SAW Components

SAW RF filter for base stations
Band 40 downlink

|	
Series/type:	**B5312**
Ordering code:	**B39232B5312U410**

Date:	Aug 12, 2014
Version:	1.0

Revision History: Changes compared to previous iteration issue

ISSUE	ORIGINATOR	DETAILED SEPECIFICATION CHANGES	DATE
DGAH04S01	Tina Chen	Initial release	Sep 06, 2013
AH04A_v1.0	Tina Chen	First sample release	Oct 08, 2013
B5312_v1.0	Tina Chen	First pilot release	Aug 12, 2014

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

2 Aug 12, 2014

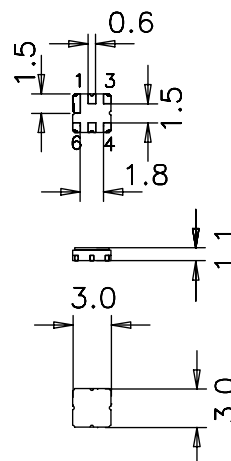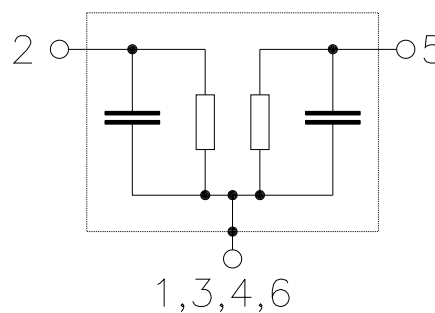| **SAW Components**	**B5312**
SAW RF filter	**2345.0 MHz**

Preliminary data   ᔕᗰᗪ

Application

- RF filter for band 40 downlink
- Unbalanced to unbalanced operation
- Low amplitude ripple
- Usable passband 50 MHz
- No matching required for operation at 50 Ω
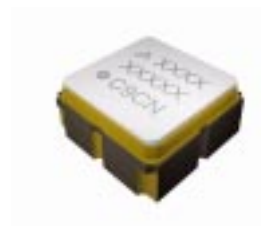
Features

- Package size 3.0 x 3.0 x 1.1 mm^3
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel 1
- Filter surface passivated

Pin configuration

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

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

3   Aug 12, 2014

SAW Components			**B5312**
SAW RF filter			**2345.0 MHz**

Preliminary data   ▭SMD▭

Characteristics

Temperature range for specification: T   =   −40 ˚C to +85 ˚C
Terminating source impedance: Z_S =   50 Ω
Terminating load impedance: Z_L =   50 Ω

		B5312			
		min.	**typ. @ 25 ˚C**	**max.**	
Center frequency	f_C	—	2345.0	—	MHz
Maximum insertion attenuation	α_{max}				
2320.0 ... 2370.0 MHz		—	2.1	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2320.0 ... 2370.0 MHz		—	0.5	1.2	dB
Input VSWR					
2320.0 ... 2370.0 MHz		—	1.6:1	1.8:1	
Output VSWR					
2320.0 ... 2370.0 MHz		—	1.7:1	1.9:1	
Group delay ripple (p-p)	$\Delta\tau$				
2320.0 ... 2370.0 MHz		—	20	30	ns
Absolute attenuation	α_{abs}				
10.0 ... 2190.0 MHz		30	45	—	dB
2190.0 ... 2250.0 MHz		25	40	—	dB
2250.0 ... 2300.0 MHz		6	15	—	dB
2390.0 ... 2400.0 MHz		6	15	—	dB
2400.0 ... 2460.0 MHz		15	20	—	dB
2460.0 ... 2550.0 MHz		30	45	—	dB
2550.0 ... 4000.0 MHz		25	33	—	dB
5000.0 ... 5700.0 MHz		15	17	—	dB
5700.0 ... 6000.0 MHz		12	14	—	dB

SAW Components	B5312
SAW RF filter	**2345.0 MHz**

Preliminary data   SMD

Maximum ratings

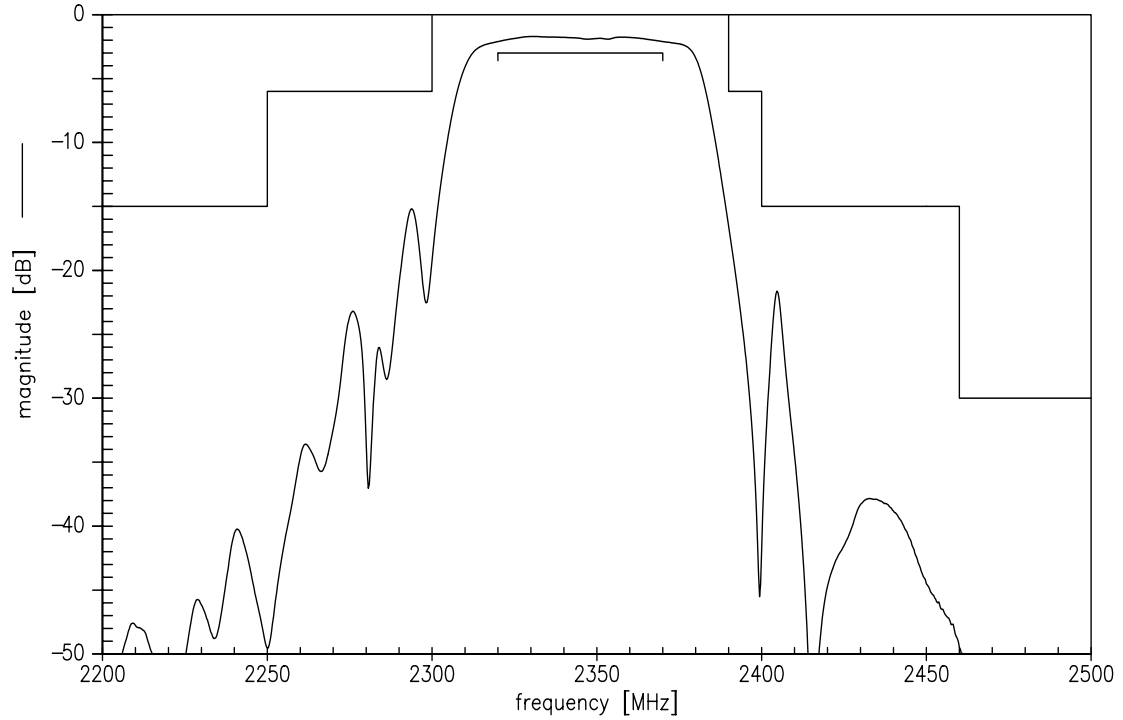|				
Operable temperature range	T	−40/+85	˚C	
Storage temperature range	T_{stg}	−40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100[1]	V	Machine Model
		150[2]	V	Human Body Model
Input power	P_{IN}			
2320.0 ... 2370.0 MHz		20	dBm	cw, 2 h, 85 ˚C
2320.0 ... 2370.0 MHz		15	dBm	cw, 1000 h, 85 ˚C
2320.0 ... 2370.0 MHz		10	dBm	cw, 100000 h, 85 ˚C

[1] acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

[2] acc. to JESD22-A114F (HBM - Human Body Model), 1 negative & 1 positive pulses
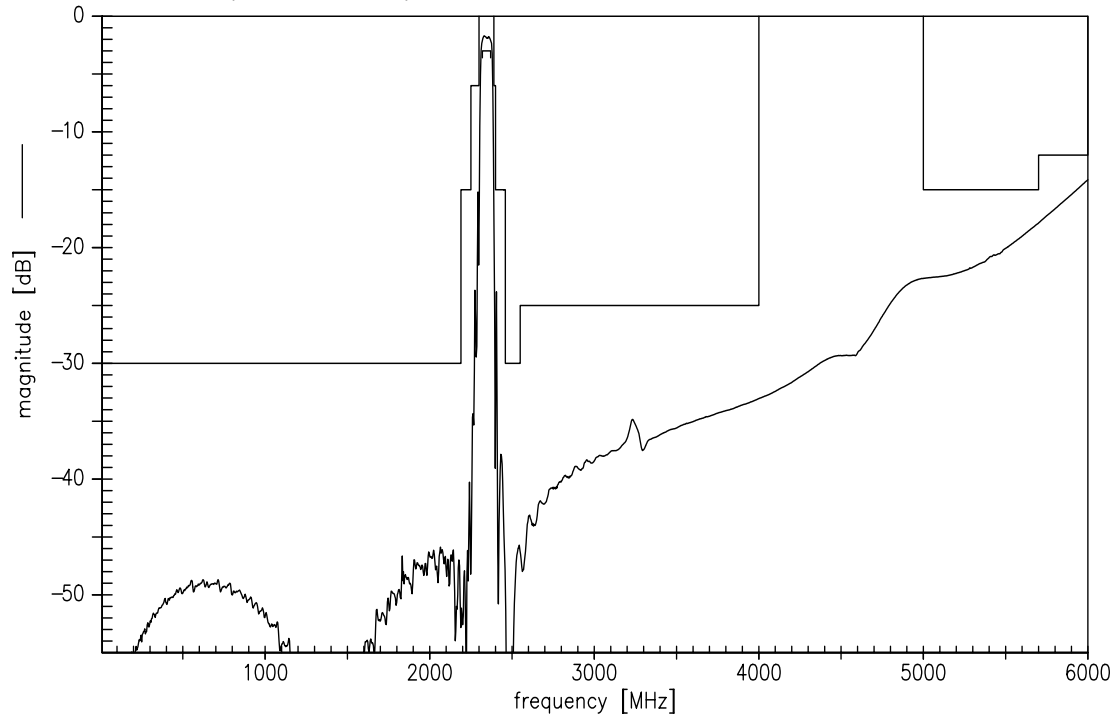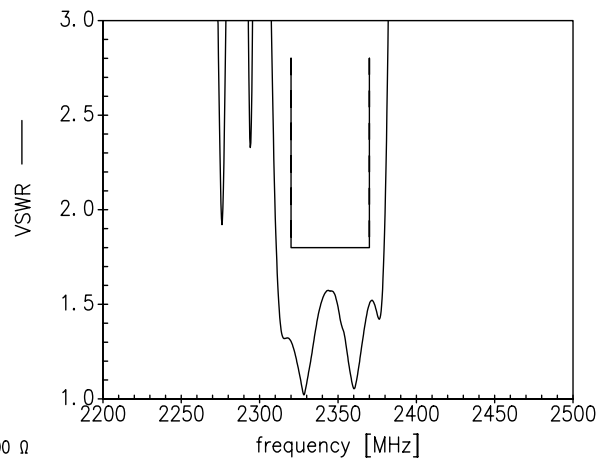
Please read *cautions and warnings and important notes* at the end of this document.

5   Aug 12, 2014

Preliminary data SMD

Transfer function (S21, narrowband)

Transfer function (S21, wideband)

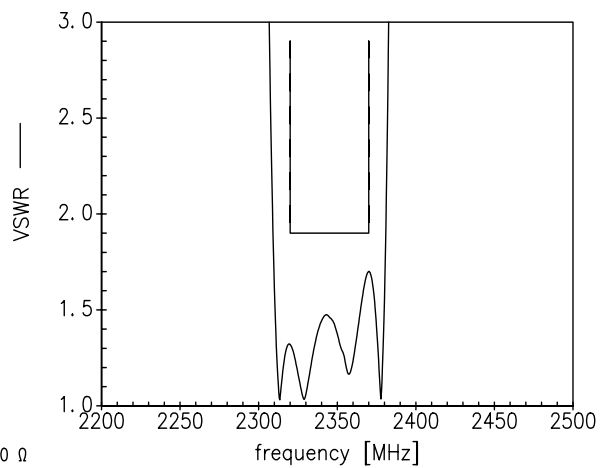Please read *cautions and warnings and important notes* at the end of this document.

SAW Components	B5312
SAW RF filter	**2345.0 MHz**

Preliminary data   ▆▆▆▆

Smith charts

S$_{11}$ function

normal impedance: 50.00 Ω

S$_{22}$ function

normal impedance: 50.00 Ω

References

Type	B5312
Ordering code	B39232B5312U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8228-Z000
Date codes	L_1126
S-parameters	B5312_NB.s2p B5312_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 8th, 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.
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 a large variety of matching coils.

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.

SAW Components	B5312
SAW RF filter	**2345.0 MHz**

Preliminary data   ⬛SMD⬛

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.