



**THE DATASHEET OF
B39242B8328P810**





SAW Components

BAW Bluetooth/WLAN Filter

| | |
|-----------------------|--------------------------|
| Series/type: | B8328 |
| Ordering code: | B39242B8328P810 |
| Date: | December 01, 2014 |
| Version: | 2.1 |

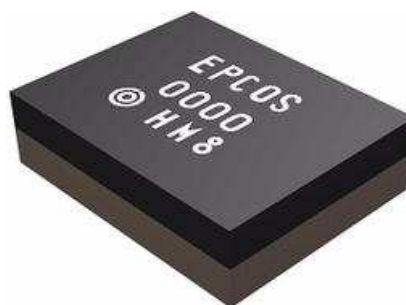


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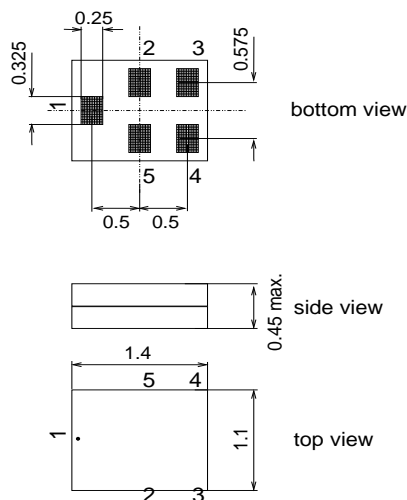
Application

- Low-loss BAW RF single filter for Bluetooth/WLAN with LTE Band 7 / Band 40 / Band 41 coexistence
- Usable passband 79.0 MHz
- Unbalanced to unbalanced operation
- Excellent insertion loss
- High out of band selectivity
- Filter impedance 50 Ω
- Excellent B7 attenuation
- Superior 2nd harmonic suppression



Features

- Package size 1.4 x 1.1 mm²
- Package height 0.45 mm max
- RoHS compatible
- Approximate weight 0.0012 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 3 (MSL 3)**



Pin configuration

- 1 Input (unbalanced)
- 4 Output (unbalanced)
- 2,3,5 To be grounded



| | |
|----------------------------------|-------------------|
| SAW Components | B8328 |
| BAW Bluetooth/WLAN Filter | 2442.0 MHz |

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Characteristics of Filter

Temperature range for specification: T = -20 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω shunt coil 6.8 nH
 Terminating load impedance: Z_L = 50 Ω shunt coil 6.8 nH

| Characteristics | B8328 | | | |
|---|------------------|-------------------|-------------------|-----|
| | min. | typ. @ 25 °C | max. | |
| Center frequency f _C | | 2442.0 | | MHz |
| Maximum insertion attenuation - WLAN¹⁾ α _{max} | | | | |
| 2403.1 ... 2420.9 MHz (channel 1) ¹⁾ | | 1.4 | 2.1 | dB |
| 2408.1 ... 2425.9 MHz (channel 2) ¹⁾ | | 1.25 | 1.8 | dB |
| 2413.1 ... 2470.9 MHz (channel 3-11) ¹⁾ | | 1.1 | 1.7 | dB |
| 2458.1 ... 2475.9 MHz (channel 12) ¹⁾ | | 1.3 | 2.2 | dB |
| 2463.1 ... 2480.9 MHz (channel 13) ¹⁾ | | 1.65 | 2.9 | dB |
| Maximum insertion attenuation - BT²⁾ α _{max} | | | | |
| 2401.5 ... 2480.5 MHz | | 1.3 ²⁾ | 2.0 ²⁾ | dB |
| VSWR (Input and Output) | | | | |
| 2403.1 ... 2475.9 MHz | | 1.7 | 2.4 | |
| 2463.1 ... 2480.9 MHz | | 1.85 | | |
| Attenuation α | | | | |
| 100.0...1805.0MHz | 34 | 37 | | dB |
| 1805.0...2170.0MHz | 35 | 38 | | dB |
| 2300.0...2360.0MHz ³⁾ | 34 | 41 | | dB |
| 2360.0...2365.0MHz ³⁾ | 40 | 46 | | dB |
| 2365.0...2370.0MHz ³⁾ | 40 | 48 | | dB |
| 2500.0...2505.0MHz ³⁾ | 43 ⁴⁾ | 62 | | dB |
| 2505.0...2570.0MHz ³⁾ | 42 | 49 | | dB |
| 2570.0...2620.0MHz ³⁾ | 40 | 45 | | dB |
| 2620.0...2690.0MHz ³⁾ | 40 | 45 | | dB |
| 4800.0...5805.0MHz | 18 | 31 | | dB |
| 2nd Harmonics | | | | |
| CW tone at input, 2442 MHz, 22 dBm | | -63 | | dBc |

1) Averaged values within each WiFi channel width of 17.8 MHz
 2) Averaged values over whole passband due to frequency hopping in Bluetooth mode
 3) Averaged value of linear S-parameter over 5 MHz
 4) +25 °C to +85 °C



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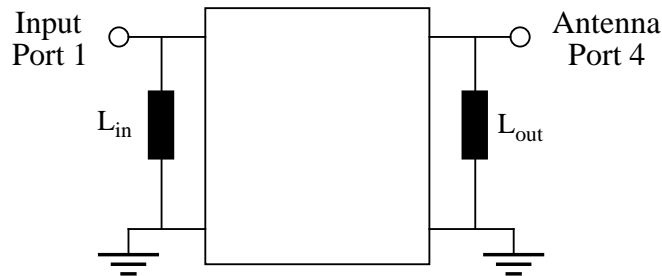
Maximum ratings

| | | | | |
|--|------------------|-------------------|-----|---------------------------------------|
| Operable temperature range | T | -30/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+90 | °C | |
| DC voltage | V _{DC} | 5 ¹⁾ | V | |
| ESD voltage | V _{ESD} | 50 ²⁾ | V | Machine Model |
| | | 300 ³⁾ | V | Human Body Model |
| | | 600 ⁴⁾ | V | Charged Device Model |
| Input power at PIN1 channel 1 to channel 13 | | 26 | dBm | 20M MHz OFDM signal, 65°C, 5000 hr |

- 1) 168h Damp Heat Steady State acc. to IEC60068-2-67 Cy
- 2) acc. to JESD22-A115B (MM - Machine Model), 10 negative and 10 positive pulses
- 3) acc. to JESD22-A114F (HBM - Human Body Model), 1 negative and 1 positive pulses
- 4) acc. to JESD22-C101C (CDM - Field Induced Charged Device Model), 3 negative and 3 positive pulses

Matching network

- L_{in} = 6.8 nH
- L_{out} = 6.8 nH
- Recommendation to use TDK MLG0603 P-series

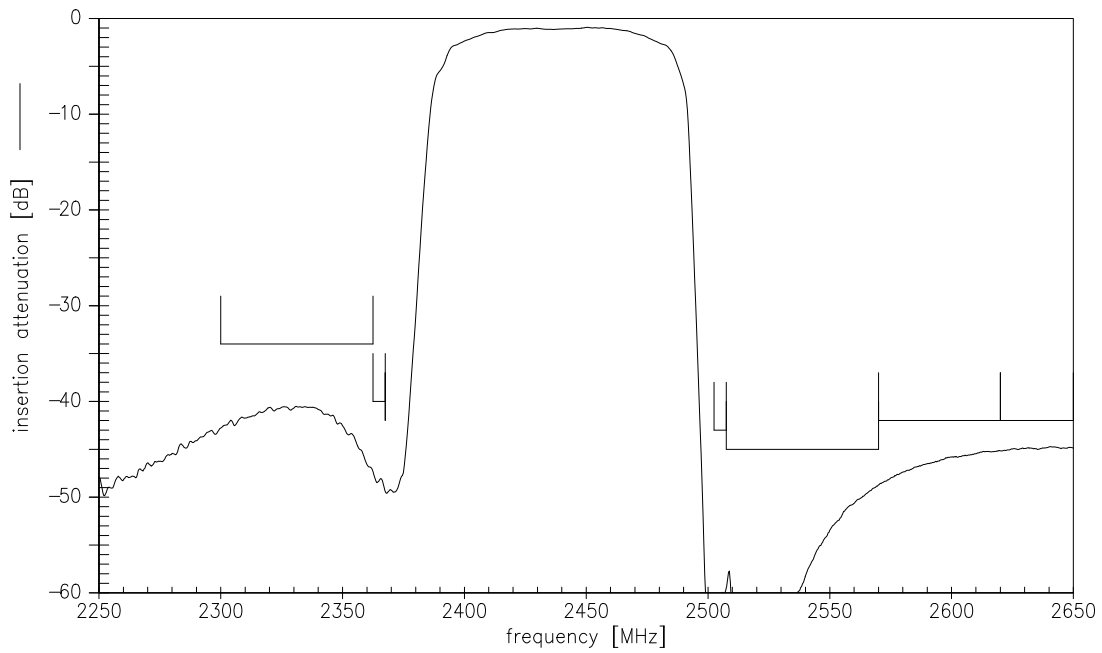




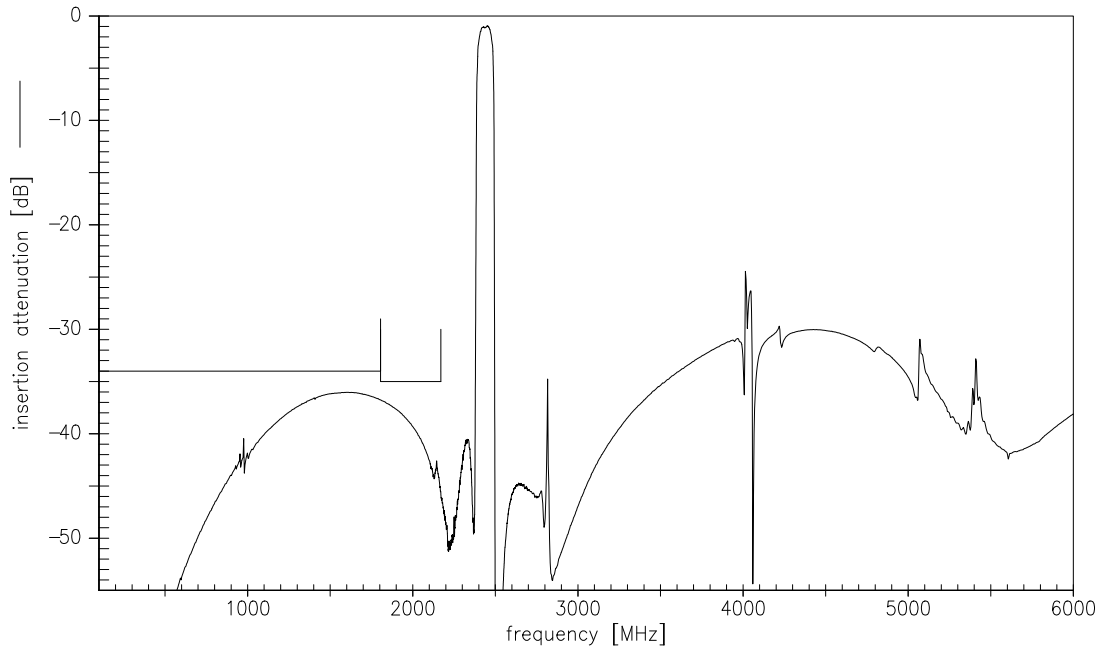
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Transfer function



Transfer function





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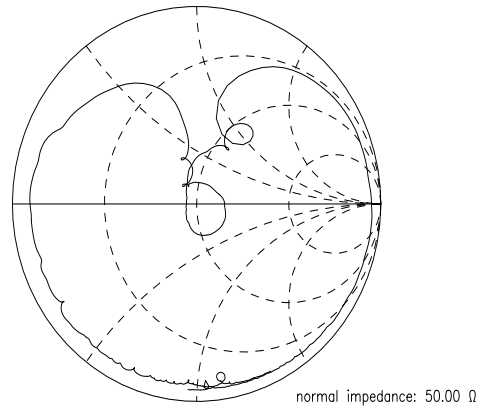
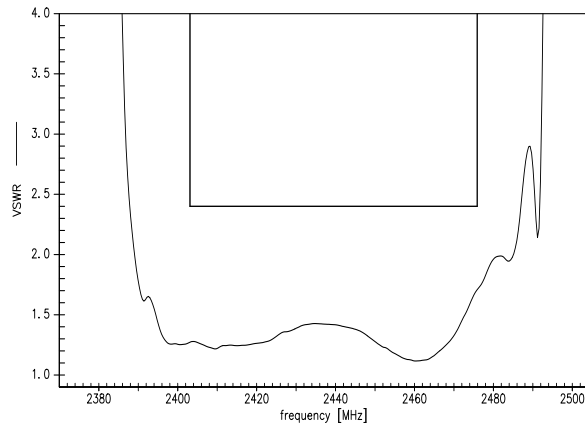
BAW Bluetooth/WLAN Filter

2442.0 MHz

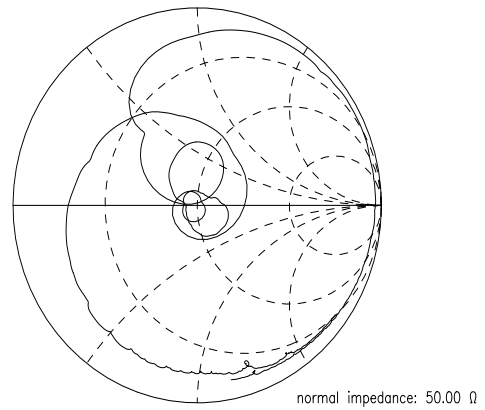
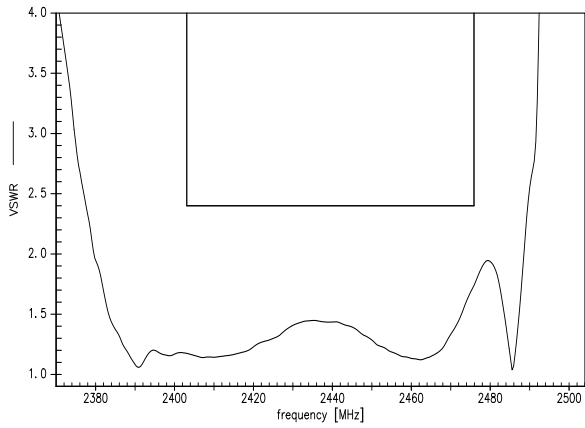
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SMD

S11VSWR



S22VSWR



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

**SAW Components****B8328****BAW Bluetooth/WLAN Filter****2442.0 MHz**

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References

| | |
|----------------------------|---|
| Type | B8328 |
| Ordering code | B39242B8328P810 |
| Marking and package | C61157-A8-A116 |
| Packaging | F61074-V8237-Z000 |
| Date codes | L_1126 |
| S-parameters | B8328_NB.s2p, B8328_WB.s2p 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 Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm |

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