

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW Rx filter

TETRA

Series/type: B5053
Ordering code: B39421B5053Z810

Date: January 21, 2008
Version: 2.0

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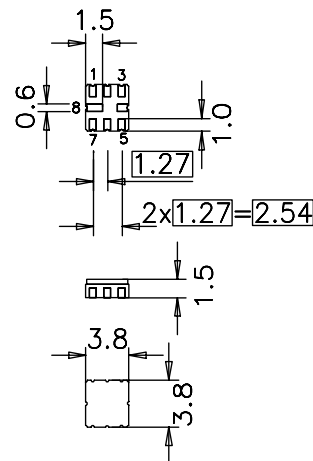
Data sheet


Application

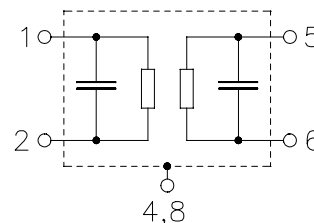
- Low-loss IF filter for base station
TETRA systems, receive path (Rx)
- Low amplitude ripple
- Unbalanced to unbalanced or unbalanced to balanced operation
- No external matching required
- Usable passband 10 MHz

Features

- Package size 3.8 x 3.8 x 1.5 mm³
- 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.	
Center frequency	f_C	—	415.00	—	MHz
Maximum insertion attenuation	α_{\max}				
410.0 ... 420.0	MHz	—	2.4	3.0 ¹⁾	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
410.0 ... 420.0	MHz	—	0.8	2.0 ²⁾	dB
Return loss (VSWR)					
410.0 ... 420.0	MHz	—	2.1	2.4	
Attenuation	α				
50.0 ... 355.0	MHz	37	49	—	dB
355.0 ... 405.0	MHz	12	25	—	dB
425.0 ... 464.0	MHz	8	13	—	dB
464.0 ... 491.0	MHz	26	49	—	dB
491.0 ... 572.0	MHz	37	46	—	dB
572.0 ... 593.0	MHz	44	46	—	dB
593.0 ... 1392.0	MHz	30	32	—	dB
1392.0 ... 1616.0	MHz	27	31	—	dB
1616.0 ... 2046.0	MHz	15	22	—	dB

1) 2.7dB max at +15 °C to +35 °C

2) 1.5dB max at +15 °C to +35 °C

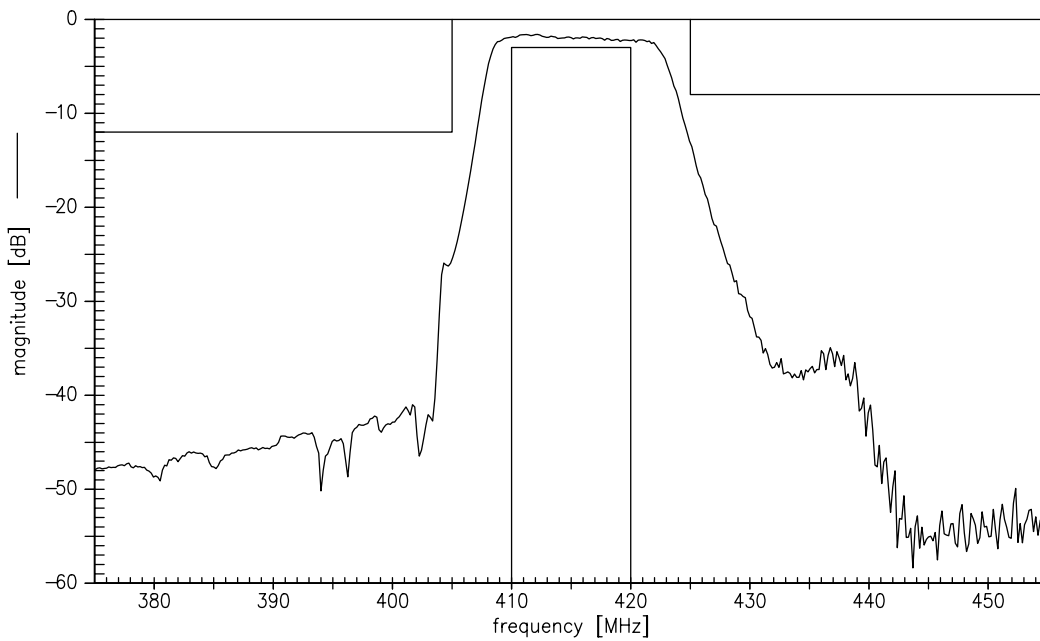

Maximum ratings

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 ... 420.0MHz	P _{IN}	15	dBm	Continuous Wave

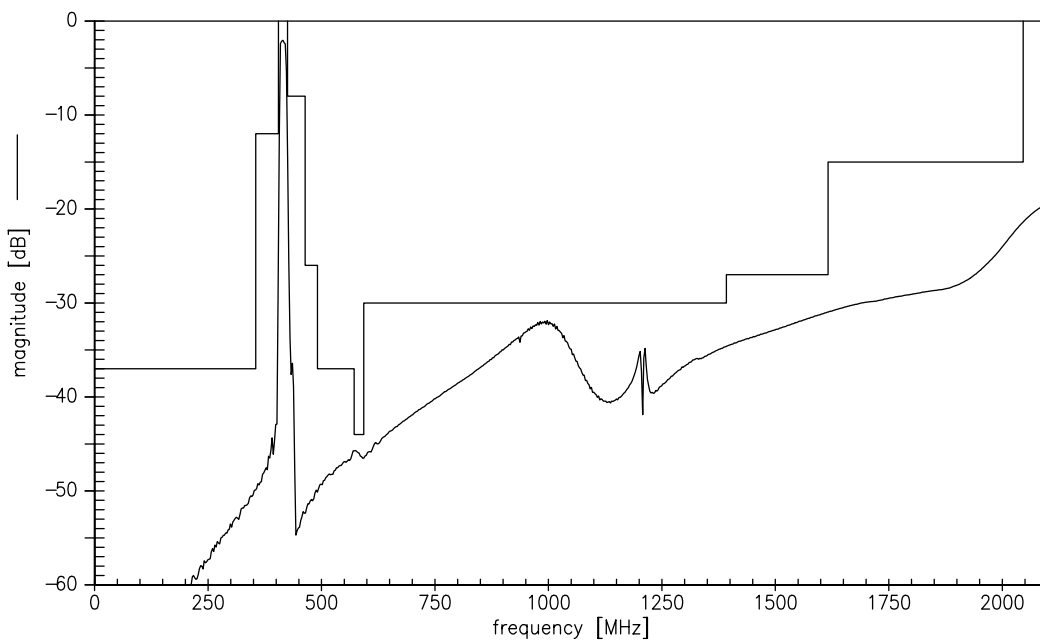
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)

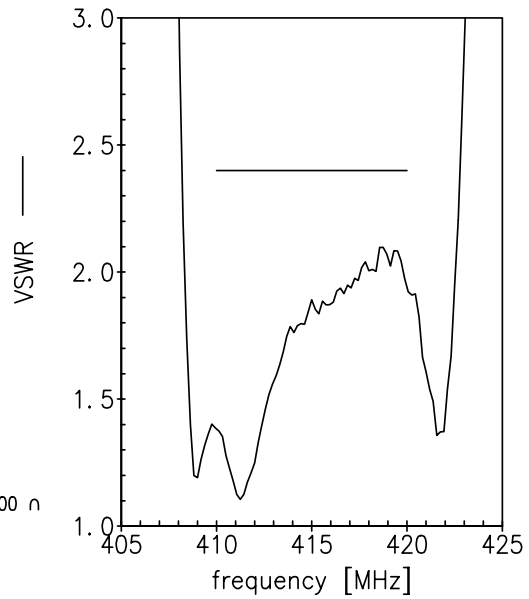
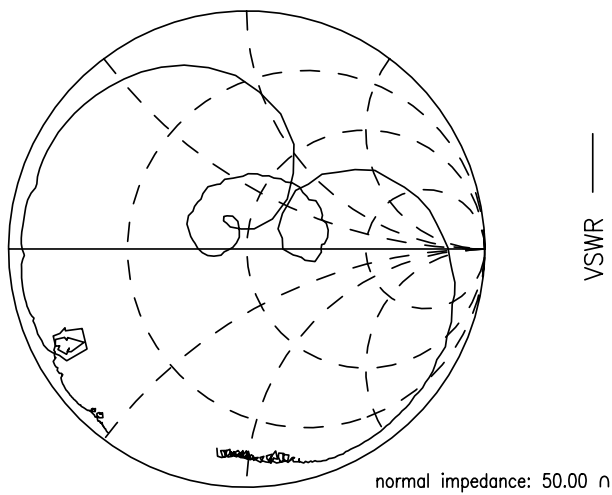


Data sheet

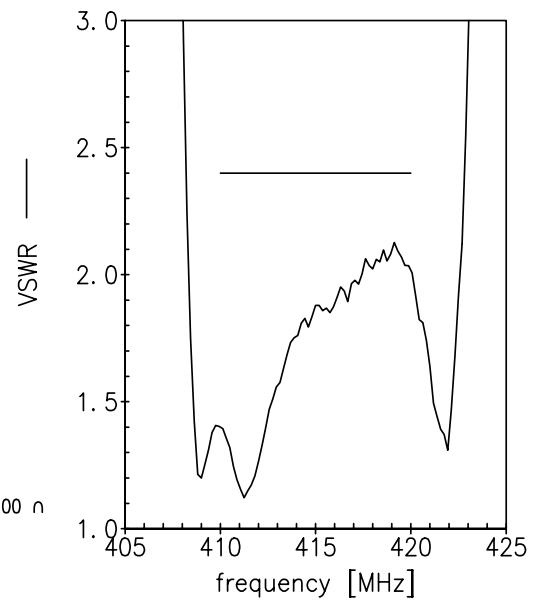
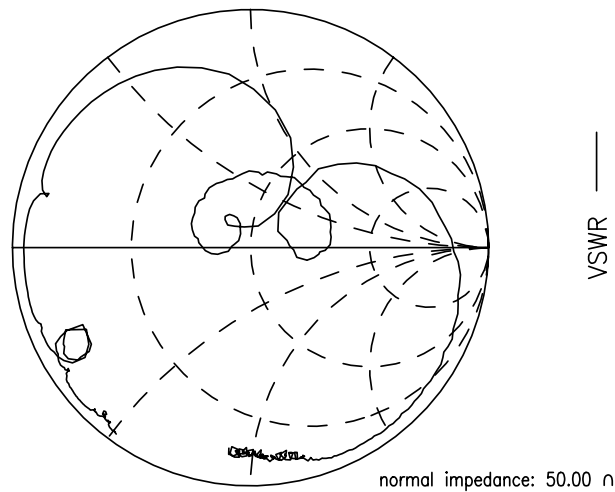


Smith charts

S_{11} function



S_{22} function



SAW Components

B5053

SAW Rx filter

415.00 MHz

Data sheet



References

Type	B5053
Ordering code	B39421B5053Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B5053_NB.s2p B5053_WB.s2p
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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