



SAW Components

SAW Rx Filter

TETRA

Series/type:	B5047
Ordering code:	B39391B5047Z810
Date:	December 12, 2006
Version:	2.0



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B5047

SAW Rx Filter

390.0 MHz

Data Sheet



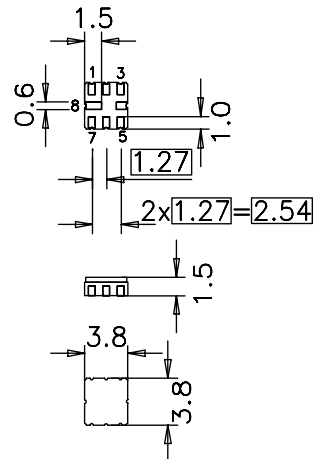
Application

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



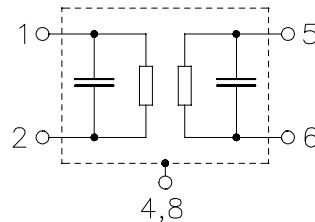
Features

- Package size 3.8 x 3.8 x 1.5 mm³
- 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





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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.	
Center frequency	f_C	—	390.0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
380.0 ... 400.0 MHz		—	3.1	5.0 ¹⁾	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
380.0 ... 400.0 MHz		—	1.1	3.0 ²⁾	dB
Input VSWR					
380.0 ... 400.0 MHz		—	2.0	2.3	
Output VSWR					
380.0 ... 400.0 MHz		—	2.1	2.3	
Attenuation	α				
0.0 ... 150.0 MHz		35	54	—	dB
150.0 ... 346.0 MHz		30	34	—	dB
346.0 ... 370.0 MHz		13	17	—	dB
410.0 ... 440.0 MHz		14	17	—	dB
440.0 ... 460.0 MHz		20	31	—	dB
460.0 ... 542.0 MHz		28	32	—	dB
542.0 ... 563.0 MHz		35	40	—	dB
563.0 ... 1300.0 MHz		30	34	—	dB
1300.0 ... 1526.0 MHz		25	30	—	dB
1526.0 ... 2600.0 MHz		16	20	—	dB
2600.0 ... 4000.0 MHz		5	28	—	dB
Temperature coefficient of frequency	TC_f	—	-70	—	ppm/K

¹⁾ 3.5 dB at 25 °C.

²⁾ 1.5 dB at 25 °C.

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**Maximum ratings**

Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T _{stg}	-40 / +85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 10 pulses
Input Power at 380.0 ... 400.0 MHz	P _{IN}	15	dBm	continuous wave

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



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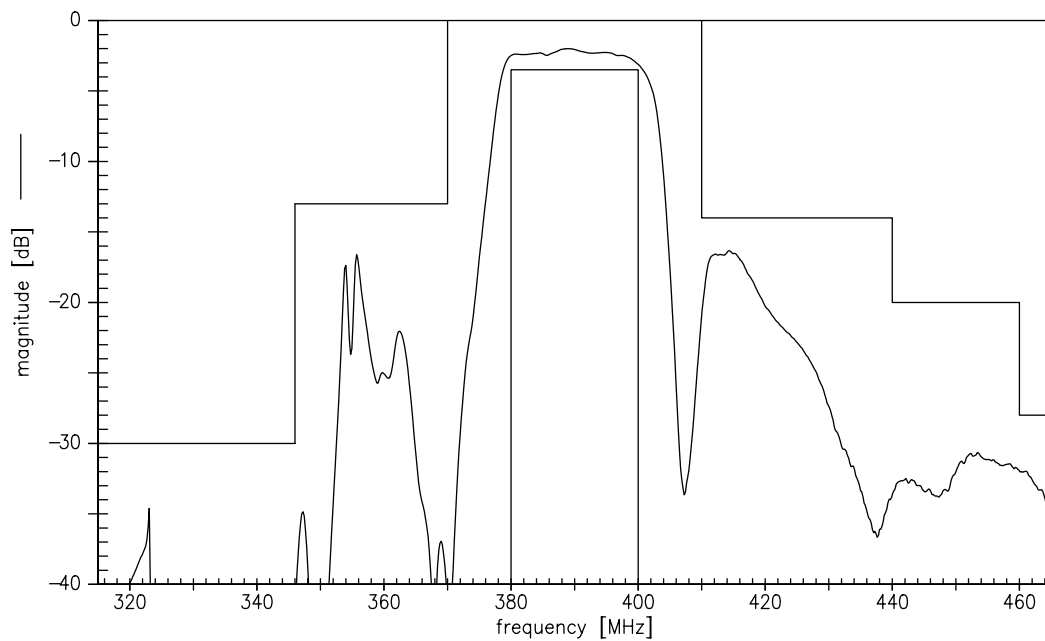
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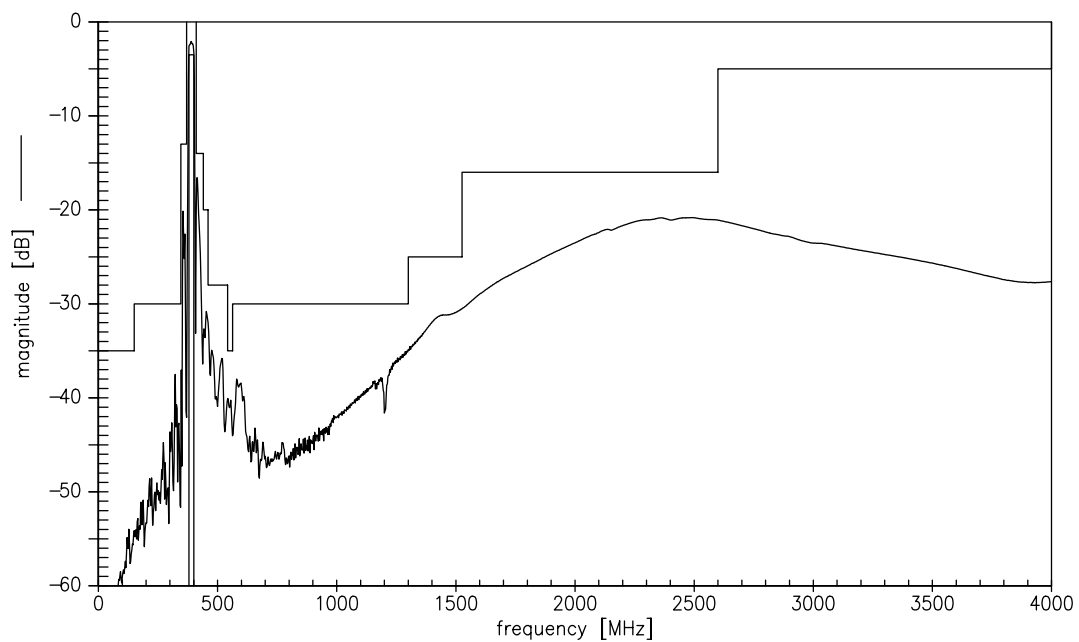
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Transfer function (narrowband)



Transfer function (wideband)



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



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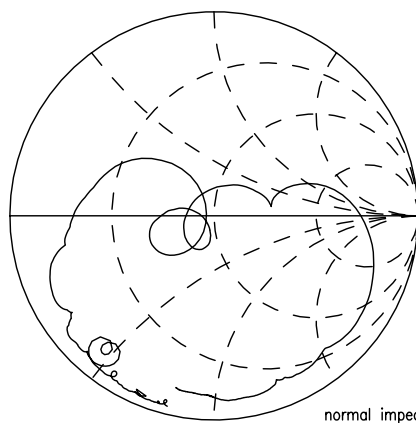
390.0 MHz

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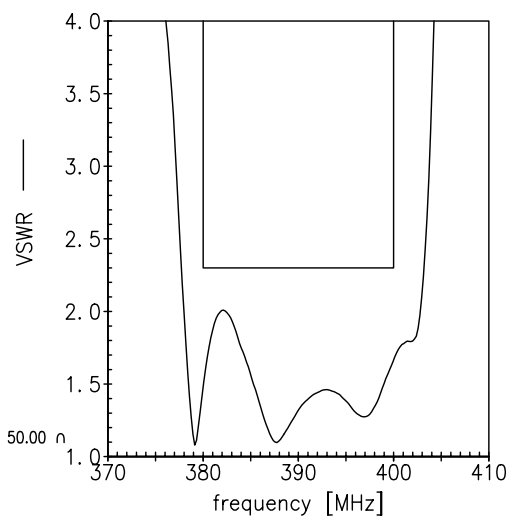


Smith chart

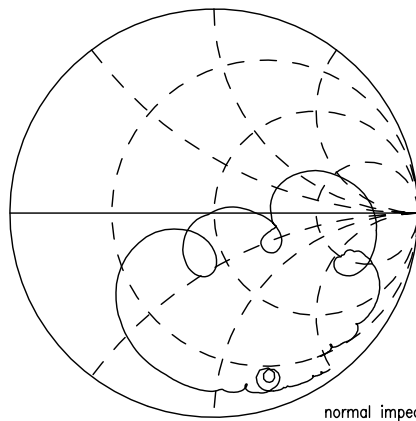
S_{11} function



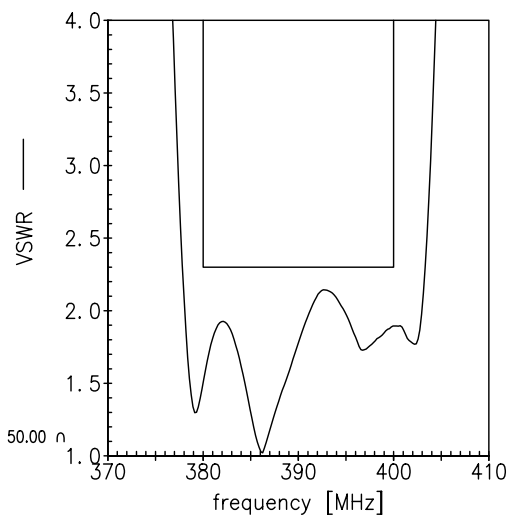
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



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**References**

Type	B5047
Ordering code	B39391B5047Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B5047_NB.s3p B5047_WB.s3p
Soldering profile	S_6001
RoHS compatible	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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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



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