

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

### SAW filter

DCS 1800 band I

Series/type:	B5125
Ordering code:	B39172B5125U410
Date:	July 26, 2010
Version:	2.0

RF360 products mentioned within this document are offered by RF360 Europe GmbH and other subsidiaries of RF360 Holdings Singapore Pte. Ltd. (collectively, the "RF360 Subsidiaries"). RF360 Holdings Singapore Pte. Ltd. is a joint venture of Qualcomm Global Trading Pte. Ltd. and EPCOS AG. References in this documentation to EPCOS AG should properly reference, and shall be read to reference, the RF360 Subsidiaries.

RF360 Europe GmbH, Anzinger Str. 13, München, Germany

© 2016 RF360 Europe GmbH and/or its affiliated companies. All rights reserved.

These materials, including the information contained herein, may be used only for informational purposes by the customer. The RF360 Subsidiaries assume no responsibility for errors or omissions in these materials or the information contained herein. The RF360 Subsidiaries reserve the right to make changes to the product(s) or information contained herein without notice. The materials and information are provided on an AS IS basis, and the RF360 Subsidiaries assume no liability and make no warranty or representation, either expressed or implied, with respect to the materials, or any output or results based on the use, application, or evaluation of such materials, including, without limitation, with respect to the non-infringement of trademarks, patents, copyrights or any other intellectual property rights or other rights of third parties.

No use of this documentation or any information contained herein grants any license, whether express, implied, by estoppel or otherwise, to any intellectual property rights, including, without limitation, to any patents owned by QUALCOMM Incorporated or any of its subsidiaries.

Not to be used, copied, reproduced, or modified in whole or in part, nor its contents revealed in any manner to others without the express written permission of RF360 Europe GmbH.

Qualcomm and Qualcomm RF360 are trademarks of Qualcomm Incorporated, registered in the United States and other countries. RF360 is a trademark of Qualcomm Incorporated. Other product and brand names may be trademarks or registered trademarks of their respective owners.

This technical data may be subject to U.S. and international export, re-export, or transfer ("export") laws. Diversion contrary to U.S. and international law is strictly prohibited.



## SAW Components

### SAW filter

DCS 1800 band I

**Series/type:** B5125  
**Ordering code:** B39172B5125U410

**Date:** July 26, 2010  
**Version:** 2.0

© EPCOS AG 2015. Reproduction, publication and dissemination of this publication, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.

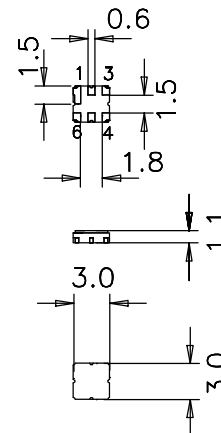
EPCOS AG is a TDK Group Company.

**Application**

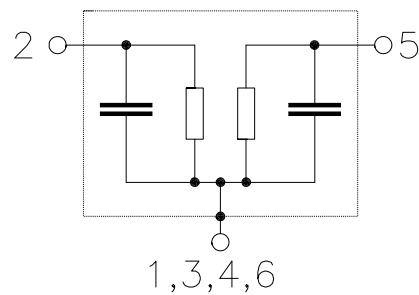
- DCS1800 band I filter
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband of 60 MHz
- No matching required for operation at 50 Ω


**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


**Pin configuration**

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded



<b>SAW Components</b>	<b>B5125</b>
<b>SAW filter</b>	<b>1740.00 MHz</b>

Data sheet



**Characteristics**

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

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_N$	—	1740.00	—	MHz
<b>Minimum insertion attenuation</b> 1710.0 ... 1770.0 MHz	$\alpha_{min}$	—	1.2	—	dB
<b>Maximum insertion attenuation</b> 1710.0 ... 1770.0 MHz	$\alpha_{max}$	—	2.2	3.2	dB
<b>Amplitude ripple (p-p)</b> 1710.0 ... 1770.0 MHz	$\Delta\alpha$	—	1.1	2.1	dB
<b>Input VSWR</b> 1710.0 ... 1770.0 MHz		—	1.8:1	2.1:1	
<b>Output VSWR</b> 1710.0 ... 1770.0 MHz		—	1.8:1	2.1:1	
<b>Relative attenuation (relative to <math>\alpha_{min}</math>)</b>	$\alpha_{rel}$				
10.0 ... 1678.0 MHz		20.0	24.0	—	dB
1802.0 ... 1805.0 MHz		10.0	40.0	—	dB
1805.0 ... 1880.0 MHz		20.0	29.0	—	dB
1880.0 ... 3200.0 MHz		20.0	29.0	—	dB
3200.0 ... 5200.0 MHz		15.5	23.0	—	dB

**SAW Components** **B5125**

**SAW filter** **1740.00 MHz**

Data sheet



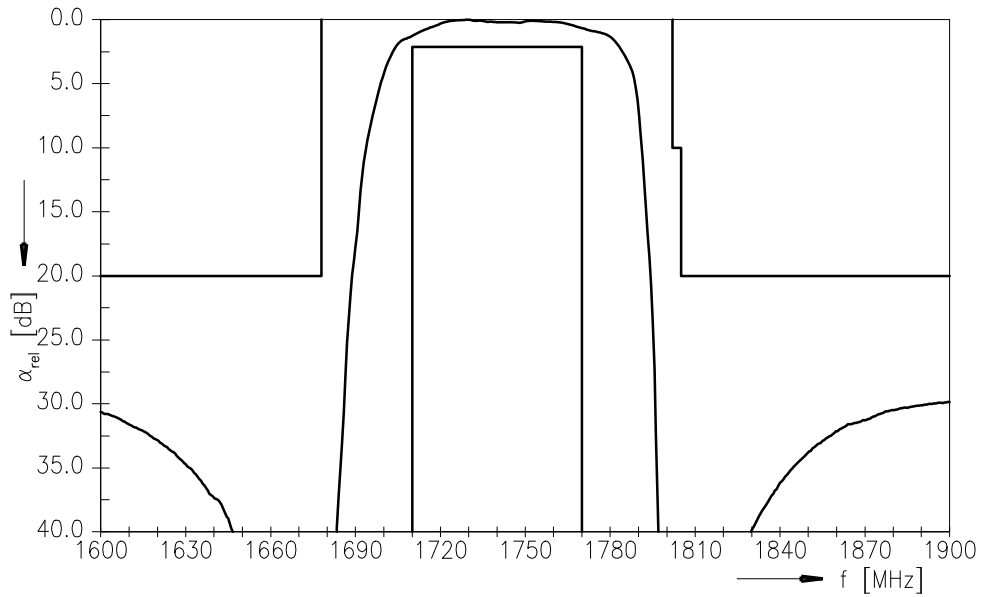
**Maximum ratings**

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1710 ... 1770.0	P <sub>IN</sub>	10	dBm	Continuous wave (10000 hours)

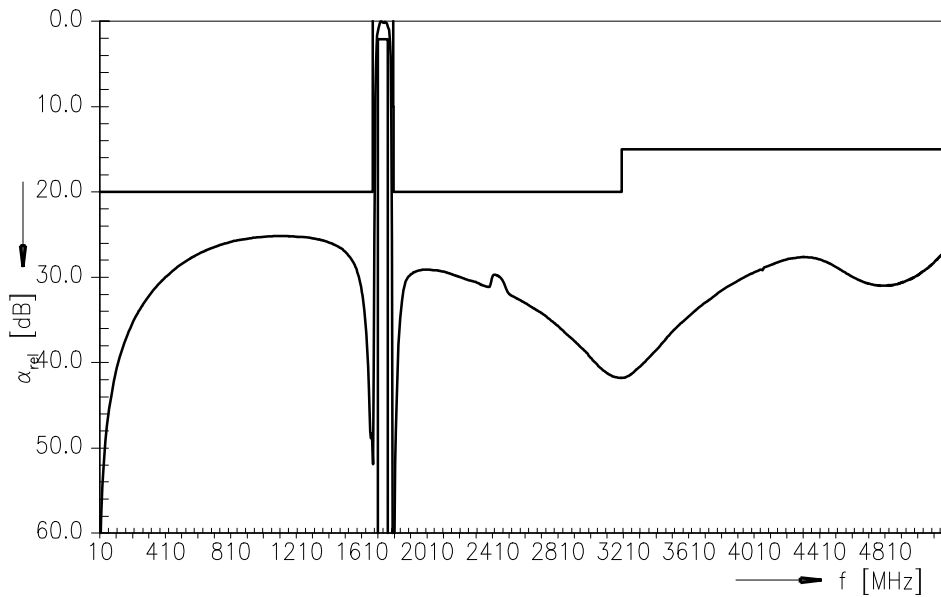
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function (normalized)



Transfer function (wideband)

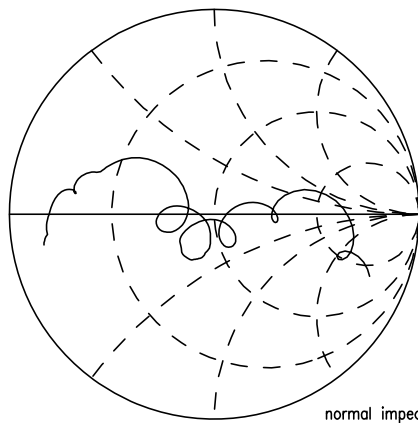


Data sheet

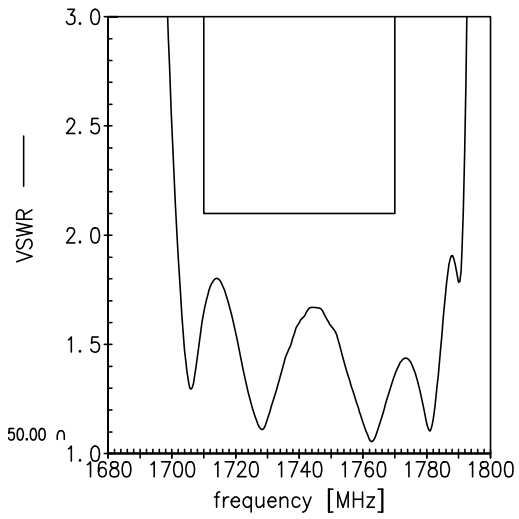


Smith charts

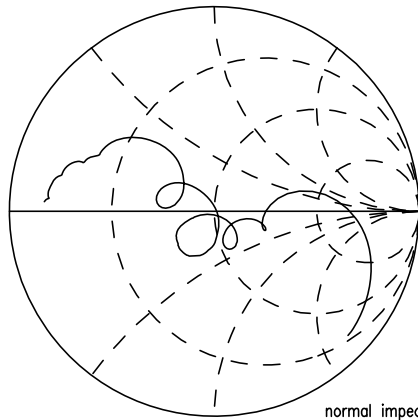
$S_{11}$  function



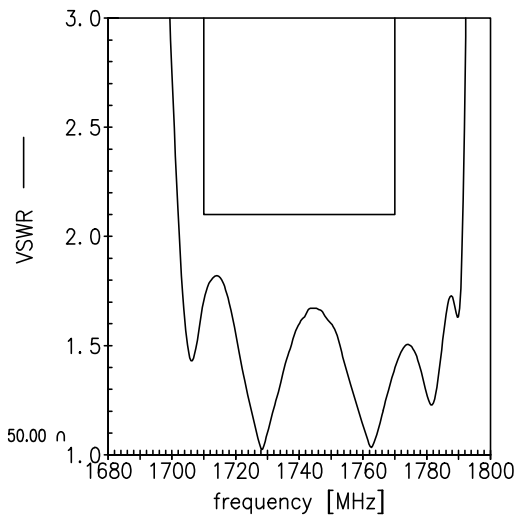
normal impedance: 50.00  $\Omega$



$S_{22}$  function



normal impedance: 50.00  $\Omega$





**SAW Components** **B5125**

**SAW filter** **1740.00 MHz**

Data sheet



**References**

<b>Type</b>	B5125
<b>Ordering code</b>	B39172B5125U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5125_NB.s2p, B5125_WB.s2p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."
<b>Matching coils</b>	See <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> 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](http://www.epcos.com).

**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

© EPCOS AG 2010. 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.