



# SAW Components

## SAW Rx Filter

TETRA

<b>Series/type:</b>	<b>B5048</b>
<b>Ordering code:</b>	<b>B39421B5048Z810</b>
<b>Date:</b>	<b>December 20, 2006</b>
<b>Version:</b>	<b>2.0</b>

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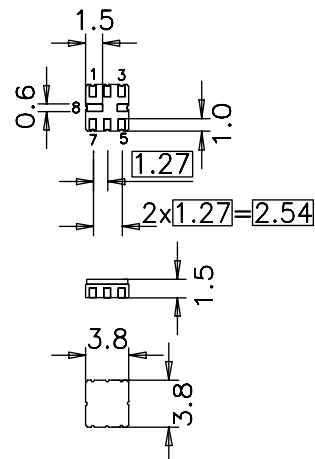
**Data Sheet**

**Application**

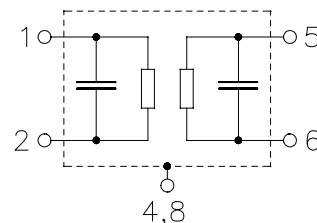
- Low-loss filter for TETRA
- Usable passband 20 MHz
- Unbalanced to balanced operation
- No matching required
- Filter impedance 50 Ω


**Features**

- Package size 3.8 x 3.8 x 1.5 mm<sup>3</sup>
- Package code QCC8B
- Approx. weight 0.07 g
- Ceramic package for **Surface Mount Technology (SMT)**
- RoHS compliant
- Ni, gold-plated
- **Electrostatic Sensitive Device (ESD)**


**Pin configuration**

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



**Data Sheet**

**Characteristics**

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

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	420.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3.2	4.5 <sup>1)</sup>	dB
410.0 ... 430.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.9	2.5 <sup>2)</sup>	dB
410.0 ... 430.0 MHz					
<b>Input VSWR</b>		—	2.0	2.3	
410.0 ... 430.0 MHz					
<b>Output VSWR</b>		—	2.1	2.3	
410.0 ... 430.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.0 ... 330.0 MHz		37	42	—	dB
330.0 ... 355.0 MHz		31	34	—	dB
355.0 ... 400.0 MHz		13	17	—	dB
440.0 ... 474.0 MHz		15	18	—	dB
474.0 ... 491.0 MHz		26	32	—	dB
491.0 ... 572.0 MHz		28	33	—	dB
572.0 ... 593.0 MHz		36	40	—	dB
593.0 ... 1392.0 MHz		28	32	—	dB
1392.0 ... 1616.0 MHz		24	28	—	dB
1616.0 ... 2046.0 MHz		18	23	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-70	—	ppm/K

<sup>1)</sup> 3.5 dB at 25 °C.

<sup>2)</sup> 1.5 dB at 25 °C.

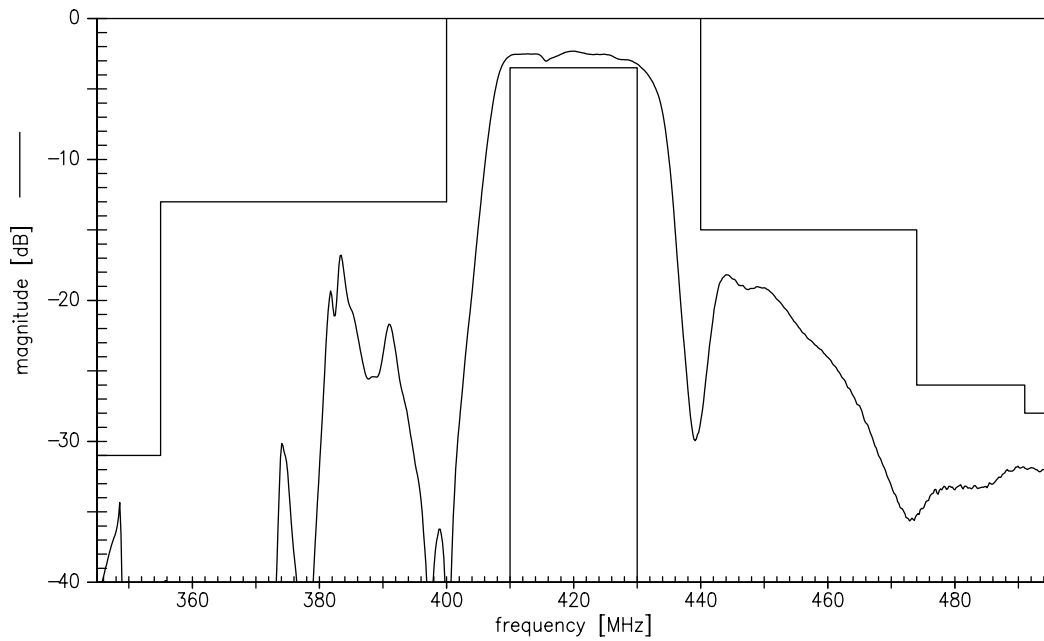

**Maximum ratings**

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 410.0 ... 430.0 MHz	P <sub>IN</sub>	15	dBm	continuous wave

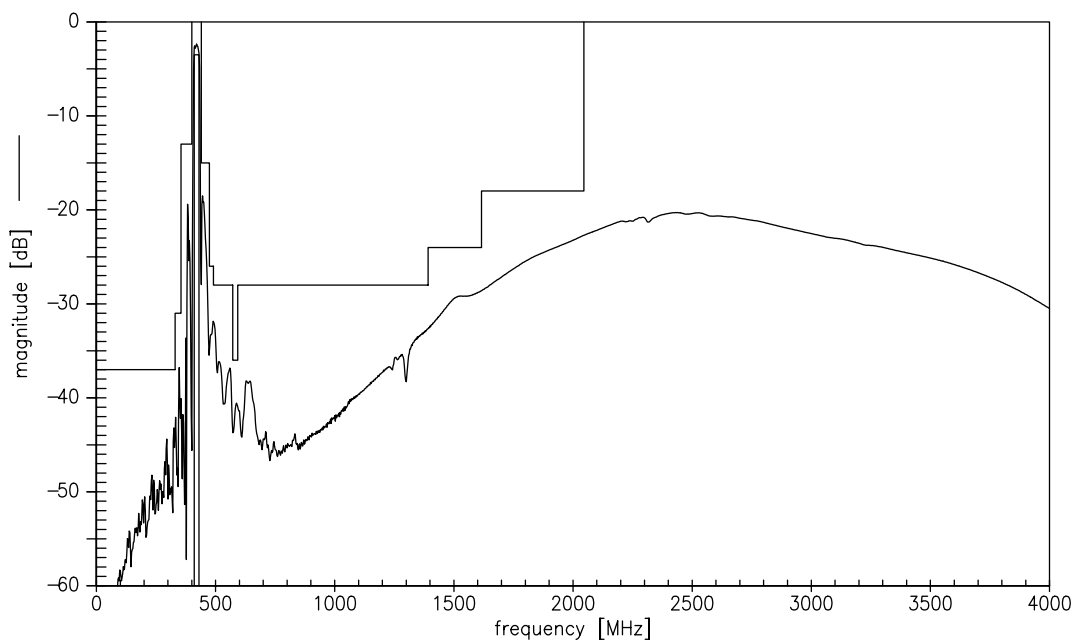
<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function (narrowband)



Transfer function (wideband)

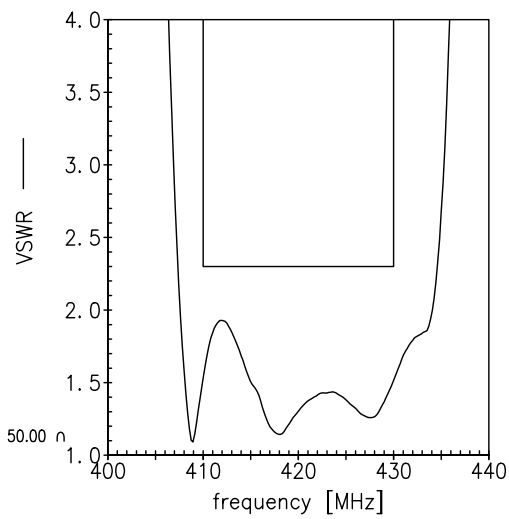
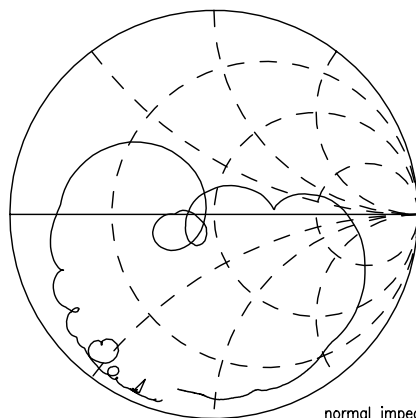


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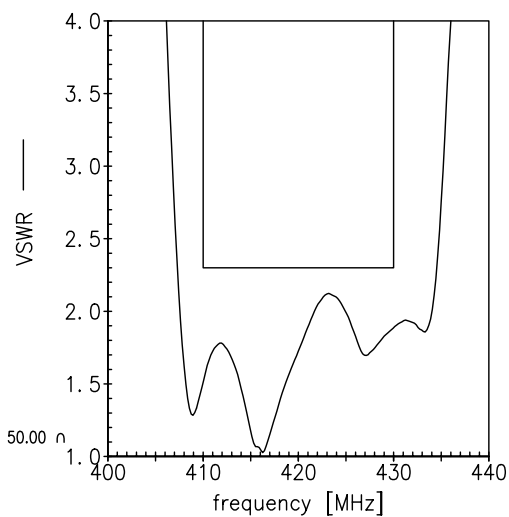
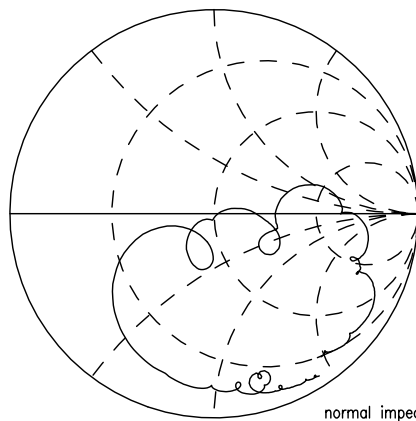


Smith chart

$S_{11}$  function



$S_{22}$  function



**SAW Components**
**B5048**
**SAW Rx Filter**
**420.0 MHz**

Data Sheet


**References**

<b>Type</b>	B5048
<b>Ordering code</b>	B39421B5048Z810
<b>Marking and package</b>	C61157-A7-A46
<b>Packaging</b>	F61074-V8167-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5048_NB.s3p B5048_WB.s3p
<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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