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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



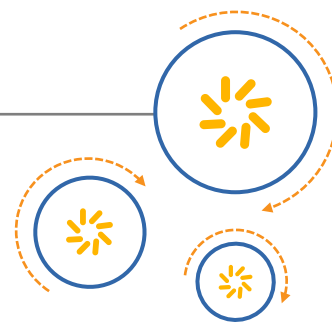
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RF360 Europe GmbH

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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SAW Components

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TETRA

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|-----------------------|-------------------------|
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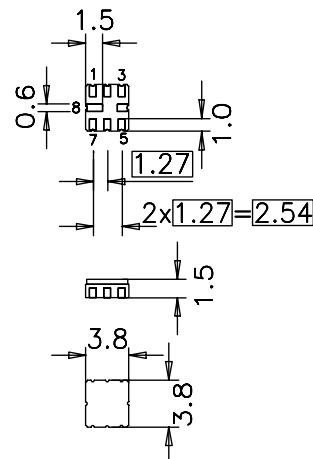
Data sheet


Application

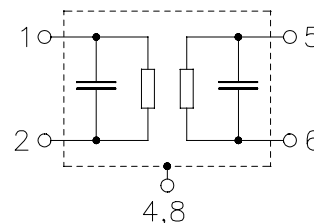
- Low-loss IF filter for base station TETRA systems, receive path (Rx)
- Low amplitude ripple
- Unbalanced to unbalanced or unbalanced to balanced operation
- No external matching required
- Usable passband 10 MHz


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: $T = -30\text{ }^{\circ}\text{C to }+70\text{ }^{\circ}\text{C}$
 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

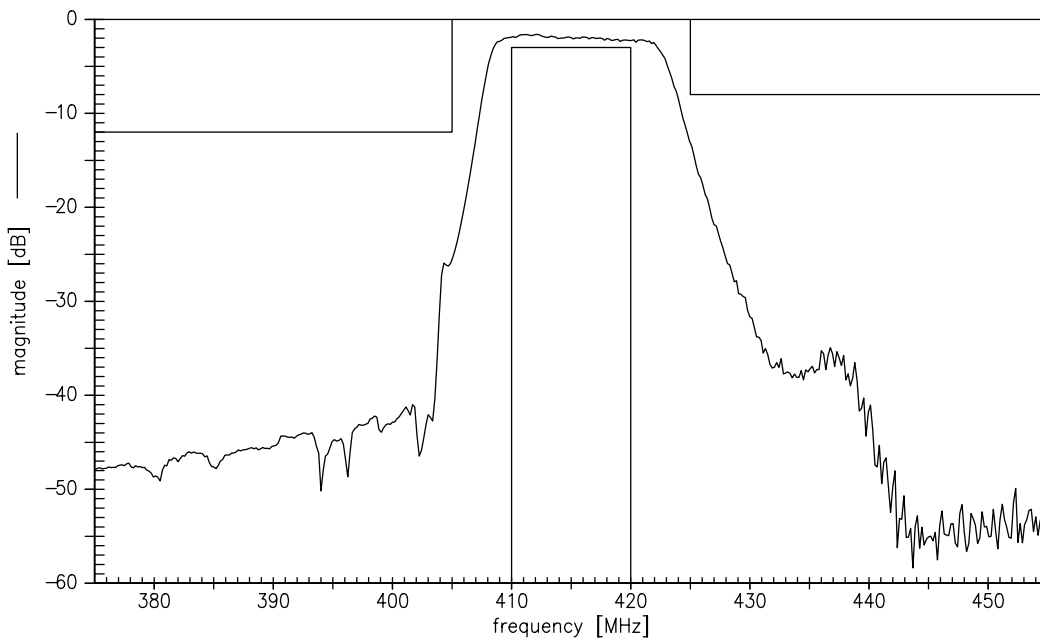

Maximum ratings

| | | | | |
|--------------------------------------|------------------|-------------------|-----|--------------------------|
| 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 |

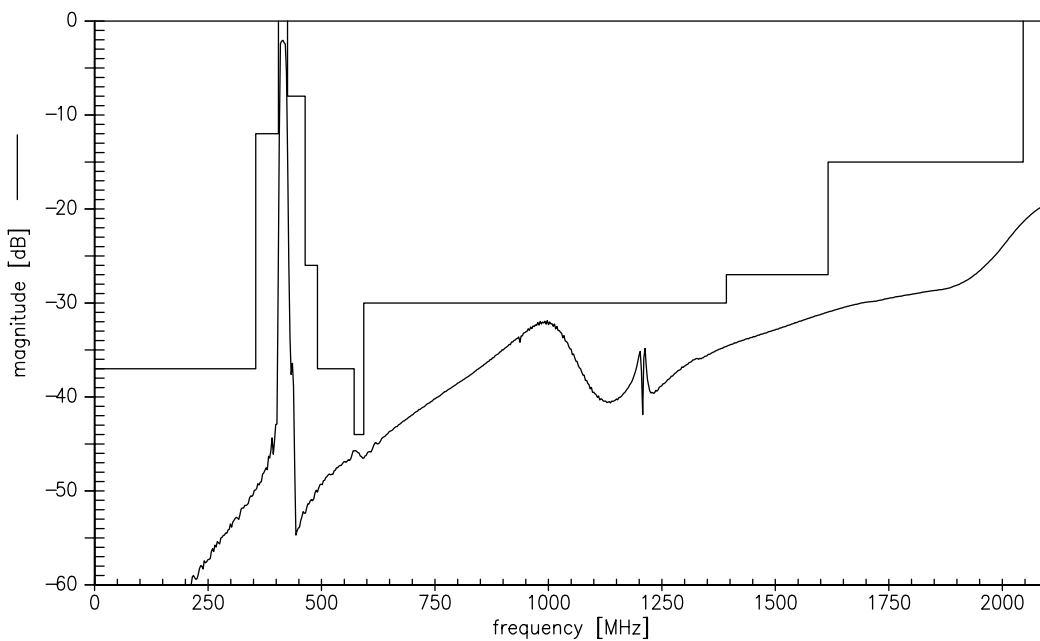
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)

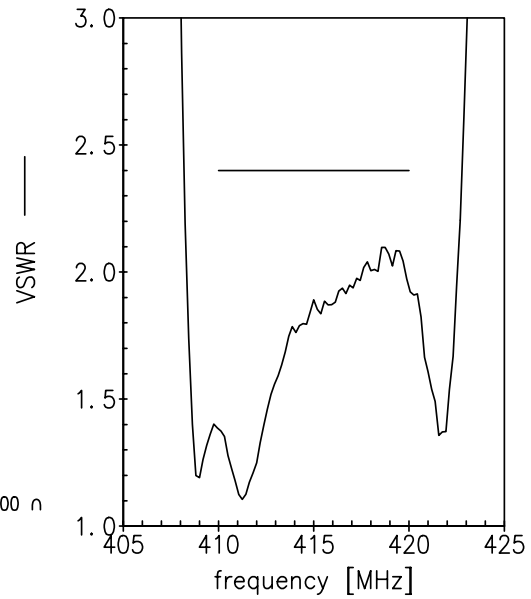
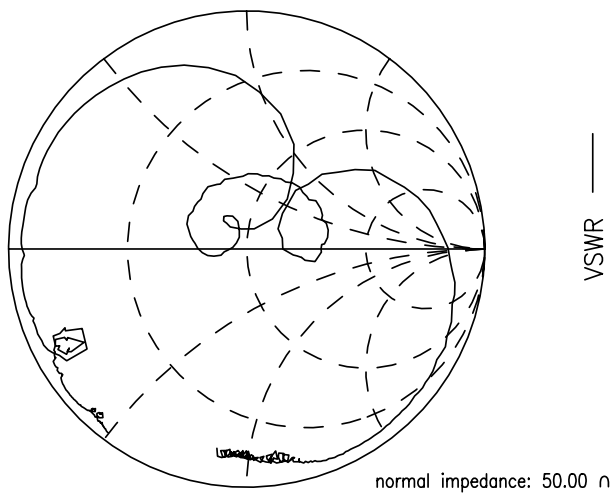


Data sheet

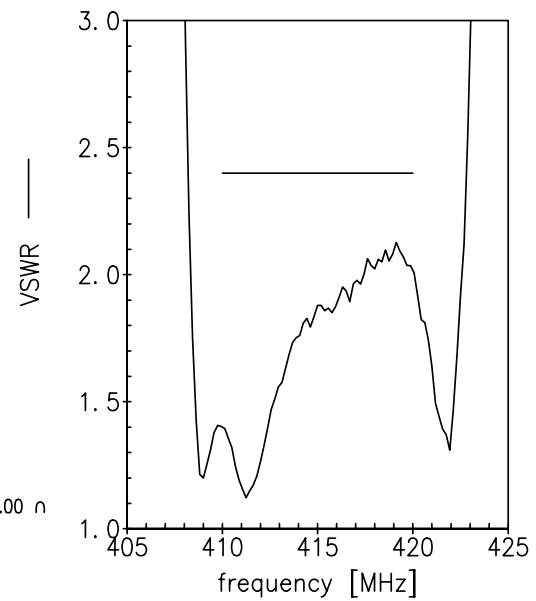
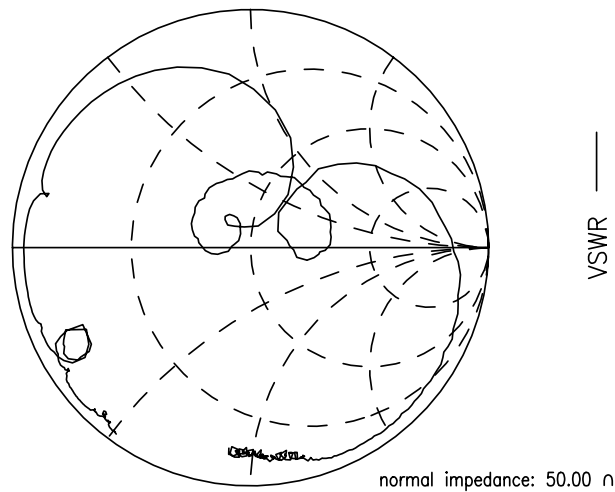


Smith charts

S₁₁ function



S₂₂ function




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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