



SAW Components

SAW Rx Filter

TETRA

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



Data Sheet



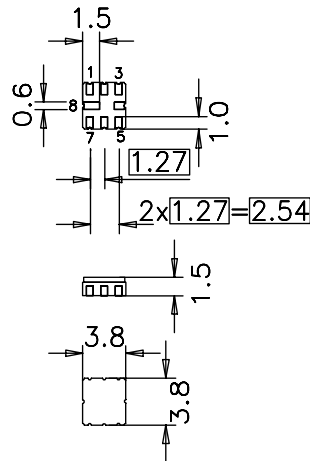
Application

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



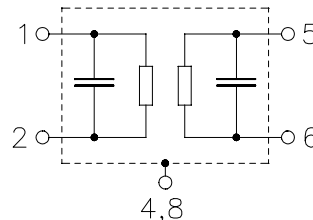
Features

- 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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420.0 MHz

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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	—	420.0	—	MHz
Maximum insertion attenuation	α_{\max}	—	3.2	4.5 ¹⁾	dB
410.0 ... 430.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.9	2.5 ²⁾	dB
410.0 ... 430.0 MHz					
Input VSWR		—	2.0	2.3	
410.0 ... 430.0 MHz					
Output VSWR		—	2.1	2.3	
410.0 ... 430.0 MHz					
Attenuation	α				
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
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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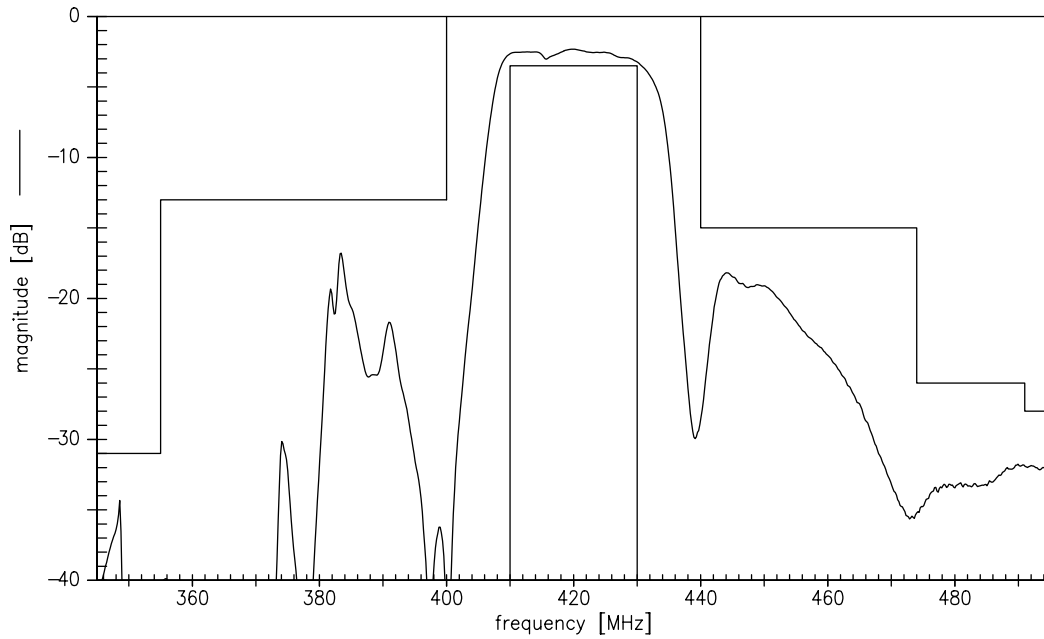
Maximum ratings

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 410.0 ... 430.0 MHz	P _{IN}	15	dBm	continuous wave

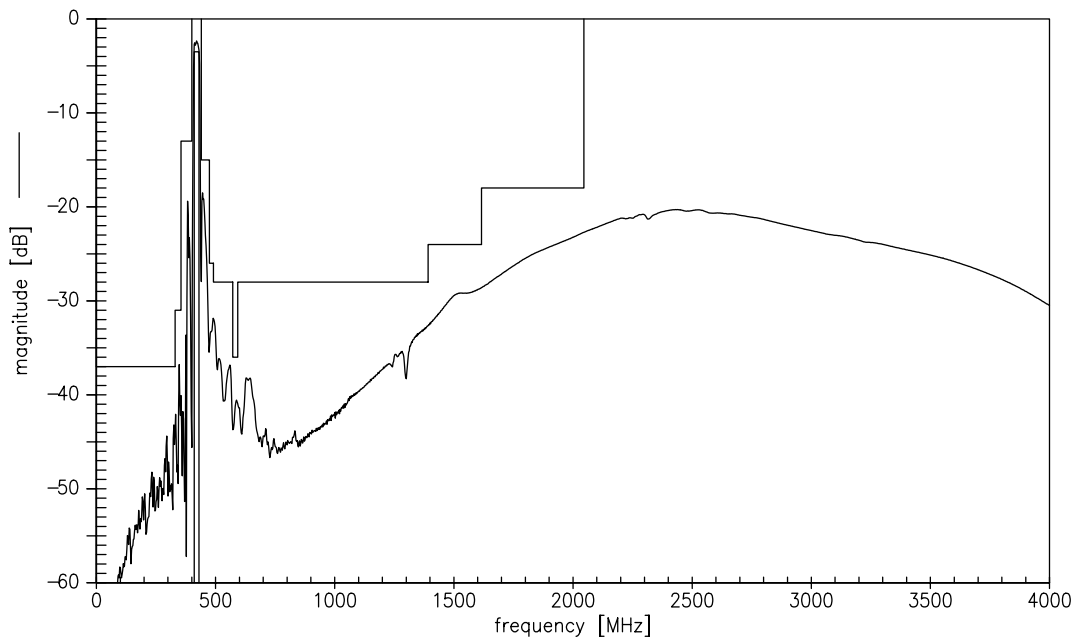
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function (narrowband)



Transfer function (wideband)



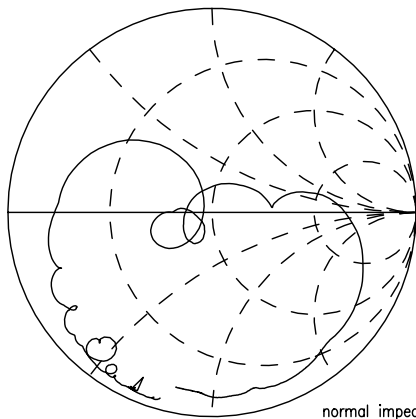


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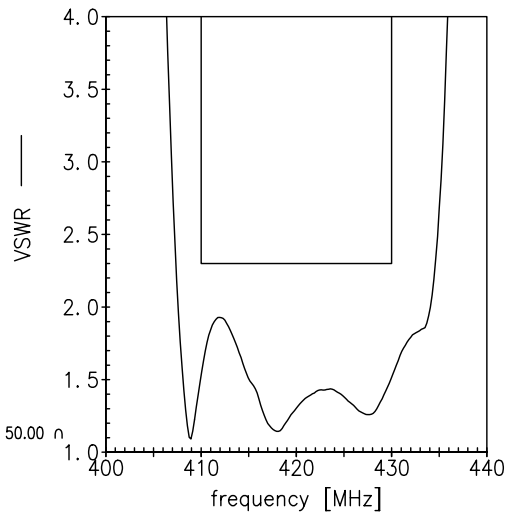


Smith chart

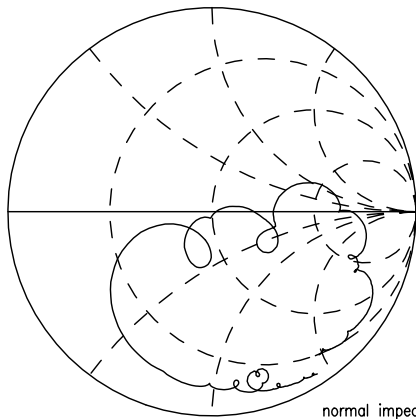
S_{11} function



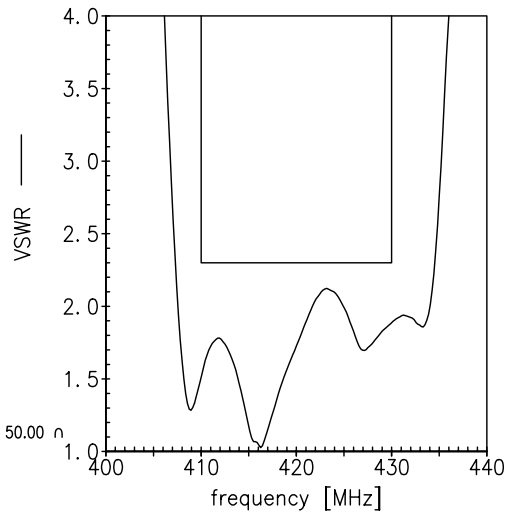
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω





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References

Type	B5048
Ordering code	B39421B5048Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B5048_NB.s3p B5048_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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