



SAW Components

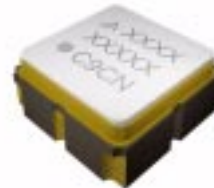
SAW filter
WCDMA/UMTS Band VII

Series/type:	B5115
Ordering code:	B39252B5115U410
Date:	May 10, 2013
Version:	2.3

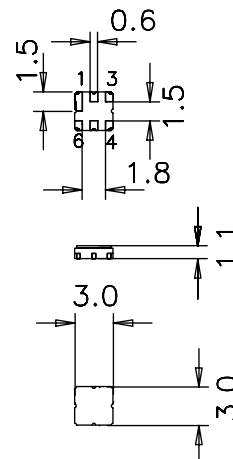
Data Sheet

Application

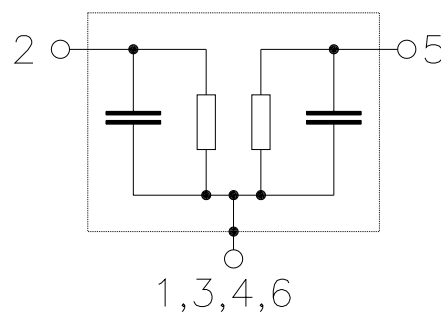
- Low-loss RF filter for WCDMA/UMTS band VII base-station
- Low amplitude ripple
- No matching required for operation at 50Ω
- Usable passband of 70MHz


Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 1
- Filter surface passivated


Pin configuration

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



Data Sheet

Characteristics

Temperature range for specification:	$T = -10\text{ °C to }+85\text{ °C}$
Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 50\ \Omega$

				min.	typ. @ 25 °C	max.	
Center frequency		f_C		—	2535.0	—	MHz
Maximum insertion attenuation		α_{\max}		—	2.4	3.0	dB
	2500 ... 2570	MHz					
Amplitude ripple (p-p)		$\Delta\alpha$		—	0.6	1.4	dB
	2500 ... 2570	MHz					
VSWR							
Input	2500 ... 2570	MHz		—	1.7:1	1.9:1	
Output	2500 ... 2570	MHz		—	1.7:1	2.0:1	
Absolute Attenuation		α					
	1.0 ... 225.0	MHz		30	38	—	dB
	225.0 ... 2070.0	MHz		20	27	—	dB
	2070.0 ... 2170.0	MHz		33	39	—	dB
	2170.0 ... 2260.0	MHz		27	33	—	dB
	2260.0 ... 2372.0	MHz		18	23	—	dB
	2372.0 ... 2450.0	MHz		12	15	—	dB
	2450.0 ... 2465.0	MHz		6	16	—	dB
	2465.0 ... 2478.5	MHz		3	4.5	—	dB
	2620.0 ... 2810.0	MHz		29	33	—	dB
	2810.0 ... 2900.0	MHz		27	33	—	dB
	2900.0 ... 3300.0	MHz		20	25	—	dB
	3300.0 ... 3500.0	MHz		18	23	—	dB
	3500.0 ... 5000.0	MHz		4	10	—	dB

Data Sheet

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

				min.	typ. @ 25 °C	max.	
Center frequency			f _C	—	2535.0	—	MHz
Maximum insertion attenuation			α _{max}	—	2.4	3.3	dB
	2500	...	2570 MHz				
Amplitude ripple (p-p)			Δα	—	0.6	1.6	dB
	2500	...	2570 MHz				
VSWR							
Input	2500	...	2570 MHz	—	1.7:1	2.0:1	
Output	2500	...	2570 MHz	—	1.7:1	2.0:1	
Absolute Attenuation			α				
	1.0	...	225.0 MHz	30	38	—	dB
	225.0	...	2070.0 MHz	20	27	—	dB
	2070.0	...	2170.0 MHz	33	39	—	dB
	2170.0	...	2260.0 MHz	27	33	—	dB
	2260.0	...	2372.0 MHz	18	23	—	dB
	2372.0	...	2450.0 MHz	12	15	—	dB
	2450.0	...	2465.0 MHz	6	16	—	dB
	2465.0	...	2478.5 MHz	3	4.5	—	dB
	2620.0	...	2810.0 MHz	29	33	—	dB
	2810.0	...	2900.0 MHz	27	33	—	dB
	2900.0	...	3300.0 MHz	20	25	—	dB
	3300.0	...	3500.0 MHz	18	23	—	dB
	3500.0	...	5000.0 MHz	4	10	—	dB


Maximum ratings

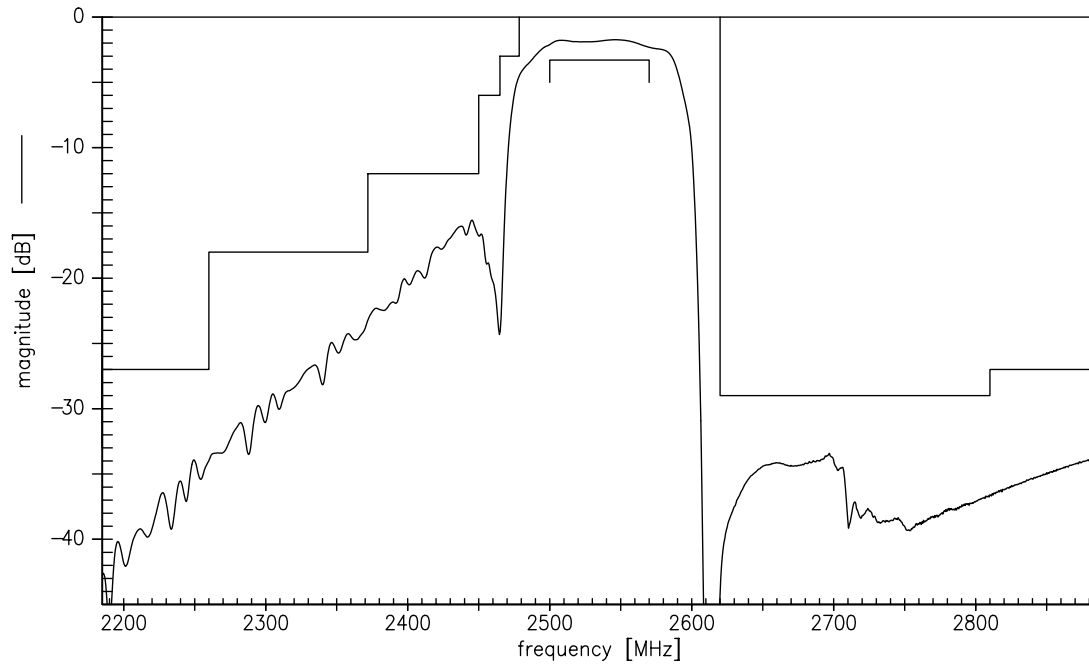
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 1 pulse
		150 ²⁾	V	human body model, 1 pulse
Input power at				
2500.0 ... 2570.0	P _{IN}	15	dBm	CW, 100000hrs, 85°C
2500.0 ... 2570.0	P _{IN}	20	dBm	CW, 1000hrs, 85°C
2500.0 ... 2570.0	P _{IN}	24	dBm	CW, 2hrs, 85°C

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

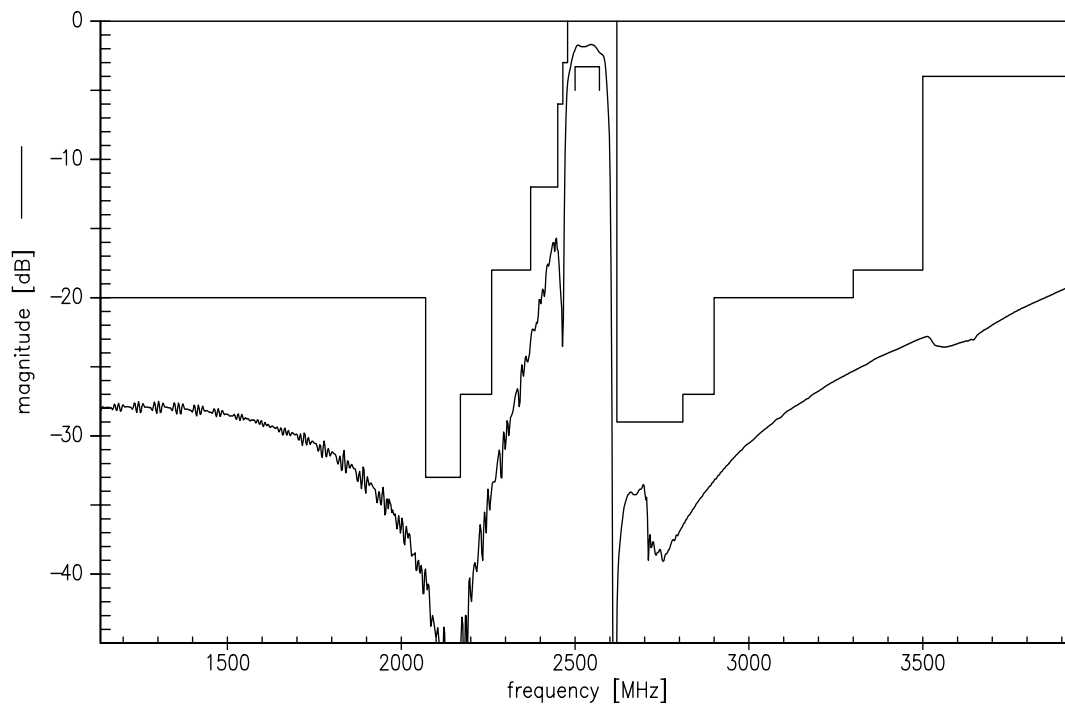
2) acc. to JESD22-A114B (human body model), 1 negative & 1 positive pulse.



Transfer function

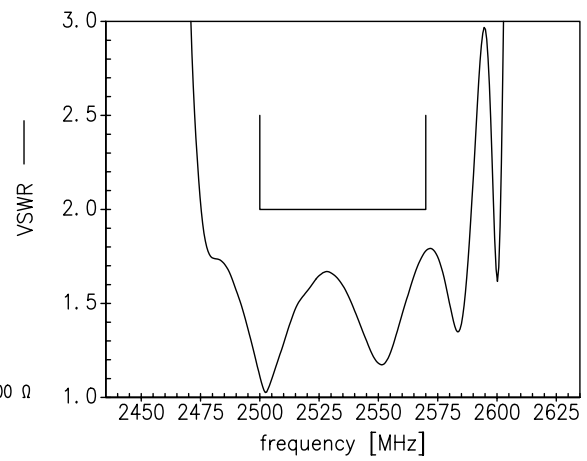
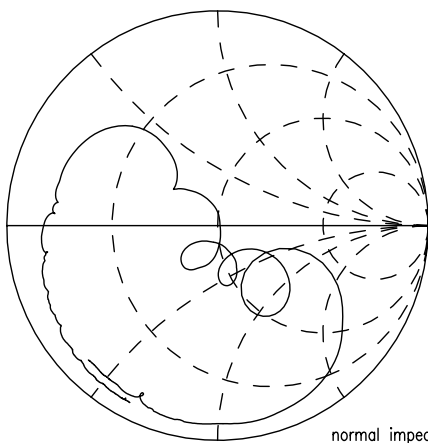


Transfer function (wideband)

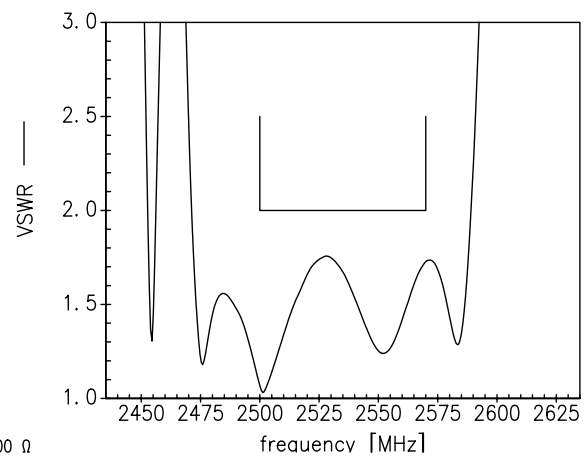
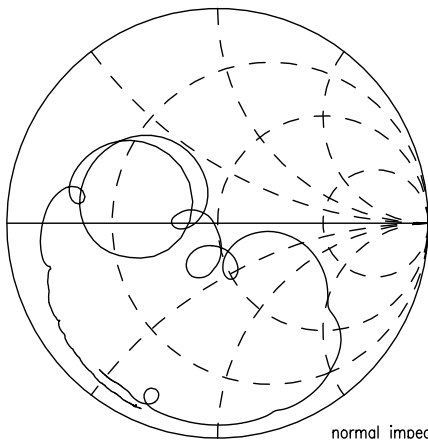




S₁₁ function



S₂₂ function




References

Type	B5115
Ordering code	B39252B5115U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5115_NB.s2p B5115_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.

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Published by EPCOS AG
Systems, Acoustics, Waves Business Group
P.O. Box 80 17 09, 81617 Munich, GERMANY

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