

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

### SAW Filter

BC10 UpLink Filter

Series/type:	B8304
Ordering code:	B39831B8304P810
Date:	September 11,2012
Version:	2.1

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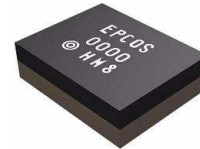
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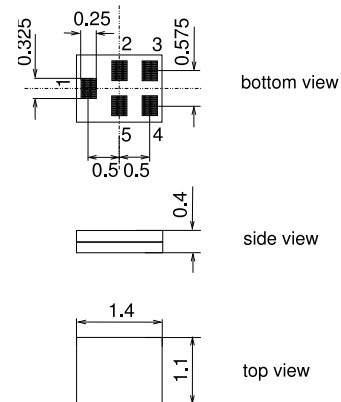
Data sheet


**Application**

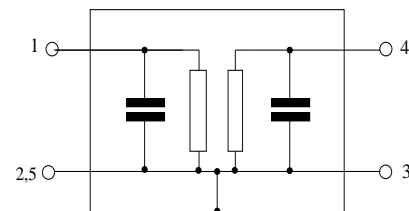
- Low-loss filter for CDMA smallcells applications.
- Unbalanced operation (50 Ohm)
- Low insertion attenuation
- High Rx suppression
- Useable passband 32 MHz


**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


**Pin configuration**

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



**Data sheet**

**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

				min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$			—	833.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$						
		817.0 ... 849.0	MHz	—	2.3	3.5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$						
		817.0 ... 849.0	MHz	—	1.2	2.5	dB
<b>Input VSWR</b>							
		817.0 ... 849.0	MHz	—	1.9	2.2	
<b>Output VSWR</b>							
		817.0 ... 849.0	MHz	—	1.9	2.2	
<b>Attenuation</b>	$\alpha$						
		50 ... 800.0	MHz	30	43	—	dB
		855.5 ... 862.0	MHz	2	8	—	dB
		862.0 ... 894.0	MHz	33	37	—	dB
		1574.42 ... 1576.42	MHz	35	47	—	dB
		1624.0 ... 1708.0	MHz	30	44	—	dB
		1930.0 ... 1990.0	MHz	35	39	—	dB
		2110.0 ... 2170.0	MHz	32	38	—	dB
		2441.0 ... 2557.0	MHz	20	36	—	dB
		3258.0 ... 3406.0	MHz	20	33	—	dB
		3500.0 ... 6000.0	MHz	20	26	—	dB

**Maximum ratings**

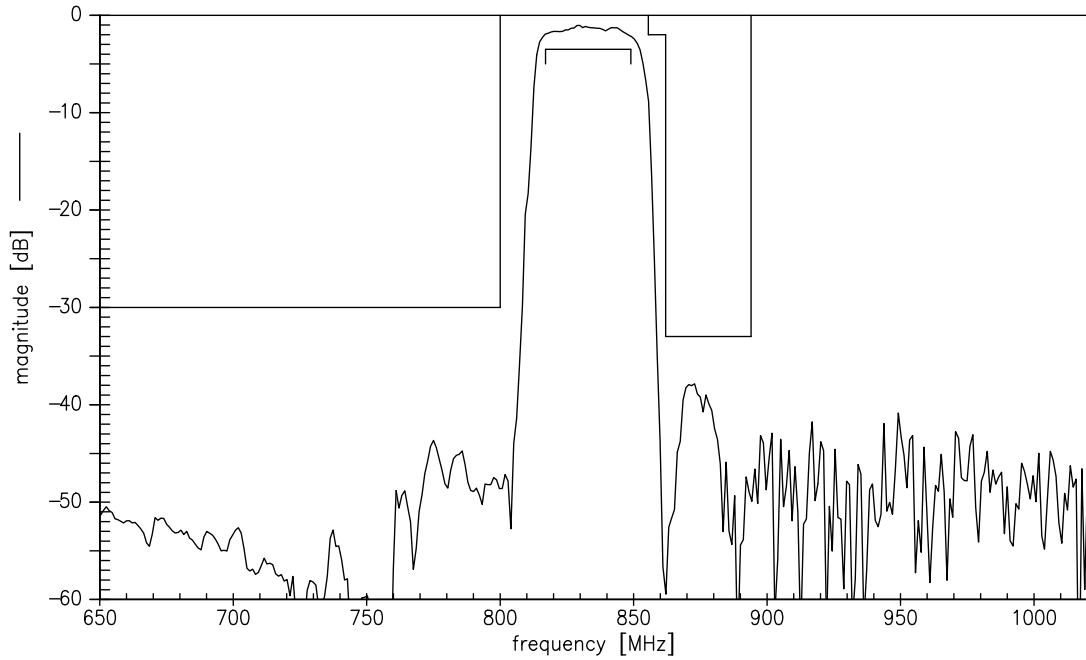
Operable temperature range	$T$	-30/+85	°C	
Storage temperature range	$T_{\text{stg}}$	-40/+85	°C	
DC voltage	$V_{\text{DC}}$	0	V	
ESD voltage	$V_{\text{ESD}}$	50 <sup>1)</sup>	V	machine model, 10 pulses
Input Power	$P_{\text{IN}}$	13	dBm	cw signal

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

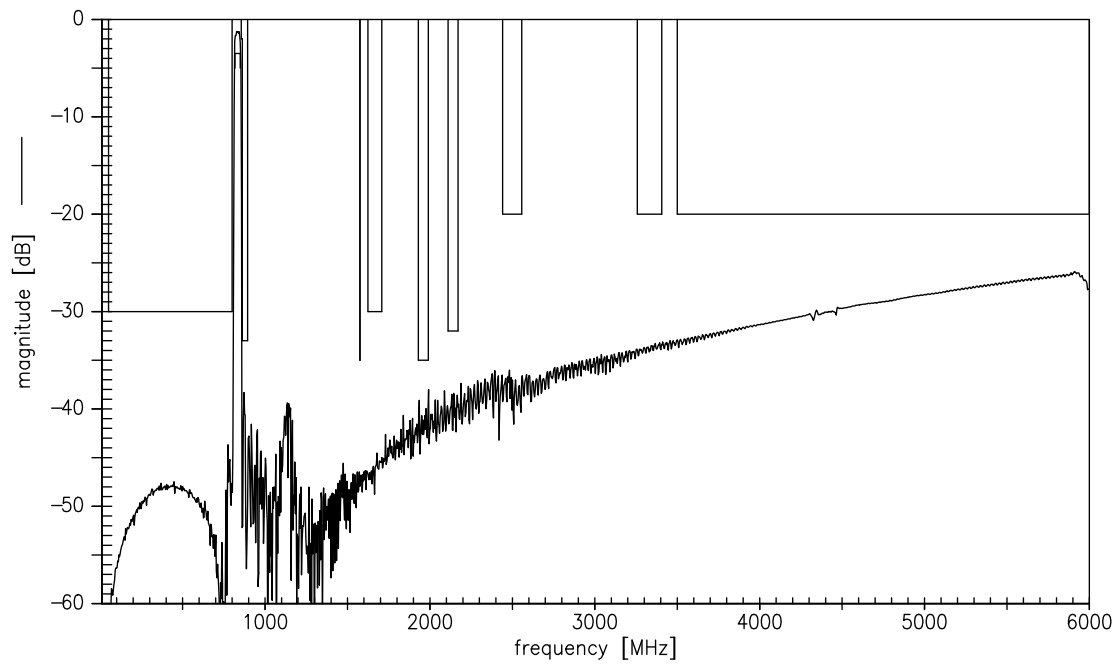
Data sheet



**Transfer function (narrowband)**



**Transfer function (wideband)**

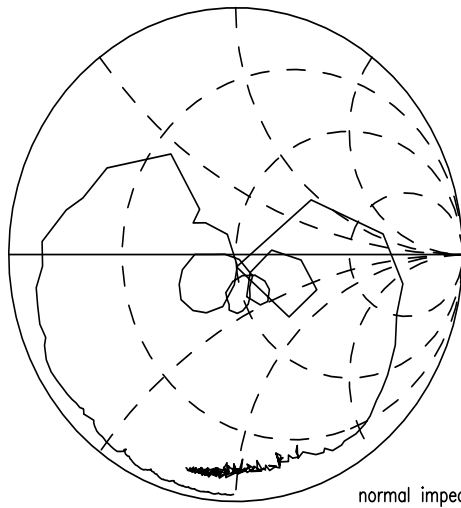


Data sheet

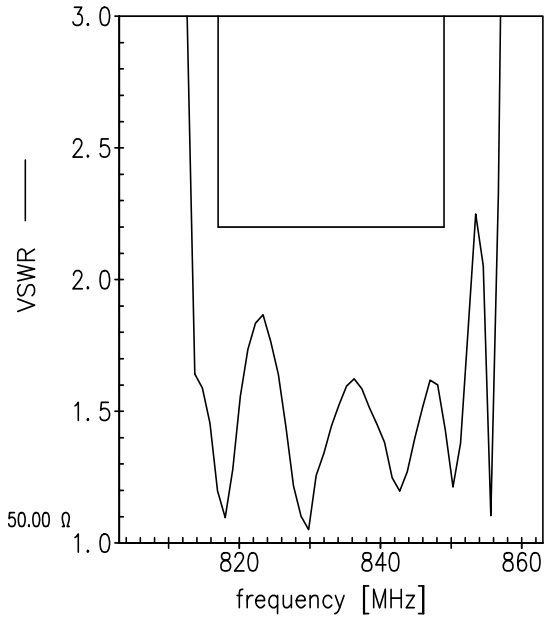


Smith Charts

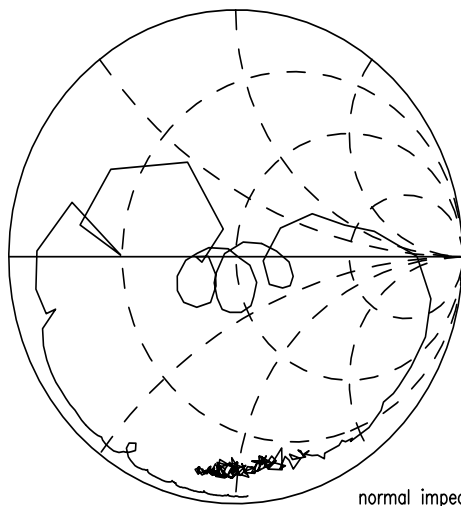
$S_{11}$  function



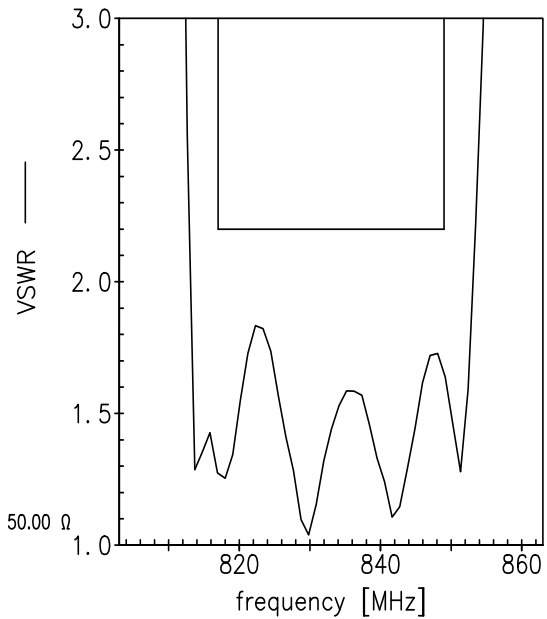
normal impedance: 50.00  $\Omega$



$S_{22}$  function



normal impedance: 50.00  $\Omega$



<b>SAW Components</b>	<b>B8304</b>
<b>SAW Filter</b>	<b>833.0 MHz</b>

Data sheet



References

<b>Type</b>	B8304
<b>Ordering code</b>	B39831B8304P810
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8304_NB.s2p, B8304_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>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> for a large variety of matching coils.

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