



SAW Components

SAW RF filter for base station TD-LTE

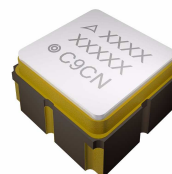
Series/type:	B5183
Ordering code:	B39232B5183U410
Date:	May 22, 2013
Version:	2.1

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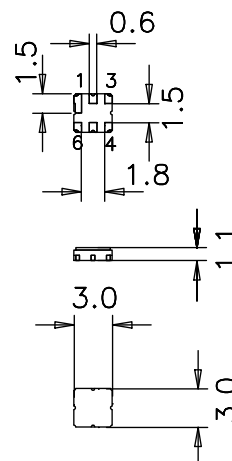
EPCOS AG is a TDK Group Company.

Application

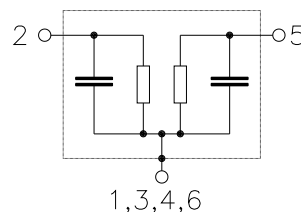
- Low-loss RF filter
- Unbalanced to unbalanced operation
- No matching required for operation at 50 Ω
- Usable passband of 40 MHz


Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approx. weight 0.037g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (ESD)
- Filter surface passivated
- **M**oisture **S**ensitive **L**evel 1


Pin configuration

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



SAW Components
B5183
SAW RF filter
2320.0 MHz

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: $Z_L = 50\ \Omega$

		B5183 ¹⁾			
		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	2320.0	—	MHz
Maximum insertion attenuation	α_{\max}				
2300.0 ... 2340.0 MHz		—	1.9	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2300.0 ... 2340.0 MHz		—	0.5	1.2	dB
Group delay ripple (p-p)	$\Delta\tau$				
2300.0 ... 2340.0 MHz		—	10	20	ns
Mean value of absolute group delay	$\bar{\tau}$				
2300.0 ... 2340.0 MHz		—	20	30	ns
Return Loss(Input and Output)					
2300.0 ... 2340.0 MHz		8.5	14.0	—	dB
Attenuation	α				
100.0 ... 2180.0 MHz		30	32	—	dB
2180.0 ... 2250.0 MHz		30	34	—	dB
2390.0 ... 2550.0 MHz		30	48	—	dB
2550.0 ... 4000.0 MHz		35	40	—	dB

¹⁾ Values in columns min, typ and max indicate the development status of the current version.

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SAW RF filter	2320.0 MHz
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Data sheet



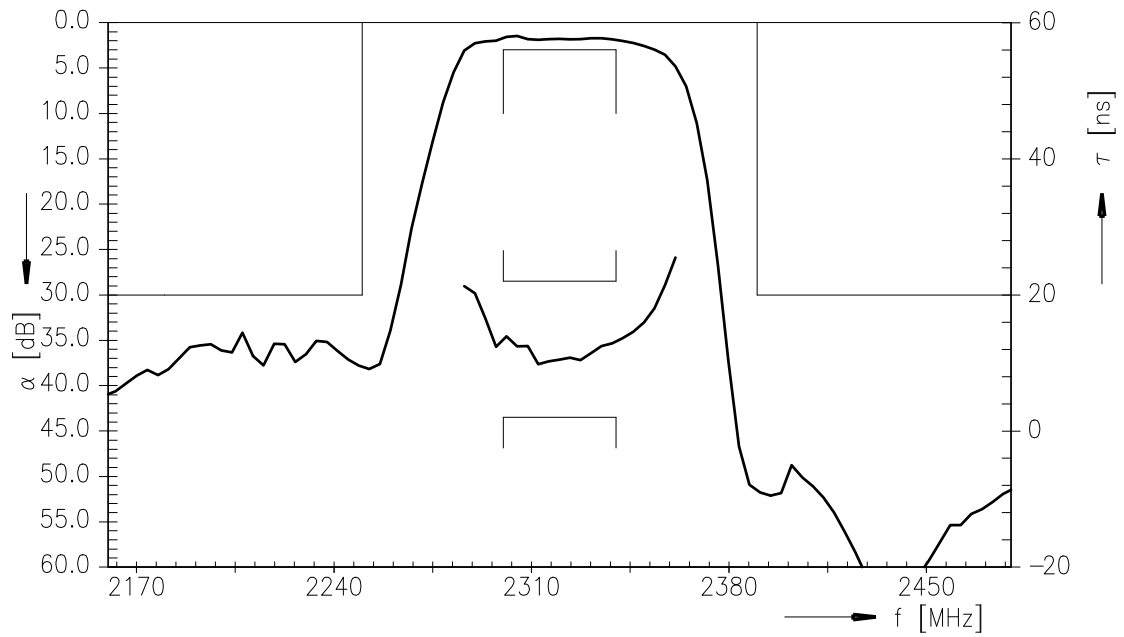
Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+125	°C	
DC voltage	V _{DC}	6	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10pulses human body model, 1 pulse
	V _{HBM}	200 ²⁾	V	
Input power at 2300.0...2340.0 MHz	P _{IN}	15	dBm	100,000 hours , Continuous wave 85 °C

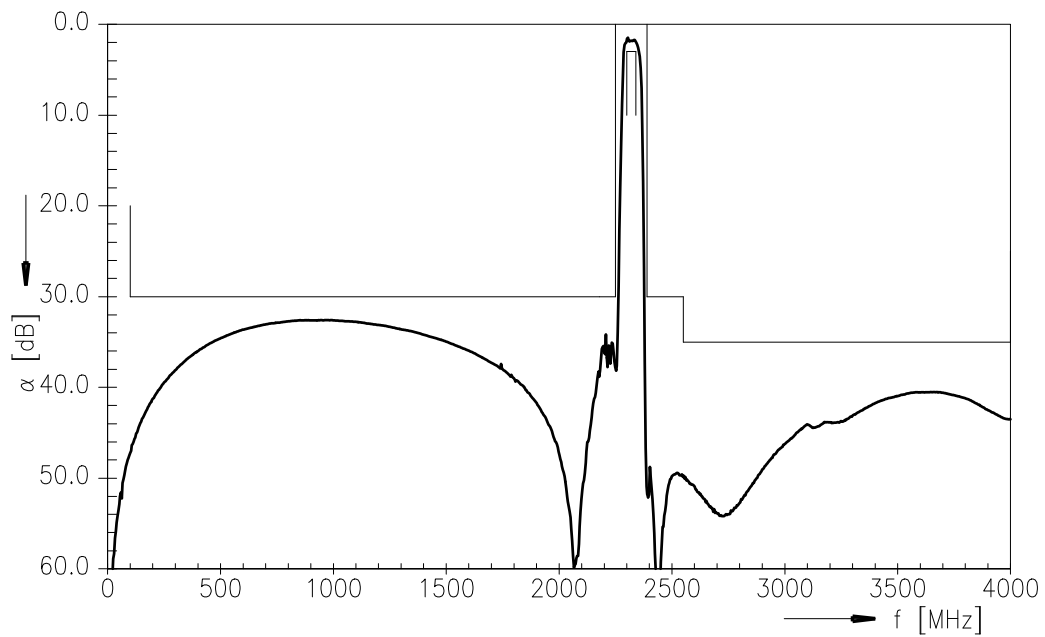
¹⁾ acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulses.

²⁾ acc. to JESD22-A114F (human body model), 1 negative & 1 positive pulses.

Transfer function (Narrowband)



Transfer function (wideband)

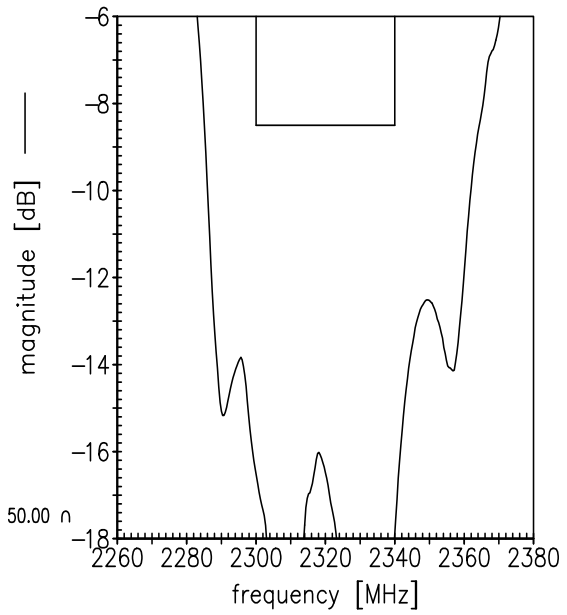
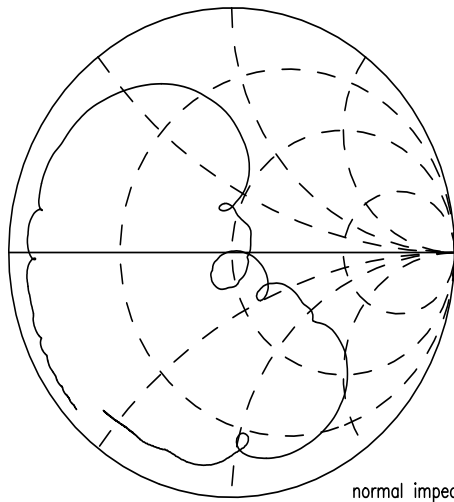


Data sheet

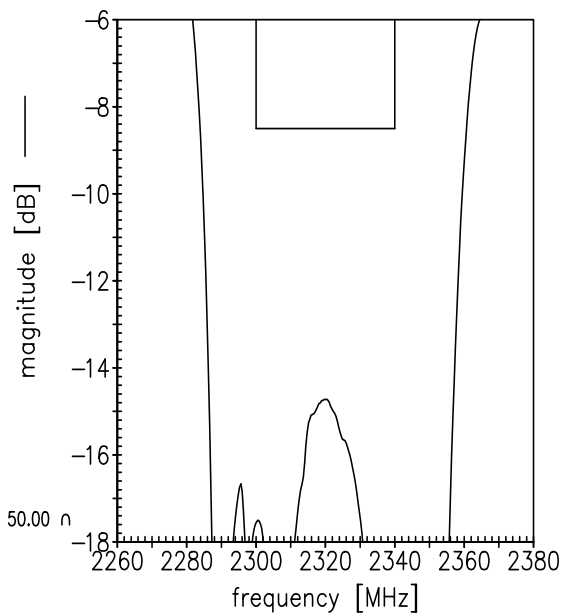
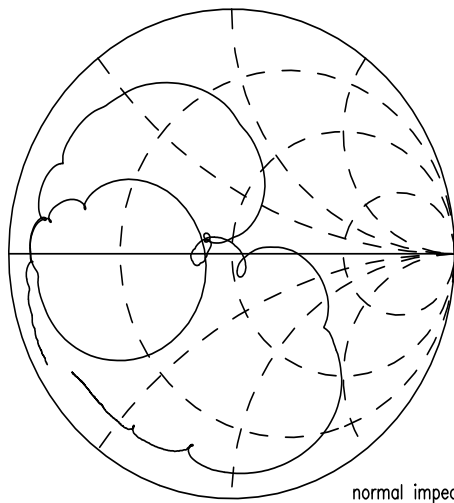
SMD

Smith charts

S₁₁ function



S₂₂ function



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References

Type	B5183
Ordering code	B39232B5183U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8228-Z000
Date codes	L_1126
S-parameters	B5183_NB.s2p, B5183_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.

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