



SAW Components

SAW Rx filter

WCDMA/LTE Diversity
Band XXVI

| | |
|-----------------------|------------------------|
| Series/Type: | B9894 |
| Ordering code: | B39871B9894P810 |
| Date: | March 1, 2013 |
| Version: | 2.0 |

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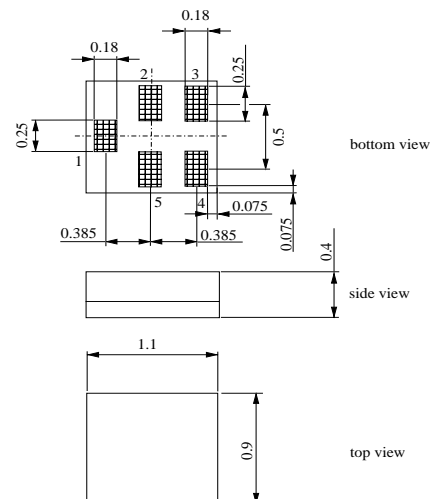
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Application

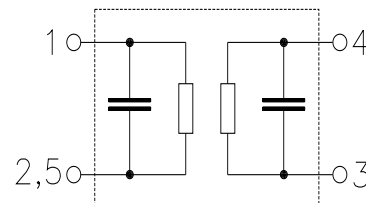
- Low-loss RF filter for mobile telephone WCDMA/LTE Band XXVI system (diversity) receive path (RX)
- Suitable for diversity applications
- High TX suppression
- Impedance transformation from 50 Ω to 100 Ω
- Unbalanced to balanced operation
- Usable passband: 35 MHz


Features

- Package size 1.1 x 0.9 x 0.4 mm³
- RoHS compatible
- Approx. weight 0.001g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level (MSL) 3**


Pin configuration

- 1 Input, unbalanced
- 3,4 Output, balanced
- 2,5 Case-ground



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

Data Sheet

Characteristics

| | |
|--------------------------------------|----------------------------------|
| Temperature range for specification: | T = -30 °C to +90 °C |
| Terminating source impedance: | Z_S = 50 Ω (unbalanced) |
| Terminating load impedance: | Z_L = 100 Ω (balanced) |

| | | min. | typ. @ 25 °C | max. | |
|---|---------------|------------------|-------------------|------|-----|
| Center frequency | f_C | — | 876.5 | — | MHz |
| Average insertion attenuation | | | | | |
| 859.0 ... 894.0 MHz | α_{CW} | | 1.5 ¹⁾ | | dB |
| Maximum insertion attenuation | | | | | |
| 859.0 ... 894.0 MHz | | | 2.3 | 3.6 | dB |
| 859.0 ... 894.0 MHz | ²⁾ | | 2.3 | 3.6 | dB |
| Amplitude ripple (p-p) | | | | | |
| 859.0 ... 894.0 MHz | | | 1.2 | 2.4 | dB |
| 859.0 ... 894.0 MHz | ²⁾ | | 1.2 | 2.4 | dB |
| Input VSWR | | | | | |
| 859.0 ... 894.0 MHz | | | 2.0 | 2.2 | |
| Output VSWR | | | | | |
| 859.0 ... 894.0 MHz | | | 2.2 | 2.5 | |
| Common Mode Rejection Ratio (CMRR) | | | | | |
| 859.0 ... 894.0 MHz | | 19 ³⁾ | 22 | | dB |
| Attenuation | α | | | | |
| 10.0 ... 814.0 MHz | | 40 | 54 | | dB |
| 814.0 ... 849.0 MHz | | 44 | 49 | | dB |
| 935.0 ... 979.0 MHz | | 30 | 39 | | dB |
| 979.0 ... 6000.0 MHz | | 35 | 46 | | dB |

¹⁾ Average value of the parameter over the indicated band. The average value may vary over time.

²⁾ Temperature range -20 °C to +85 °C

³⁾ A combination of 10° phase balance and 1dB amplitude balance corresponds to 19.6dB CMRR.

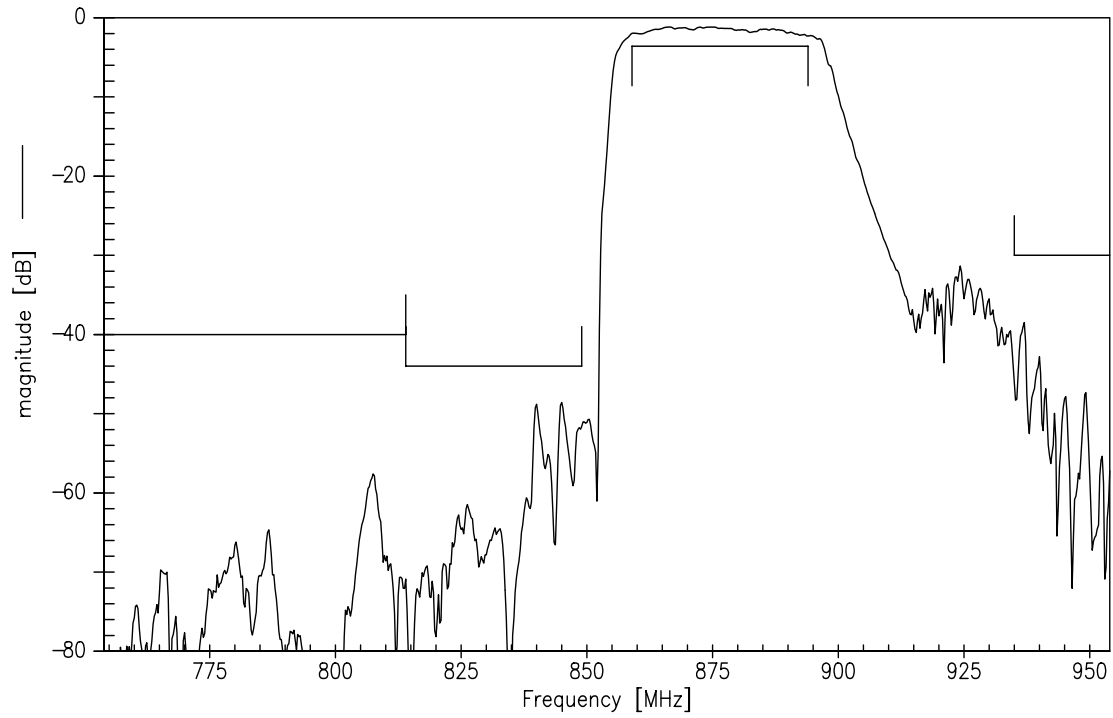

Maximum ratings

| | | | | |
|-------------------------------------|---------------------|-------------------|-----|------------------------------------|
| Operable temperature range | T | -30/+90 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 5 | V | |
| ESD voltage | V _{ESD} | 100 ¹⁾ | V | |
| Input power at 814.0...849.0 MHz | P _{IN(TX)} | 17 | dBm | CW @55°C |
| | P _{IN} | 10 | dBm | CW @55°C, 2000h all other bands |

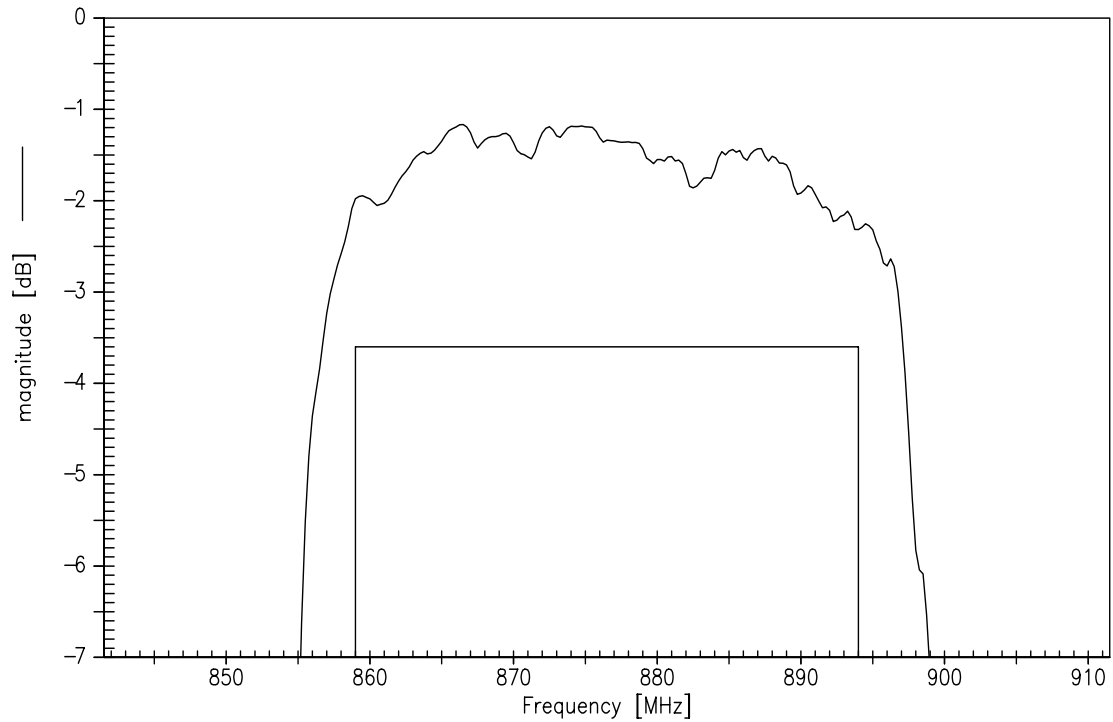
¹⁾ acc. to JESD22-A115B (MM - machine model), 10 negative & 10 positive pulse.



Transfer function



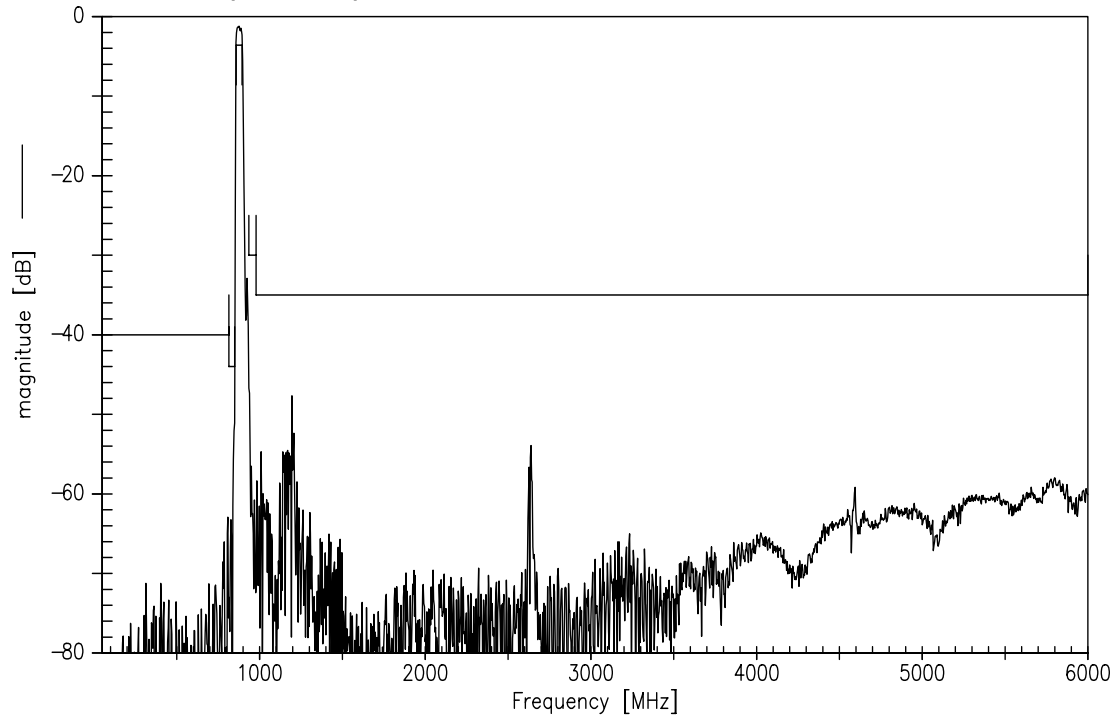
Transfer function



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



Transfer function (wideband)

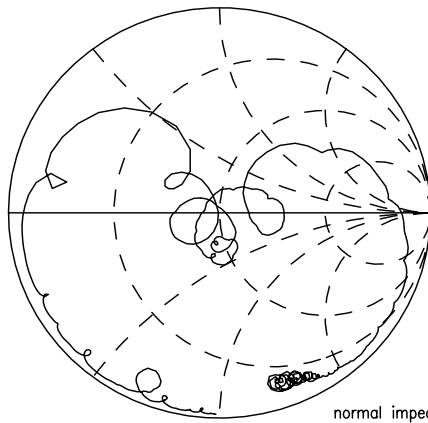


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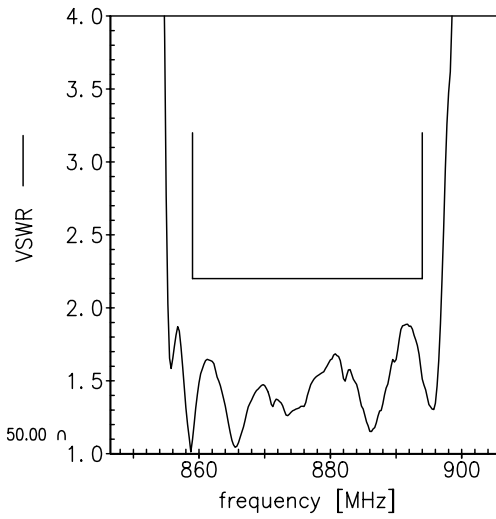


Smith charts

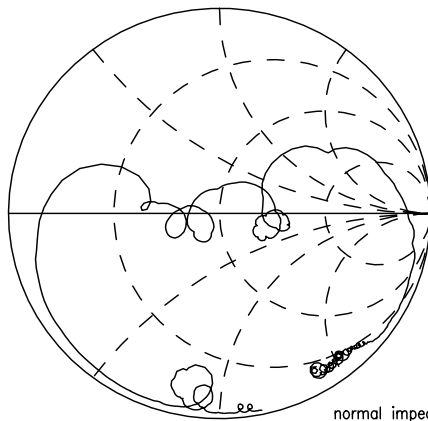
S_{11} function



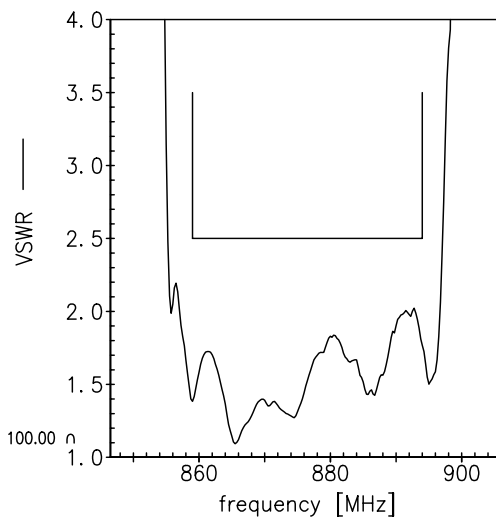
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 100.00 Ω



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| | |
|-----------------------|---|
| SAW Components | B9894 |
| SAW Filter | 876.5 MHz |
| Data Sheet |  |

References

| | |
|----------------------------|---|
| Type | B9894 |
| Ordering code | B39871B9894P810 |
| Marking and package | C61157-A8-A56 |
| Packaging | F61074-V8255-Z000 |
| Date codes | L_1126 |
| S-parameters | B9894_NB_UN.s3p, B9894_WB_UN.s3p see file header for port/pin assignment table |
| Soldering profile | S_6001 |
| RoHS compatible | RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8 th , 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases. |
| Moldability | Before using in overmolding environment, please contact your EPCOS sales office. |
| Matching coils | See http://www.tdk.co.jp/tefe02/coil.htm#aname1 http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils. |

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

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8 March 1, 2013

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