



SAW Components

SAW RF filter for base stations

TD-LTE, Band 40

Series/type:	B5133
Ordering code:	B39242B5133U410
Date:	February 28, 2013
Version:	2.4



SAW Components

B5133

SAW RF filter

2350.0 MHz

Data sheet

SMD

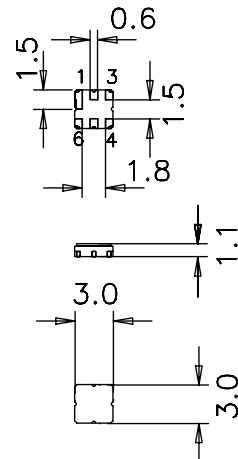
Application

- RF filter for TD-LTE BTS
- Usable bandwidth 100 MHz
- Unbalanced operation at 50 Ω



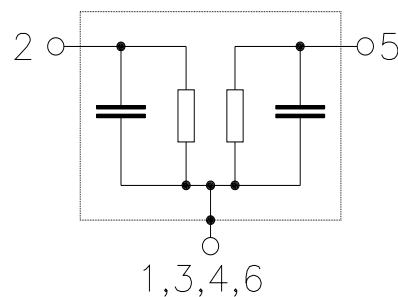
Features

- Package size 3.0 x3.0 x 1.10 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated
- Moisture Sensitivity Level 1



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.



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Characteristics

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

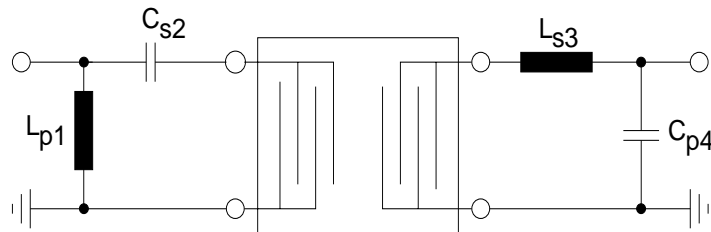
		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	2350	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.5	2.0	dB
Maximum insertion attenuation 2300. 2400 MHz	α_{\max}	—	2.0	3.0	dB
Amplitude ripple (p-p) 2300 2400 MHz	$\Delta\alpha$	—	0.5	1.3	dB
V.S.W.R. (input / output) 2300 2400 MHz		—	1.6:1	2.0:1	
Absolute attenuation	α				
1.00 ... 2050.00 MHz		30	40	—	dB
2050.00 ... 2170.00 MHz		30	35	—	dB
2170.00 ... 2250.00 MHz		15	22	—	dB
2450.00 ... 2550.00 MHz		15	25	—	dB
2550.00 ... 4000.00 MHz		25	28	—	dB
Relative attenuation (relative to α_{\min})	α_{rel}				
0.30 ... 2170.00 MHz		30	35	—	dB
2470.00 ... 2564.32 MHz		21	23	—	dB
2564.32 ... 3000.00 MHz		24	26	—	dB



Data sheet



Matching network to 50 Ω



- $L_{p1} = 1.8 \text{ nH}$
- $C_{s2} = 1.8 \text{ pF}$
- $L_{s3} = 1.8 \text{ nH}$
- $C_{p4} = 0.5 \text{ pF}$

(Element values depend upon board layout and properties)

Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 1 pulse
Input power at				
2300.0... 2400.0 MHz	P _{IN}	17	dBm	cw, 2 h lifetime, at 85 °C
2300.0... 2400.0 MHz	P _{IN}	12	dBm	cw, 100 h lifetime, at 85 °C
2300.0... 2400.0 MHz	P _{IN}	5	dBm	cw, 100000 h lifetime, at 85 °C

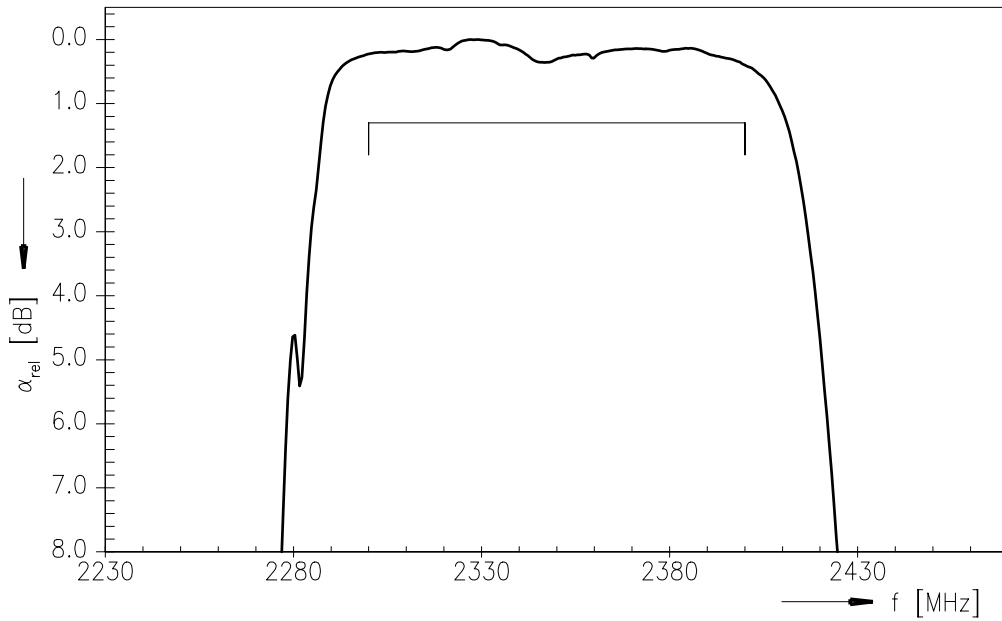
¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulses.



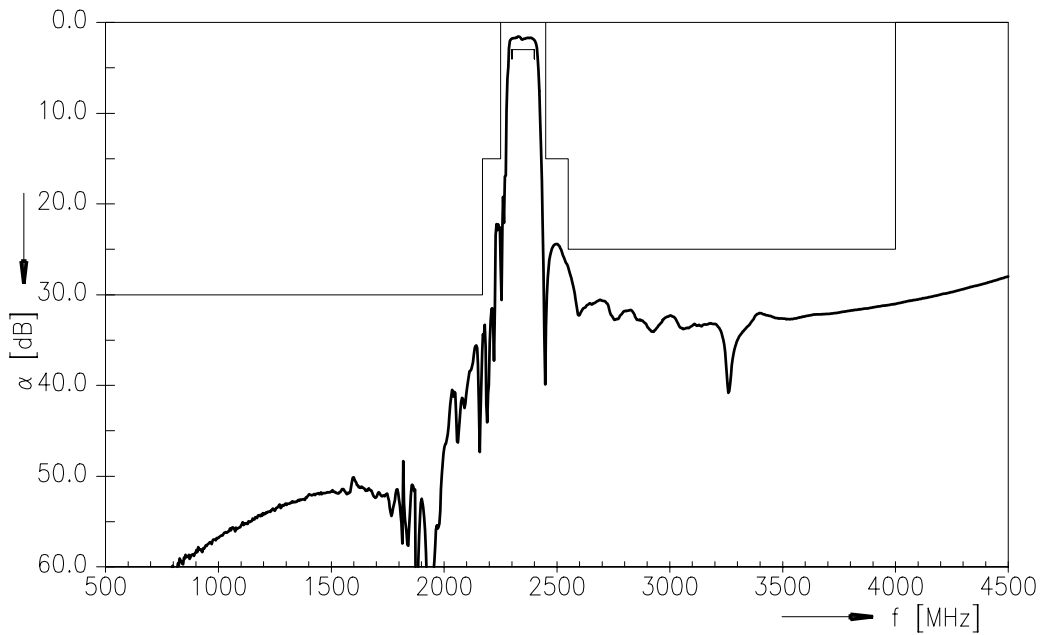
Data sheet



Transfer function (normalized)



Transfer function (stop band)



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Data sheet	

References

Type	B5133
Ordering code	B39242B5133U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5133_NB.s2p, B5133_WB.s2p, B5133_NB_UN.s2p, B5133_WB_UN.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 8 th , 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

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