



SAW Components

BAW Bluetooth/WLAN Filter

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

© EPCOS AG 2014. Reproduction, publication and dissemination of this data sheet, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.



SAW Components

B8328

BAW Bluetooth/WLAN Filter

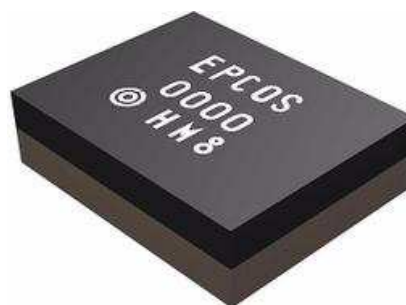
2442.0 MHz

Datasheet

SMD

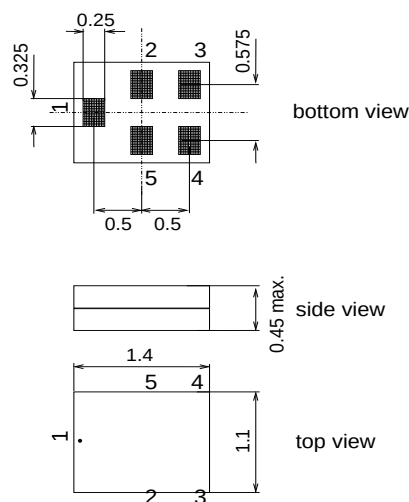
Application

- 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

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



SAW Components	B8328
BAW Bluetooth/WLAN Filter	2442.0 MHz

Datasheet



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

		B8328			
Characteristics		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



SAW Components	B8328
BAW Bluetooth/WLAN Filter	2442.0 MHz

Datasheet



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

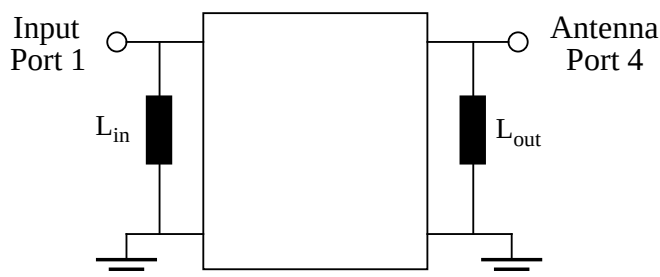
²⁾ acc. to JESD22-A115B (MM - Machine Model), 10 negative and 10 positive pulses

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



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



SAW Components

B8328

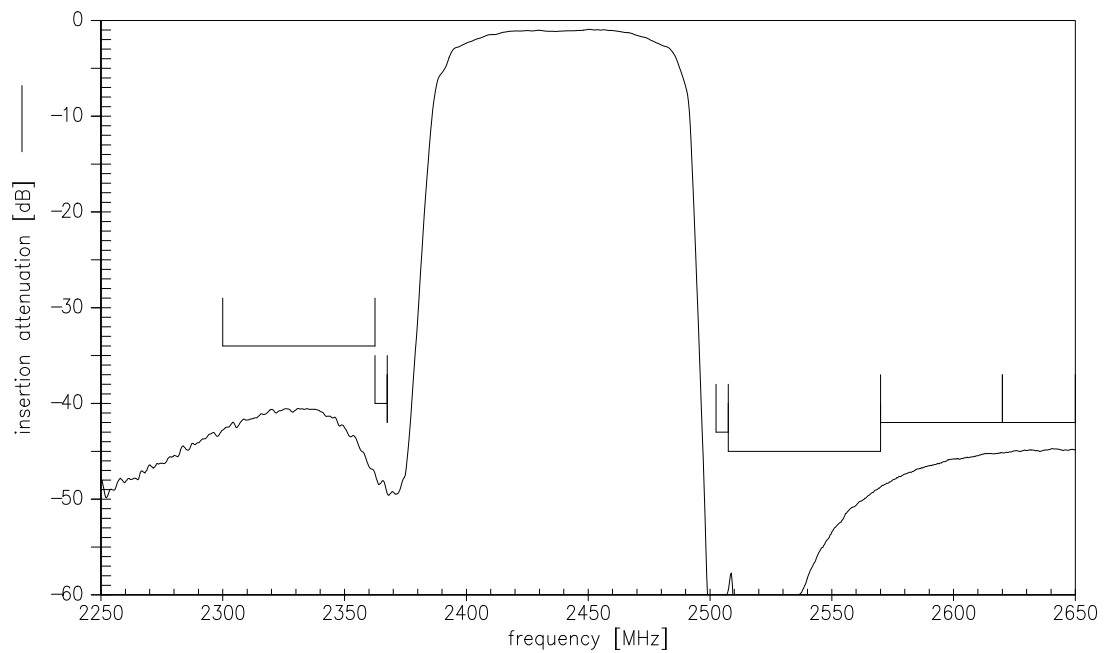
BAW Bluetooth/WLAN Filter

2442.0 MHz

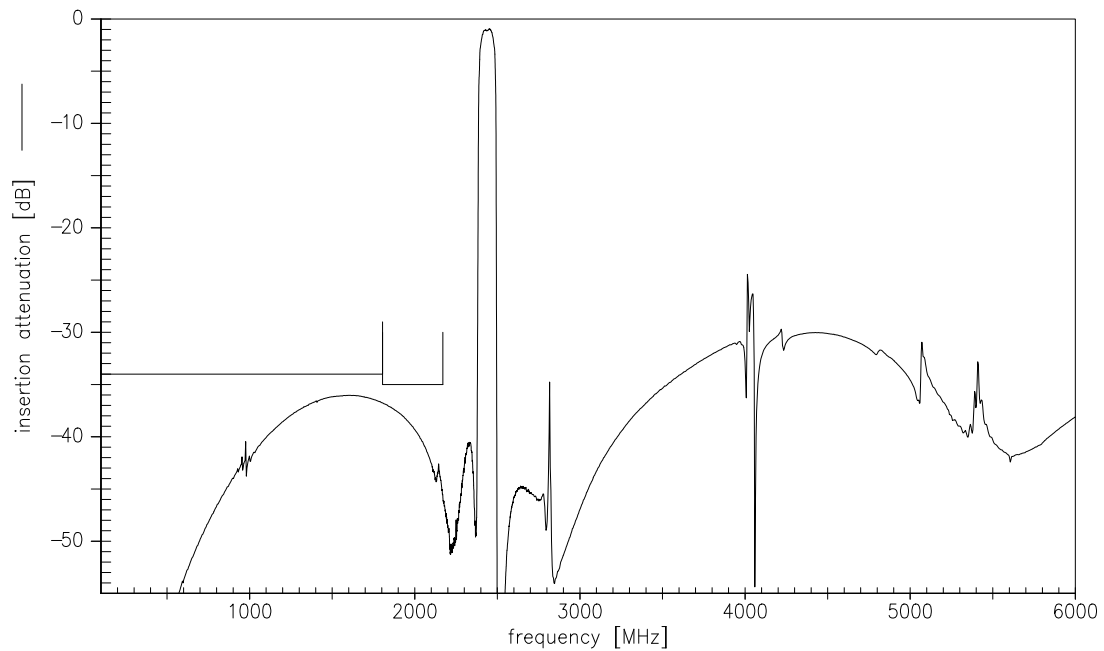
Datasheet



Transfer function



Transfer function



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



SAW Components

B8328

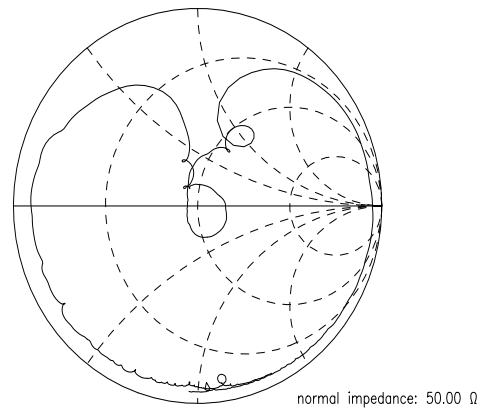
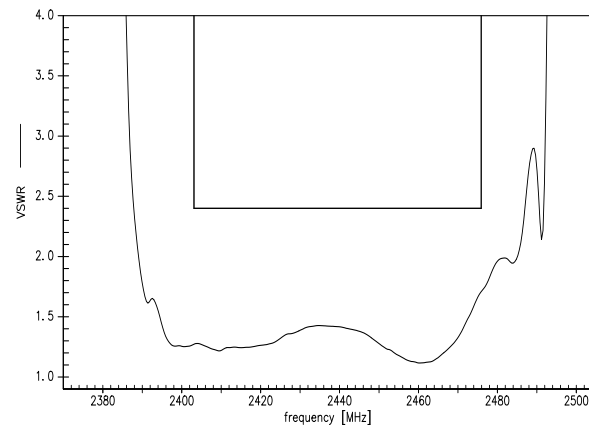
BAW Bluetooth/WLAN Filter

2442.0 MHz

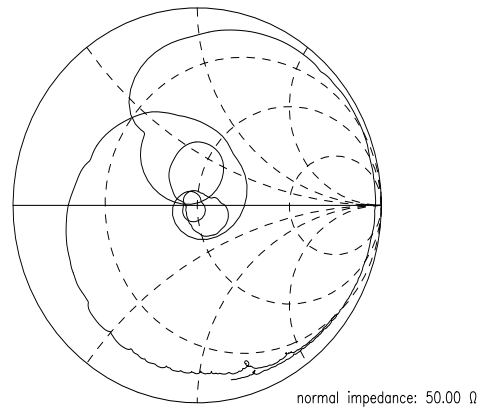
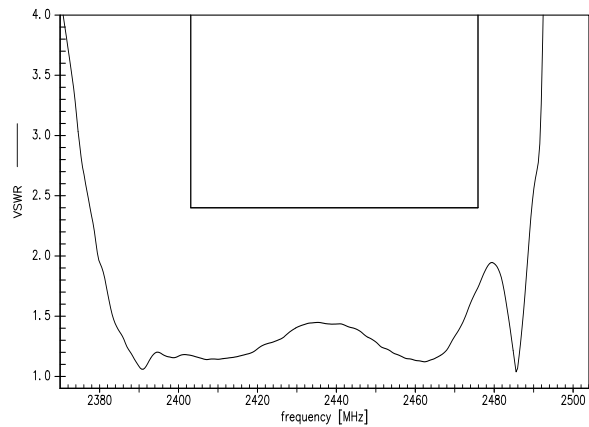
Datasheet

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**

Datasheet



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

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

Published by EPCOS AG

Systems, Acoustics, Waves Business Group

P.O. Box 80 17 09, 81617 Munich, GERMANY

© EPCOS AG 2014. This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.

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



Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order. We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, BAOKE, Alu-X, CeraDiode, CeraLink, CeraPlas, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, FilterCap, FormFit, MiniBlue, MiniCell, MKD, MKK, MLSC, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, TFAP, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.