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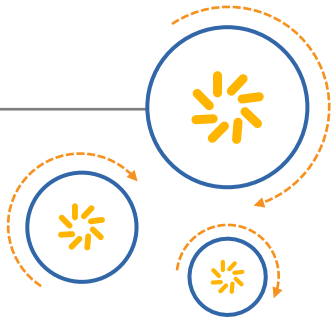

SAW Components

SAW Rx Filter

TETRA

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

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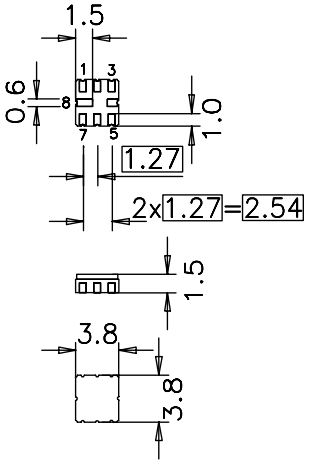
Data Sheet SMD

Application

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

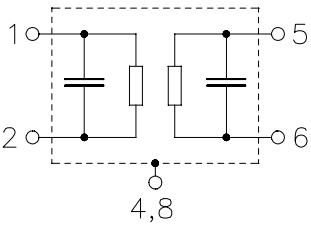
Features

- Package size 3.8 x 3.8 x 1.5 mm³
- Package code QCC8B
- Approx. weight 0.07 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- RoHS compliant
- Ni, gold-plated
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



Data Sheet SMD

Characteristics

Temperature range for specification: T = -30 to +70˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω (balanced)

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	420.0	—	MHz
Maximum insertion attenuation	α_{max}				
410.0 ... 430.0 MHz		—	3.2	4.5 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
410.0 ... 430.0 MHz		—	0.9	2.5 [2]	dB
Input VSWR					
410.0 ... 430.0 MHz		—	2.0	2.3	
Output VSWR					
410.0 ... 430.0 MHz		—	2.1	2.3	
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

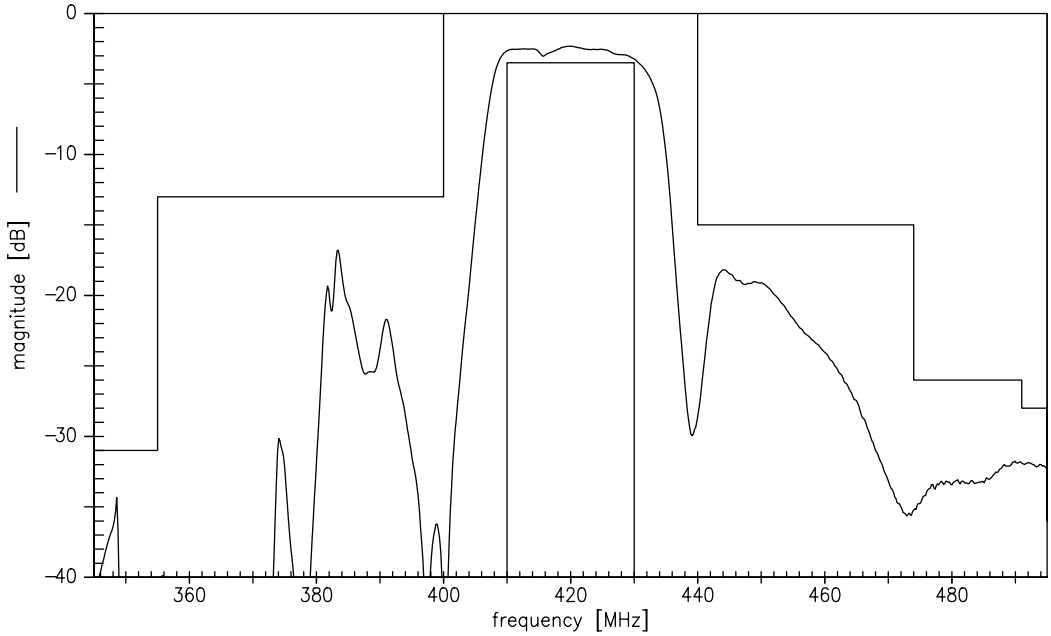
[1] 3.5 dB at 25 ˚C.
[2] 1.5 dB at 25 ˚C.

Maximum ratings

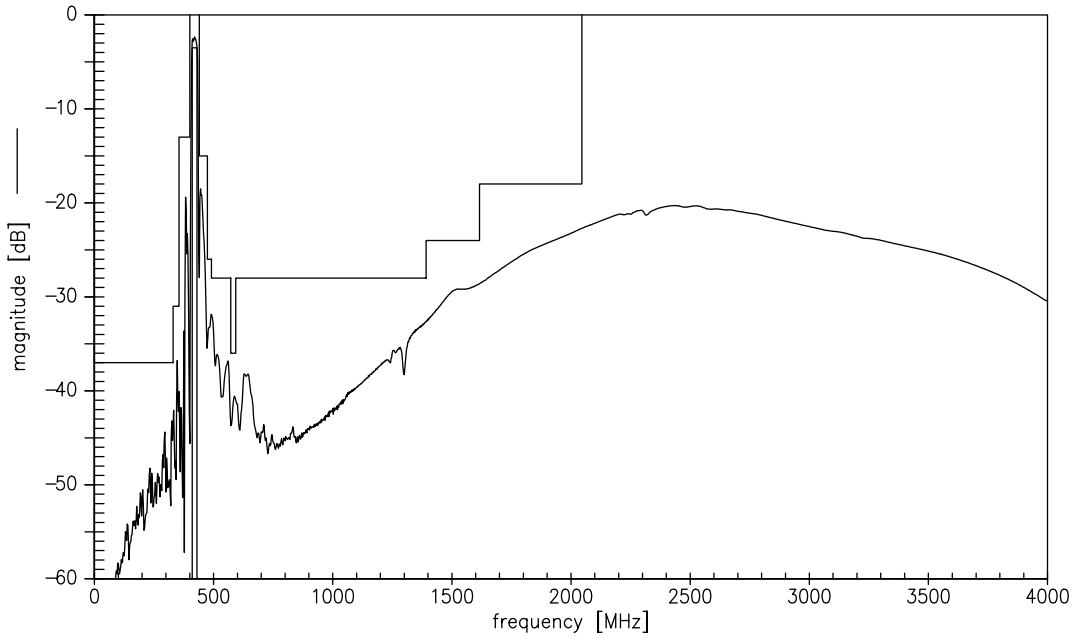
Operable temperature range	T	-40 / +85	˚C	
Storage temperature range	T_{stg}	-40 / +85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	machine model, 10 pulses
Input Power at 410.0 ... 430.0 MHz	P_{IN}	15	dBm	continuous wave

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

Transfer function (narrowband)

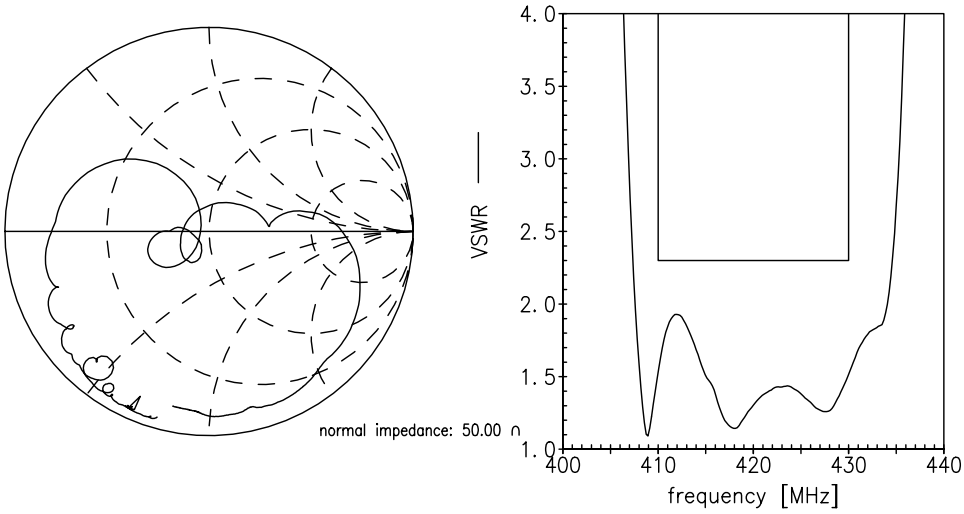


Transfer function (wideband)

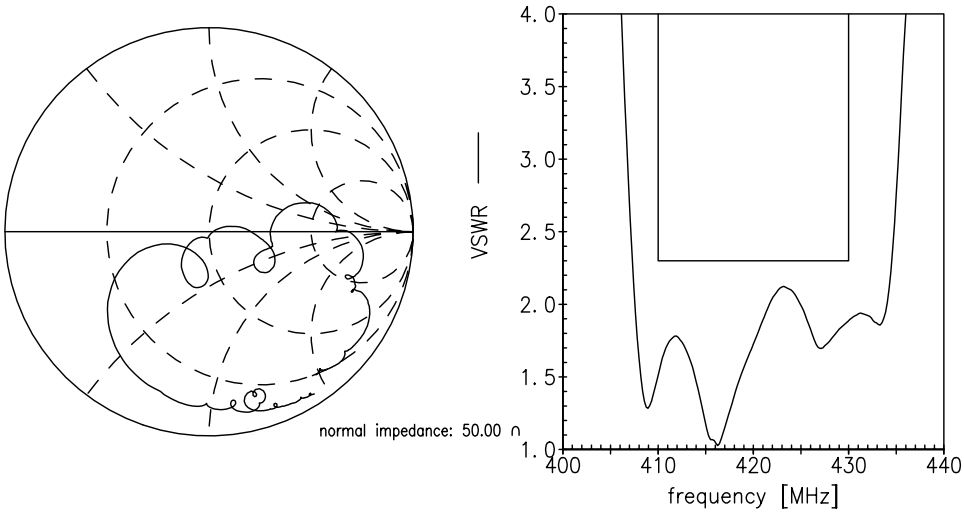


Smith chart

S_{11} function



S_{22} function



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."

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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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