SAW Components

SAW RF filter for base stations

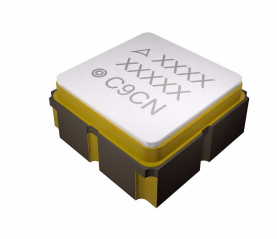
LTE

Series/type:	**B5128**
Ordering code:	**B39142B5128U410**
Date:	June 11, 2013
Version:	2.2

EPCOS AG is a TDK Group Company.

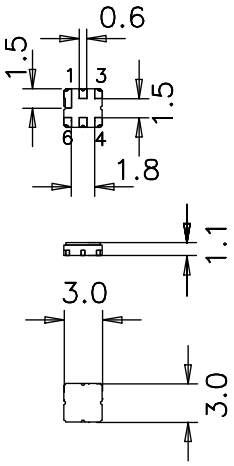
Application

- Low-loss RF filter for BTS systems
- Low amplitude ripple
- Usable passband 37.1 MHz
- Unbalanced to unbalanced operation
- No matching required for operation at 50 Ω



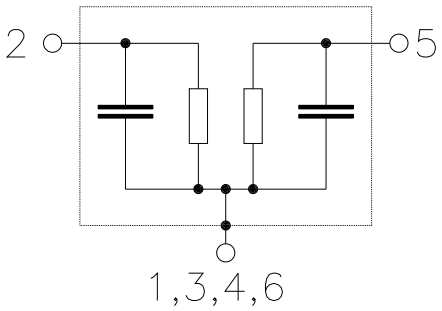
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel 1
- Filter surface passivated



Pin configuration

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



Data sheet SMD

Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50Ω
Terminating load impedance: Z_L = 50 Ω

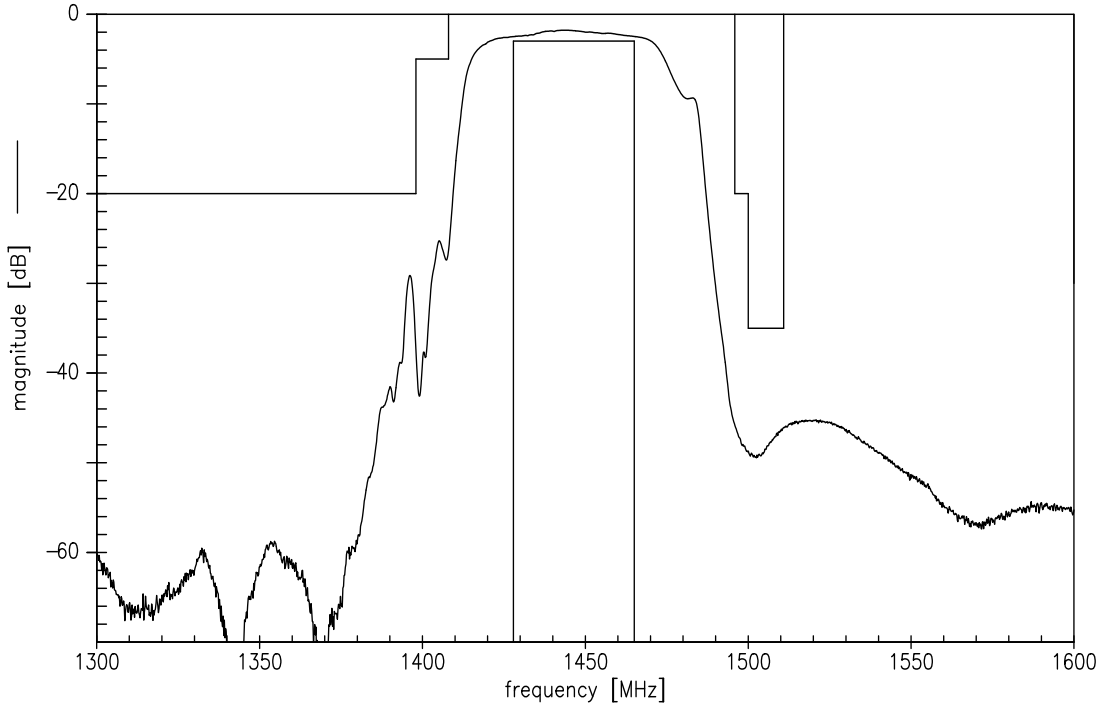
		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	1446.45	—	MHz
Maximum insertion attenuation	α_{max}				
1427.9 ... 1465.0 MHz		—	2.5	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1447.9 ... 1462.9 MHz		—	0.6	0.9	dB
1427.9 ... 1465.0 MHz		—	0.8	1.3	dB
Input return loss					
1427.9 ... 1465.0 MHz		10.0	13.0	—	dB
Output return loss					
1427.9 ... 1465.0 MHz		8.0	10.0	—	dB
Attenuation	α				
1110.0 ... 1398.0 MHz		20	29	—	dB
1398.0 ... 1408.0 MHz		5	24	—	dB
1495.9 ... 1500.0 MHz		20	44	—	dB
1500.0 ... 1510.9 MHz		35	46	—	dB
1600.0 ... 1650.0 MHz		30	54	—	dB

Maximum ratings

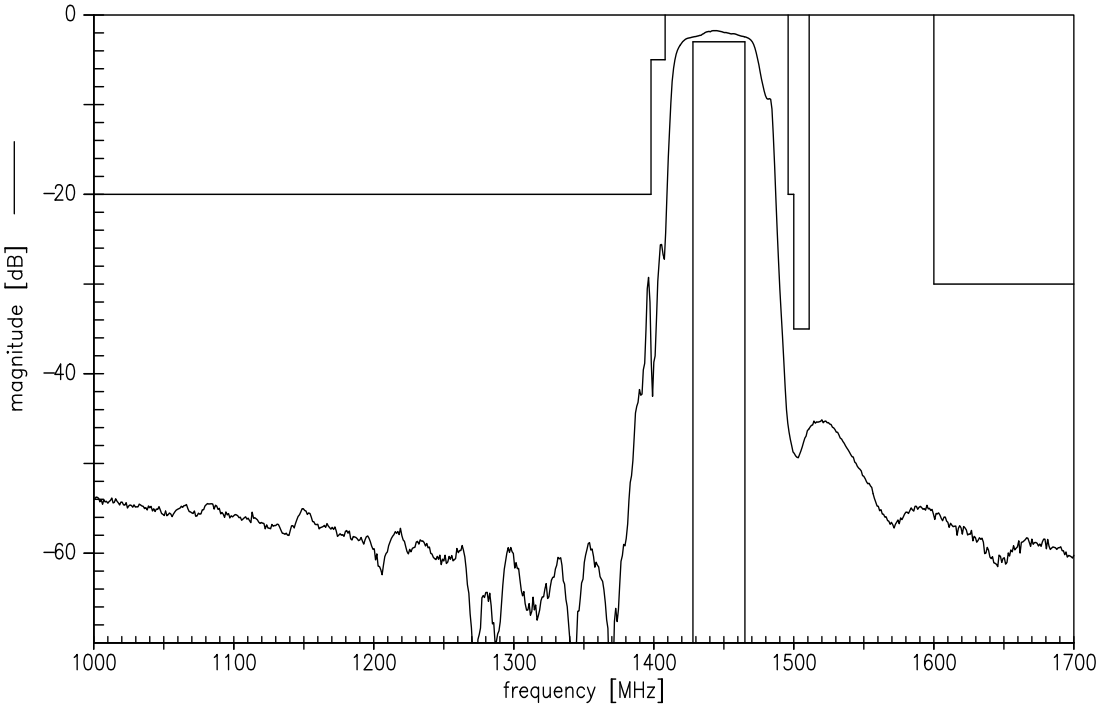
Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power				
1427.9 ... 1465.0 MHz	P_{IN}	10	dBm	CW, 100000 hrs, 85°C

1) acc. to JESD-A115B (machine model), +/- 10 pulses.

Transfer function (S21,narrow band)

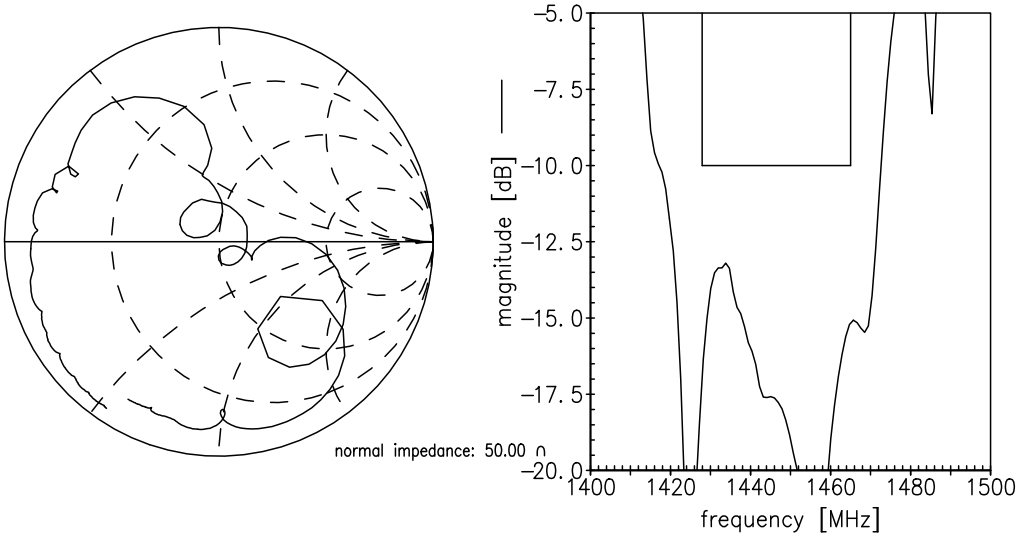


Transfer function (S21, wide band)

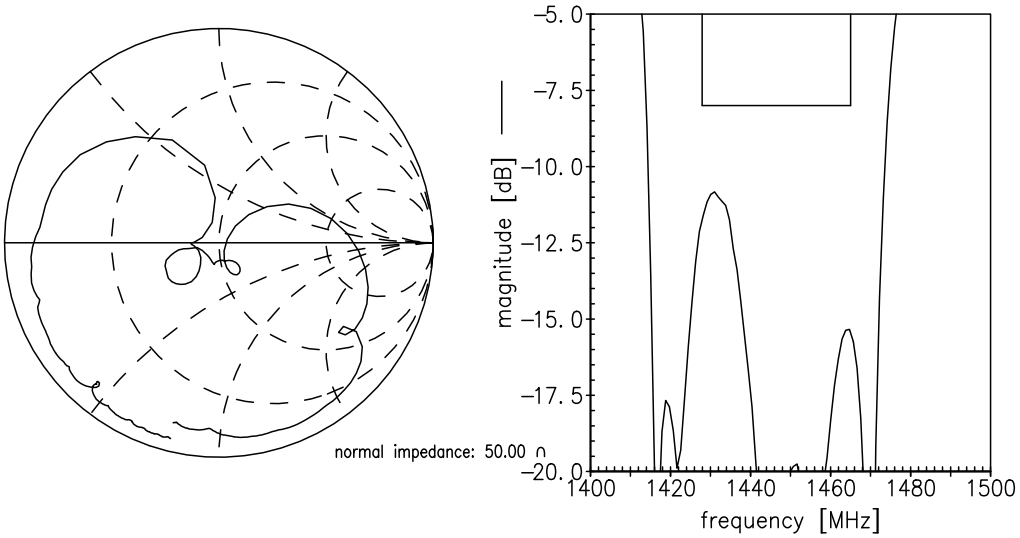


Smith charts

S_{11} function



S_{22} function



References

Type	B5128
Ordering code	B39142B5128U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5128_NB.s2p B5128_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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