



SAW Components

SAW RF filter

Short range devices

| | |
|-----------------------|------------------------|
| Series/type: | B4147 |
| Ordering code: | B39841B4147U410 |
| Date: | April 29, 2008 |
| Version: | 2.1 |



SAW Components

B4147

SAW RF filter

836.50 MHz

Data sheet



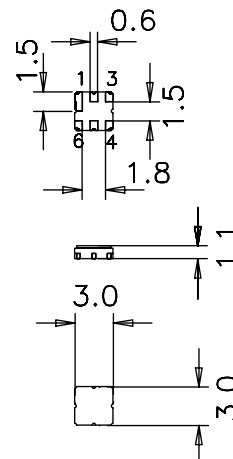
Application

- Low-loss RF filter for mobile telephone AMPS systems, transmit path
- Usable passband 25 MHz
- No matching network required for operation at 50 Ω



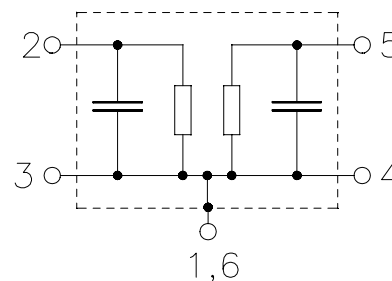
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 2 Input
- 5 Output
- 1, 3, 4, 6 Ground, to be grounded





| | |
|-----------------------|-------------------|
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Characteristics

Reference temperature: $T_A = + 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

| | | min. | typ. | max. | |
|--------------------------------------|----------------|-------------|-------------|-------------|-----|
| Center frequency | f_C | — | 836.50 | — | MHz |
| Maximum insertion attenuation | α_{max} | — | 2.7 | 3.0 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 1.7 | 2.0 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| VSWR | | — | 1.78 | 1.92 | |
| | | | | | |
| Attenuation | α | | | | |
| 0.00 ... 779.00 MHz | | 31 | 34 | — | dB |
| 779.00 ... 805.00 MHz | | 25 | 31 | — | |
| 869.00 ... 894.00 MHz | | 40 | 44 | — | |
| 894.00 ... 979.00 MHz | | 36 | 40 | — | |
| 979.00 ... 1030.00 MHz | | 38 | 40 | — | |
| 1030.00 ... 1300.00 MHz | | 36 | 39 | — | |
| 1300.00 ... 1580.00 MHz | | 28 | 32 | — | |
| 1580.00 ... 1698.00 MHz | | 24 | 30 | — | |
| 1698.00 ... 2547.00 MHz | | 14 | 22 | — | |
| Rx band suppression | α | | | | |
| 869.00 ... 894.00 MHz | | 40 | 44 | — | dB |



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Characteristics

Temperature range for specification: $T_A = -30\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

| | | min. | typ. | max. | |
|--------------------------------------|----------------|------|--------|------|-----|
| Center frequency | f_C | — | 836.50 | — | MHz |
| Maximum insertion attenuation | α_{max} | — | 3.0 | 3.5 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 2.0 | 2.5 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| VSWR | | — | 1.78 | 1.92 | |
| | | | | | |
| Attenuation | α | | | | |
| 0.00 ... 779.00 MHz | | 31 | 34 | — | dB |
| 779.00 ... 805.00 MHz | | 25 | 31 | — | |
| 869.00 ... 894.00 MHz | | 40 | 43 | — | |
| 894.00 ... 979.00 MHz | | 36 | 40 | — | |
| 979.00 ... 1030.00 MHz | | 38 | 40 | — | |
| 1030.00 ... 1300.00 MHz | | 36 | 39 | — | |
| 1300.00 ... 1580.00 MHz | | 28 | 32 | — | |
| 1580.00 ... 1698.00 MHz | | 24 | 30 | — | |
| 1698.00 ... 2547.00 MHz | | 14 | 22 | — | |
| Rx band suppression | α | | | | |
| 869.00 ... 894.00 MHz | | 40 | 43 | — | dB |



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Characteristics

Temperature range for specification: $T_A = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

| | | min. | typ. | max. | |
|--------------------------------------|----------------|------|--------|------|-----|
| Center frequency | f_C | — | 836.50 | — | MHz |
| Maximum insertion attenuation | α_{max} | — | 3.1 | 3.7 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 2.1 | 2.7 | dB |
| 824.00 ... 849.00 MHz | | | | | |
| VSWR | | — | 1.80 | 1.97 | |
| 824.00 ... 849.00 MHz | | | | | |
| Attenuation | α | | | | dB |
| 0.00 ... 779.00 MHz | | 31 | 34 | — | |
| 779.00 ... 805.00 MHz | | 25 | 31 | — | |
| 869.00 ... 894.00 MHz | | 40 | 43 | — | |
| 894.00 ... 979.00 MHz | | 36 | 40 | — | |
| 979.00 ... 1030.00 MHz | | 38 | 40 | — | |
| 1030.00 ... 1300.00 MHz | | 36 | 39 | — | |
| 1300.00 ... 1580.00 MHz | | 28 | 32 | — | |
| 1580.00 ... 1698.00 MHz | | 24 | 30 | — | |
| 1698.00 ... 2547.00 MHz | | 14 | 22 | — | |
| Rx band suppression | α | | | | dB |
| 869.00 ... 894.00 MHz | | 40 | 43 | — | |

Maximum ratings

| | | | | |
|----------------------------|-----------|---------|-----|-------------|
| Operable temperature range | T_A | -40/+85 | °C | |
| Storage temperature range | T_{stg} | -40/+85 | °C | |
| DC voltage | V_{DC} | 5 | V | |
| Input power max. | P_{IN} | 16 | dBm | CDMA signal |



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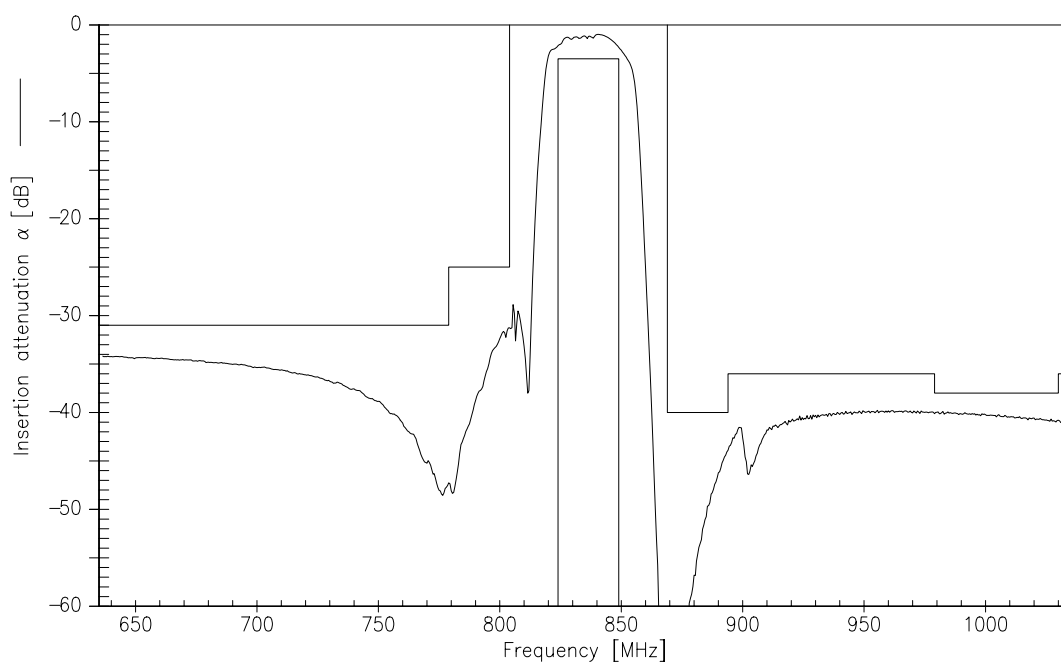
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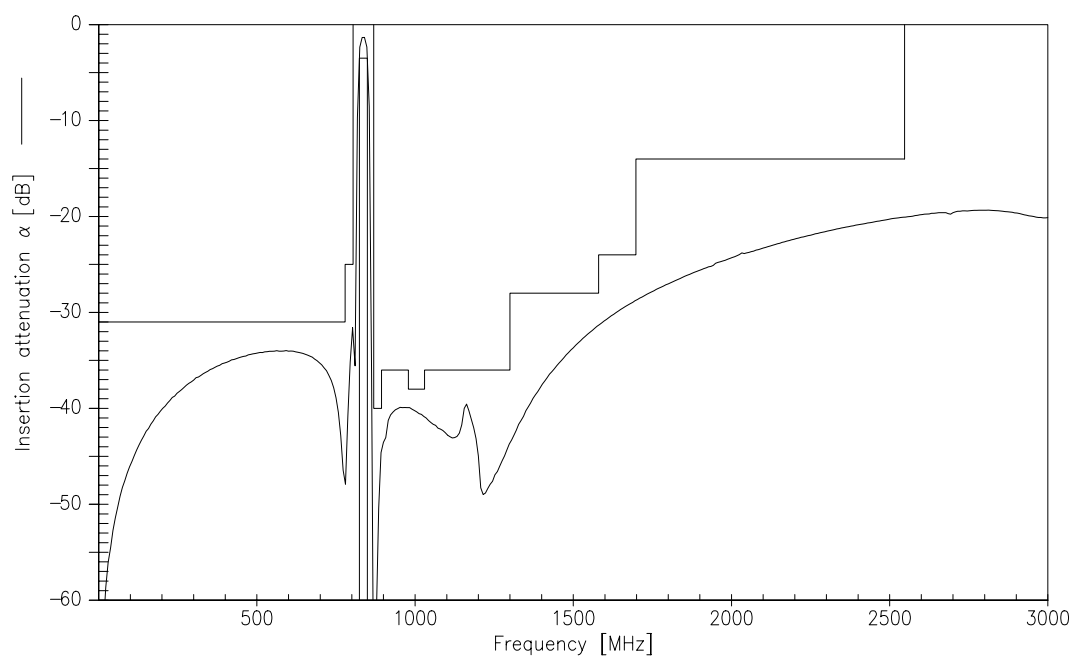
Data sheet



Transfer function (narrowband measurement)



Transfer function (wideband measurement)



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



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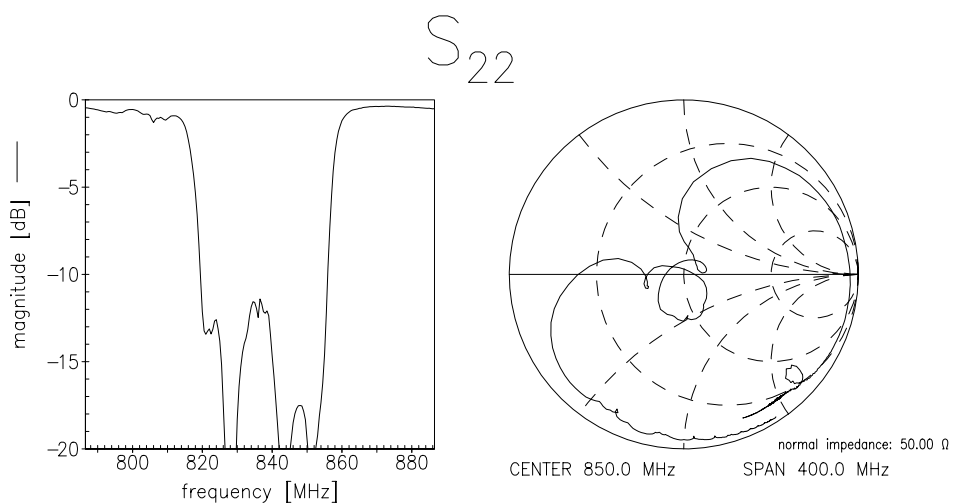
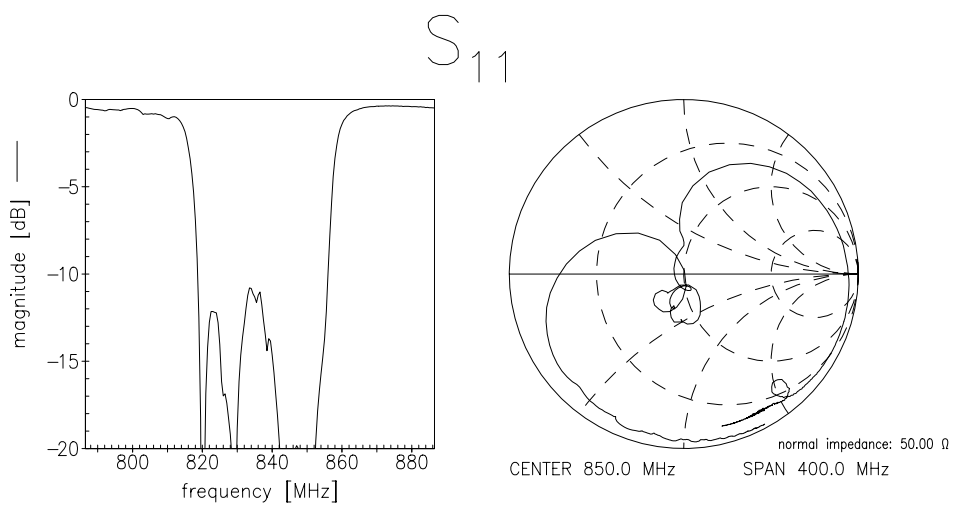
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Reflection functions (measurement)





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|----------------------------|--|
| Type | B4147 |
| Ordering code | B39841B4147U410 |
| Marking and package | C61157-A7-A67 |
| Packaging | F61074-V8168-Z000 |
| Date codes | L_1126 |
| S-parameters | B4147_NB.s2p B4147_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." |

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

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