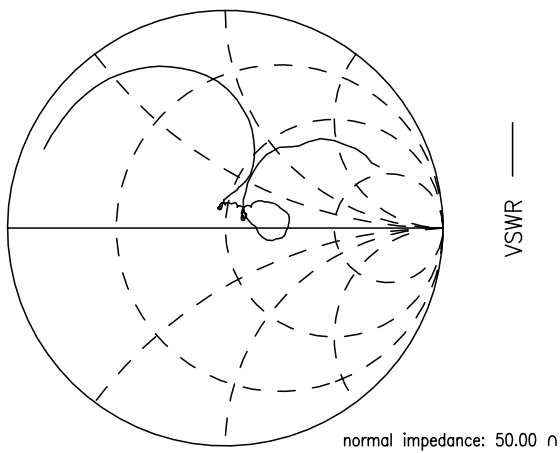


Data sheet

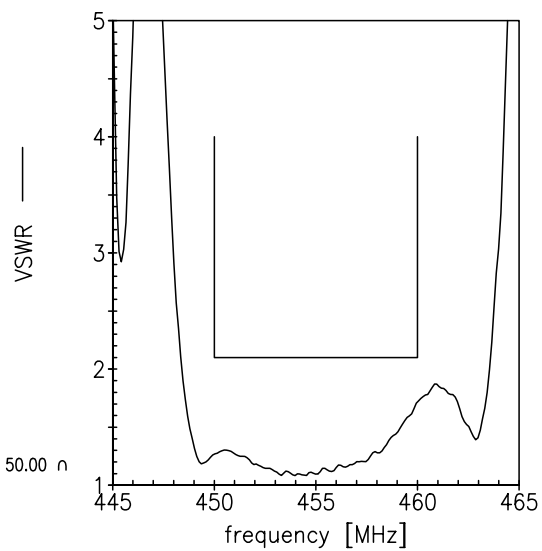
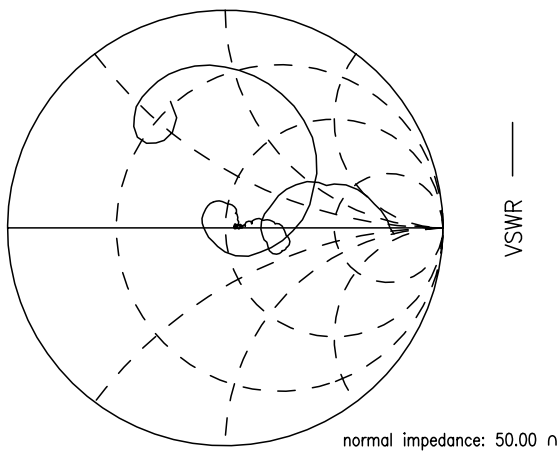


Smith charts

S<sub>11</sub> function



S<sub>22</sub> function




**References**

<b>Type</b>	B5054
<b>Ordering code</b>	B39461B5054Z810
<b>Marking and package</b>	C61157-A7-A46
<b>Packaging</b>	F61074-V8167-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5054_NB.s2p B5054_WB.s2p
<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."

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**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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