



RF360  
Europe GmbH

## SAW Components

### BAW Bluetooth/WLAN Filter

Series/type: B8328  
Ordering code: B39242B8328P810

Date: August 21, 2015  
Version: 2.2

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# SAW Components

## BAW Bluetooth/WLAN Filter

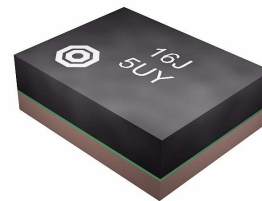
<b>Series/type:</b>	<b>B8328</b>
<b>Ordering code:</b>	<b>B39242B8328P810</b>
<b>Date:</b>	<b>August 21, 2015</b>
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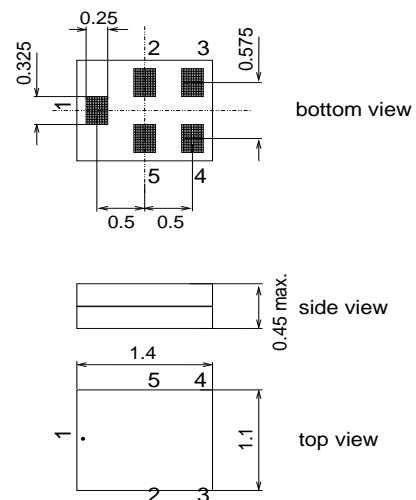
**Datasheet**

**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  $\Omega$
- Excellent B7 attenuation
- Superior 2nd harmonic suppression


**Features**

- Package size 1.4 x 1.1 mm<sup>2</sup>
- 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.

**Datasheet**

**Characteristics of Filter**

Temperature range for specification:	T = -20 °C to +85 °C
Terminating source impedance:	Z <sub>S</sub> = 50 Ω shunt coil 6.8 nH
Terminating load impedance:	Z <sub>L</sub> = 50 Ω shunt coil 6.8 nH

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

<sup>1)</sup> Averaged values within each WiFi channel width of 17.8 MHz

<sup>2)</sup> Averaged values over whole passband due to frequency hopping in Bluetooth mode

<sup>3)</sup> Averaged value of linear S-parameter over 5 MHz

<sup>4)</sup> +25 °C to +85 °C

<b>SAW Components</b>	<b>B8328</b>
<b>BAW Bluetooth/WLAN Filter</b>	<b>2442.0 MHz</b>

Datasheet

**SMD**

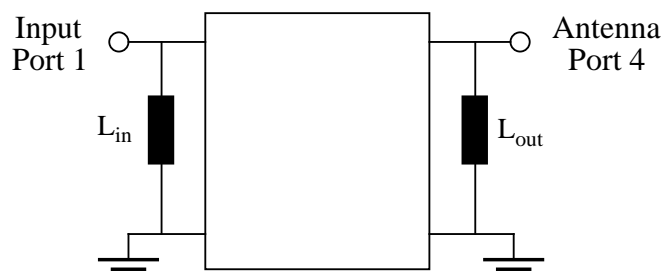
**Maximum ratings**

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+90	°C	
DC voltage	V <sub>DC</sub>	5 <sup>1)</sup>	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>2)</sup>	V	Machine Model
		300 <sup>3)</sup>	V	Human Body Model
		600 <sup>4)</sup>	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<sub>in</sub> = 6.8 nH
- L<sub>out</sub> = 6.8 nH
- Recommendation to use TDK MLG0603 P-series

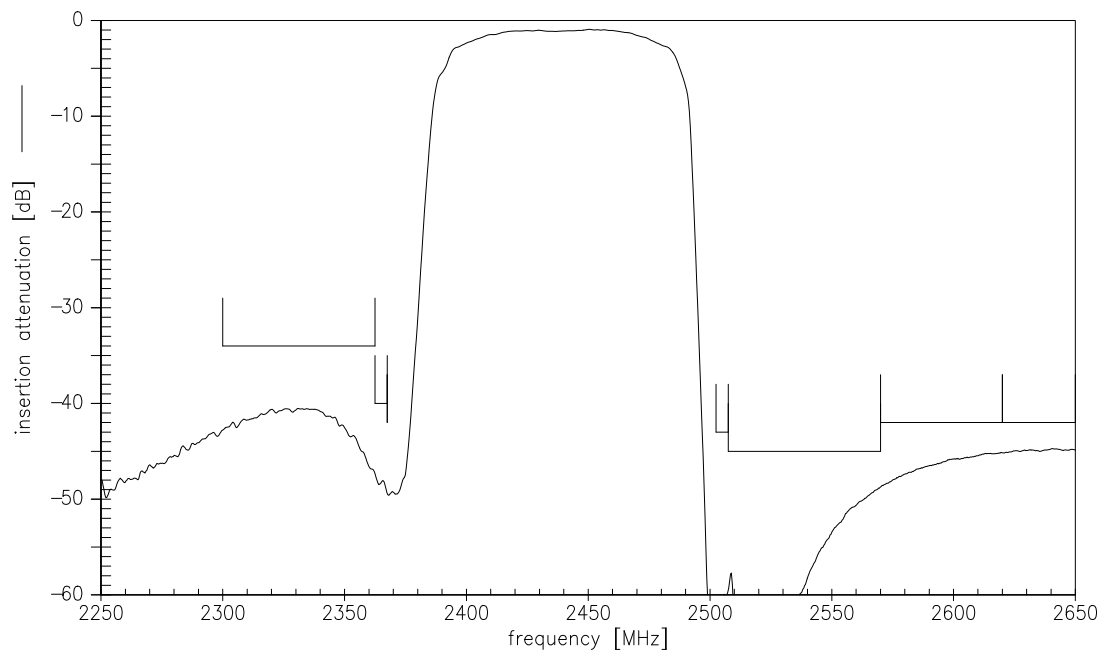


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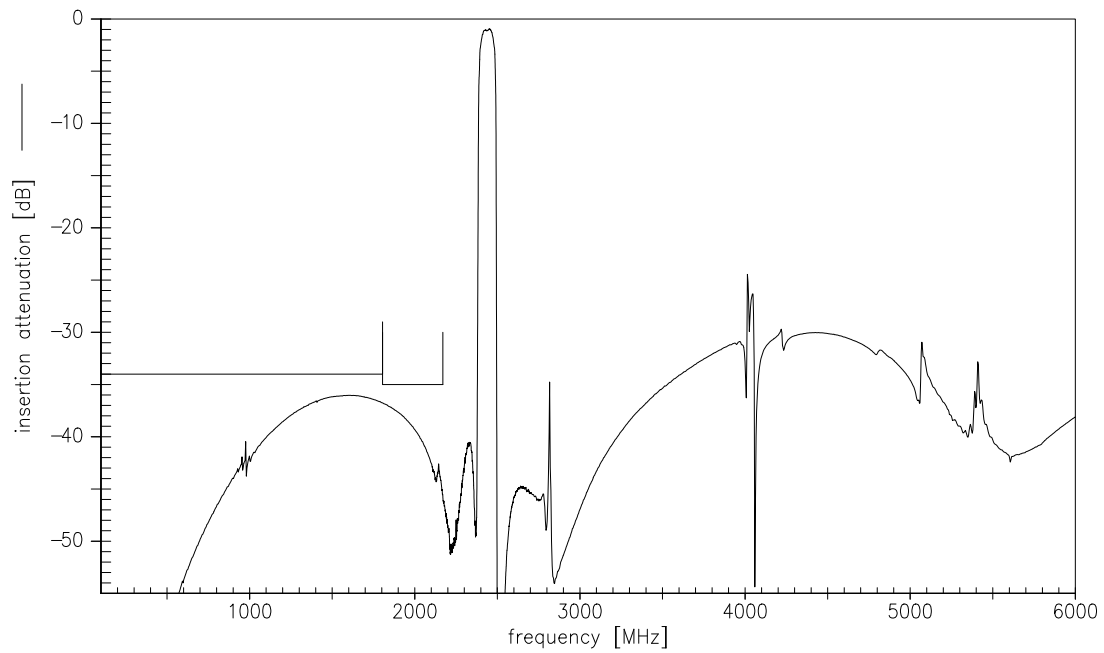
Datasheet



Transfer function



Transfer function

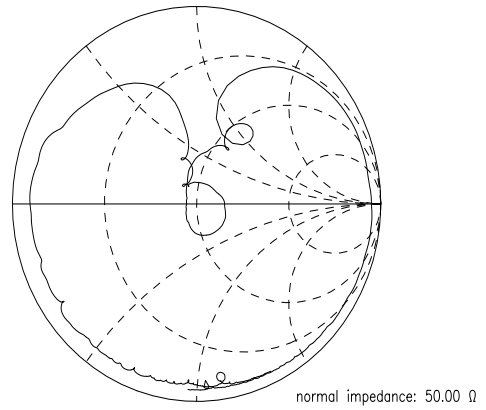
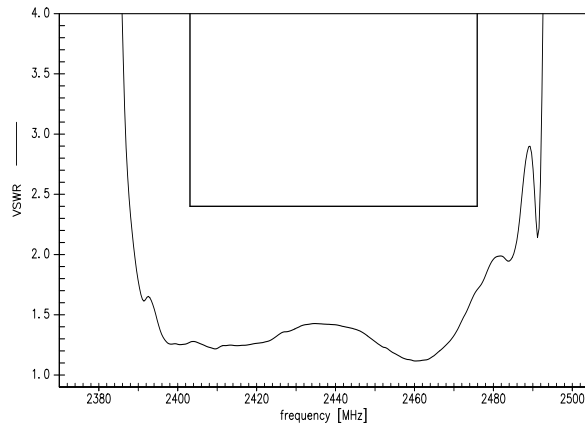


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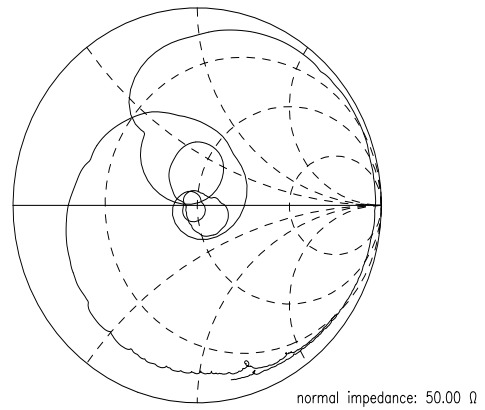
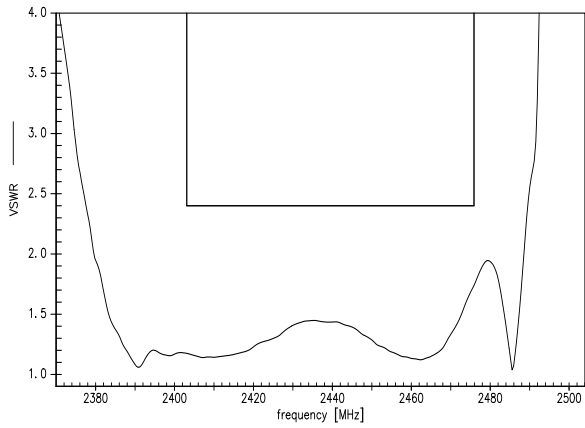
Datasheet

**SMD**

**S11VSWR**



**S22VSWR**



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<b>SAW Components</b>	<b>B8328</b>
<b>BAW Bluetooth/WLAN Filter</b>	<b>2442.0 MHz</b>

Datasheet



References

<b>Type</b>	B8328
<b>Ordering code</b>	B39242B8328P810
<b>Marking and package</b>	C61157-A8-A116
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8328_NB.s2p, B8328_WB.s2p See file header for port/pin assignment table.
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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 <sup>th</sup> , 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.
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<b>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a>

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7 August 21, 2015

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