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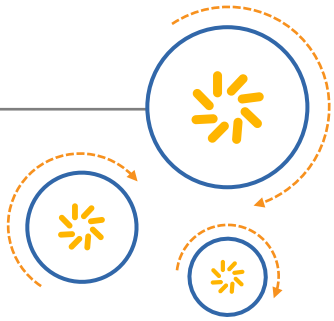

SAW Components

SAW RF filter for base stations

TETRA

Series/type:	B5052
Ordering code:	B39471B5052Z810
Date:	Aug 24, 2015
Version:	2.2

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RF360 Europe GmbH, Anzinger Str. 13, München, Germany

SAW Components

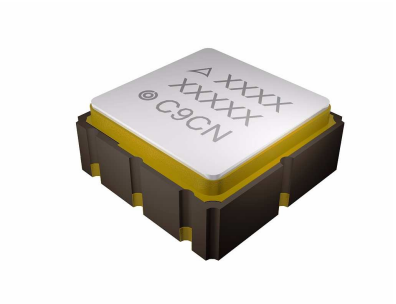
SAW RF filter for base stations

TETRA

Series/type:	**B5052**
Ordering code:	**B39471B5052Z810**
Date:	Aug 24, 2015
Version:	2.2

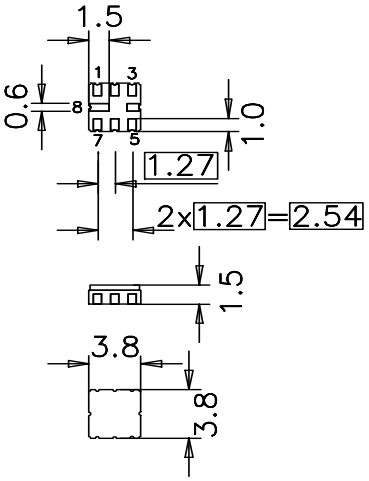
Application

- Low-loss filter for base stations TETRA systems, receive path(RX)
- Unbalanced to unbalanced or unblanced to balanced operation
- Low amplitude ripple
- Usable passband 10 MHz
- No matching required for operation at 50 Ω



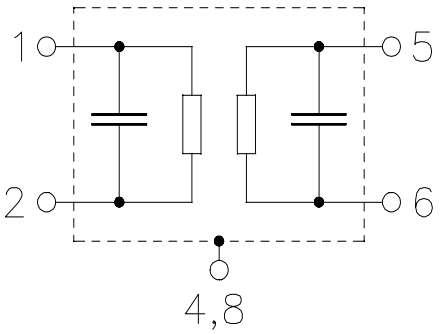
Features

- Package size 3.8 x 3.8 x 1.35 mm³
- Package code QCC8B
- RoHS compatible
- Approximate weight 0.07 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

- 5 Input
- 1 Output / Output balanced
- 2 Output ground / Output blanced
- 3, 6, 7 To be grounded
- 4, 8 Case ground



Data sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +70 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	465	—	MHz
Maximum insertion attenuation	α_{max}				
460.0 ... 470.0 MHz		—	2.3	3.0 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
460.0 ... 470.0 MHz		—	0.9	2.0[2]	dB
Input VSWR					
460.0 ... 470.0 MHz		—	2.0:1	2.2:1	
Output VSWR					
460.0 ... 470.0 MHz		—	2.0:1	2.2:1	
Absolute attenuation	α_{abs}				
50.0 ... 82.0 MHz		31	73	—	dB
82.0 ... 352.0 MHz		27	54	—	dB
352.0 ... 455.0 MHz		10	17	—	dB
478.0. ... 500.0 MHz		10	21	—	dB
500.0 ... 622.0 MHz		27	50	—	dB
622.0 ... 633.0 MHz		45	47	—	dB
633.0 ... 1001.0 MHz		19	36	—	dB
1001.0 ... 1542.0 MHz		26	31	—	dB
1542.0 ... 1736.0 MHz		34	37	—	dB
1736.0 ... 2100.0 MHz		24	27	—	dB

[1] 2.5 dB max at +15˚C to +35˚C
[2] 1.5 dB max at +15˚C to +35˚C

Data sheet SMD

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	—	465	—	MHz
Maximum insertion attenuation	α_{max}				
462.5 ... 467.5 MHz		—	2.0	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
462.5 ... 467.5 MHz		—	0.9	1.5	dB
Input VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Output VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Absolute attenuation	α_{abs}				
50.0 ... 82.0 MHz		31	73	—	dB
82.0 ... 352.0 MHz		27	54	—	dB
352.0 ... 455.0 MHz		8.0	17	—	dB
478.0. ... 500.0 MHz		8.0	21	—	dB
500.0 ... 622.0 MHz		27	50	—	dB
622.0 ... 633.0 MHz		45	47	—	dB
633.0 ... 1001.0 MHz		19	36	—	dB
1001.0 ... 1542.0 MHz		26	31	—	dB
1542.0 ... 1736.0 MHz		34	37	—	dB
1736.0 ... 2100.0 MHz		24	27	—	dB

Data sheet SMD

Characteristics

Temperature range for specification: T = –40 ˚C to +95 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	465	—	MHz
Maximum insertion attenuation	α_{max}				
462.5 ... 467.5 MHz		—	2.0	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
462.5 ... 467.5 MHz		—	0.9	1.5	dB
Input VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Output VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Absolute attenuation	α_{abs}				
50.0 ... 82.0 MHz		31	73	—	dB
82.0 ... 352.0 MHz		27	54	—	dB
352.0 ... 455.0 MHz		6.5	17	—	dB
478.0. ... 500.0 MHz		6.5	21	—	dB
500.0 ... 622.0 MHz		27	50	—	dB
622.0 ... 633.0 MHz		45	47	—	dB
633.0 ... 1001.0 MHz		19	36	—	dB
1001.0 ... 1542.0 MHz		26	31	—	dB
1542.0 ... 1736.0 MHz		34	37	—	dB
1736.0 ... 2100.0 MHz		24	27	—	dB

Data sheet SMD

Characteristics

Temperature range for specification: T = –40 ˚C to+110 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

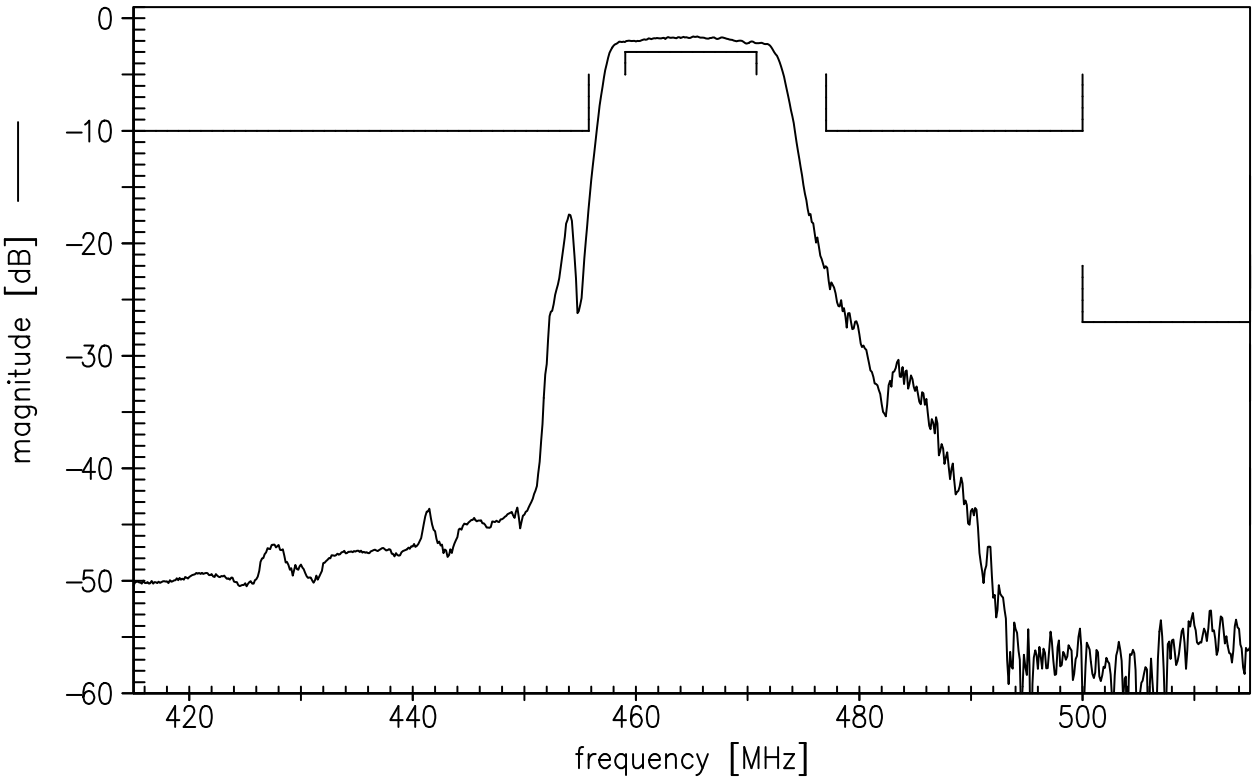
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	465	—	MHz
Maximum insertion attenuation	α_{max}				
462.5 ... 467.5 MHz		—	2.0	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
462.5 ... 467.5 MHz		—	0.9	1.5	dB
Input VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Output VSWR					
462.5 ... 467.5 MHz		—	2.0:1	2.2:1	
Absolute attenuation	α_{abs}				
50.0 ... 82.0 MHz		31	73	—	dB
82.0 ... 352.0 MHz		27	54	—	dB
352.0 ... 455.0 MHz		5.0	17	—	dB
478.0. ... 500.0 MHz		5.0	21	—	dB
500.0 ... 622.0 MHz		27	50	—	dB
622.0 ... 633.0 MHz		45	47	—	dB
633.0 ... 1001.0 MHz		19	36	—	dB
1001.0 ... 1542.0 MHz		26	31	—	dB
1542.0 ... 1736.0 MHz		34	37	—	dB
1736.0 ... 2100.0 MHz		24	27	—	dB

Maximum ratings

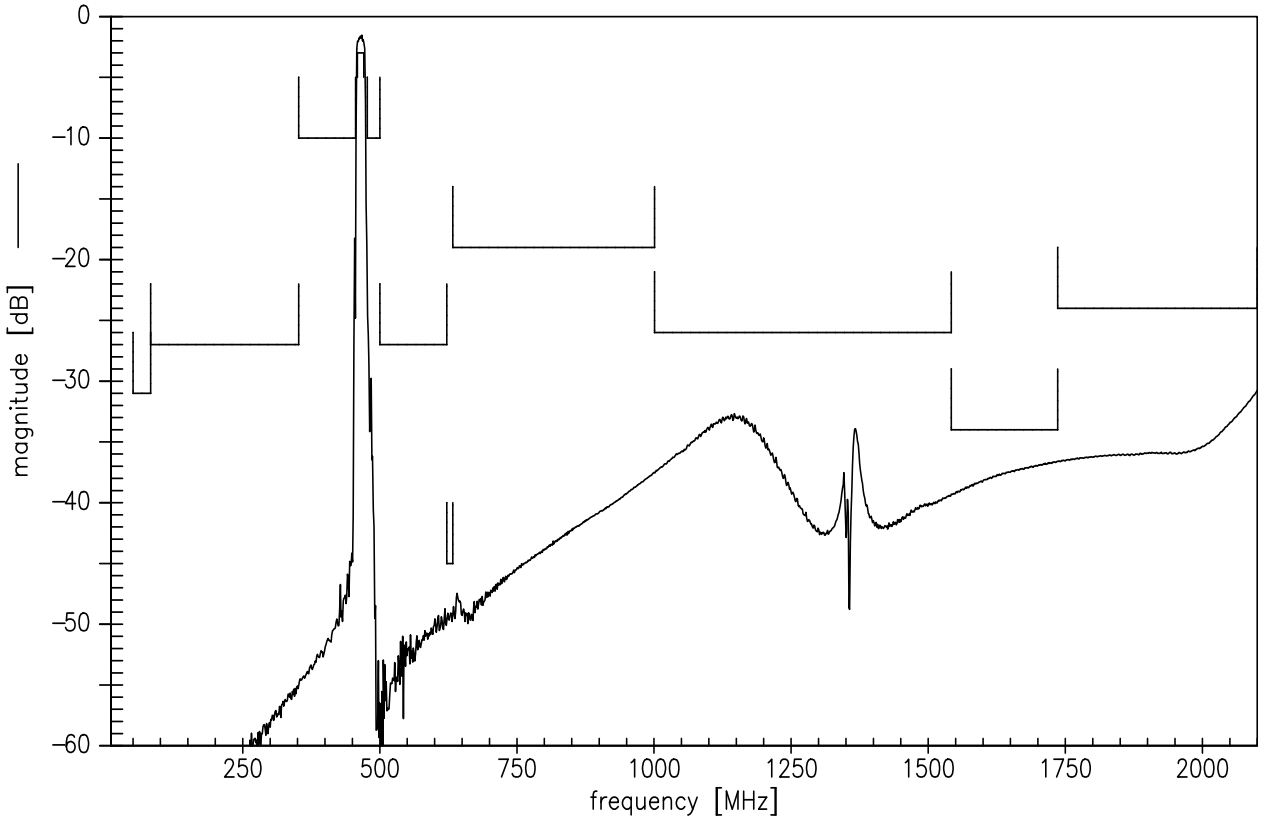
Operable temperature range	T	–45/+125	˚C	
Storage temperature range	T_{stg}	–45/+125	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100[1)]	V	Machine Model
Input power	P_{IN}			
460.0 ... 470.0 MHz		15	dBm	cw, 100000 h, 85 ˚C

1) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

Transfer function (S21, narrowband)

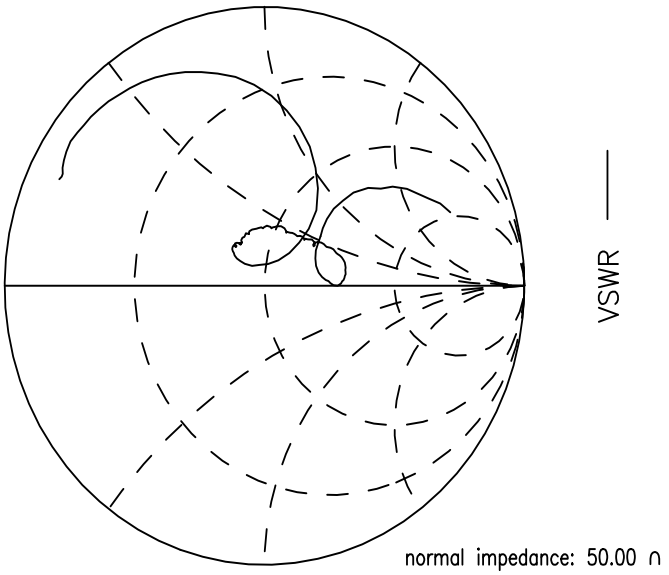


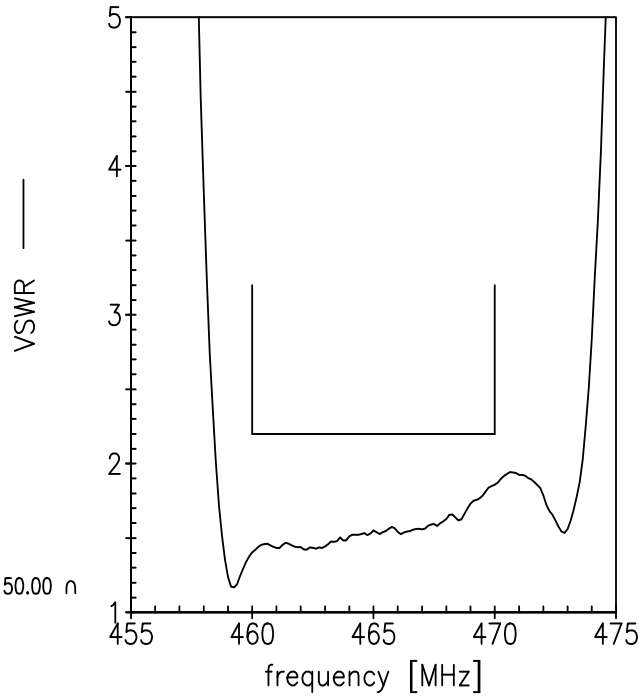
Transfer function (S21, wideband)



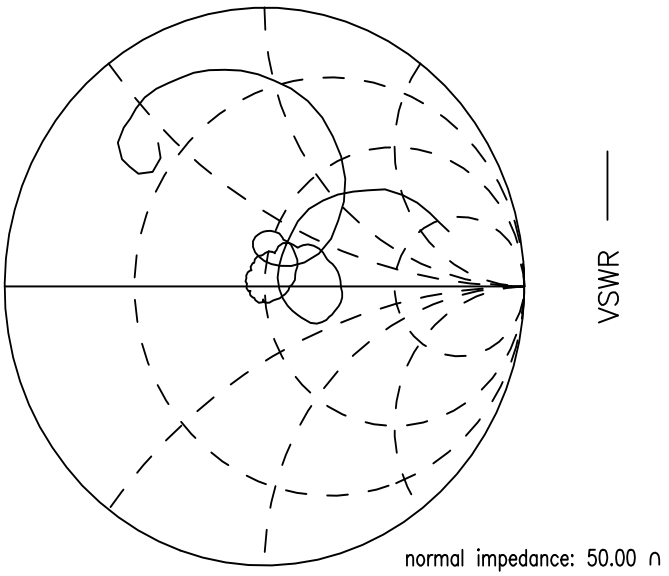
Smith chart

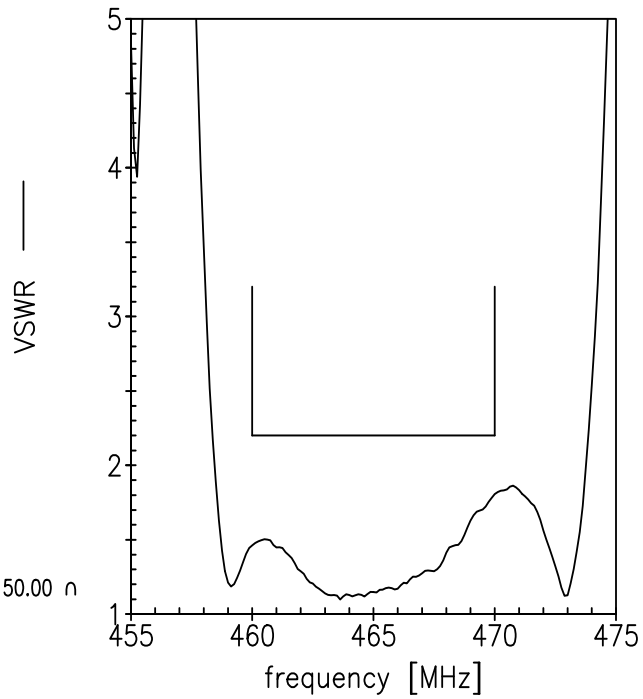
S_{11} function





S_{22} function





References

Type	B5052
Ordering code	B39471B5052Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B5052_NB.s2p B5052_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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