SAW Components

SAW Filter

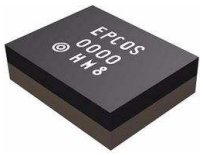
TD-LTE Band 38

Series/Type:	**B9497**
Ordering code:	**B39262B9497P810**
Date:	August 21, 2012
Version:	2.0

Data sheet SMD

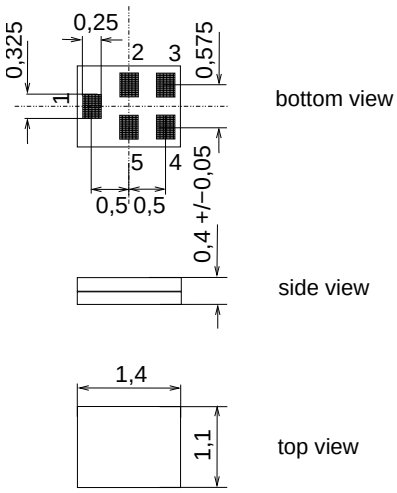
Application

- Low-loss RF filter for mobile telephone TD-LTE Band 38 system
- Usable passband: 50 MHz
- Unbalanced to unbalanced operation
- Impedance at input and output 50 Ω



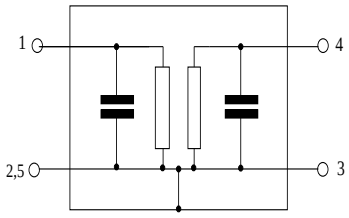
Features

- Package size 1.4 x1.1 x 0.4 mm³
- RoHS compatible
- Approx. weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitive **L**evel 3



Pin configuration

- 1 Input unbalanced
- 4 Output unbalanced
- 2,3,5 Case ground



Data sheet SMD

Characteristics

Operating temperature range: T = –20 ˚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		—	2595.0		MHz
Maximum insertion attenuation	α_{max}					
2570.0 ... 2620.0	MHz		—	1.5	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
2570.0 ... 2620.0	MHz		—	0.6	1.6	dB
Input VSWR						
2570.0 ... 2620.0	MHz		—	1.5	2.0	
Output VSWR						
2570.0 ... 2620.0	MHz		—	1.5	2.0	
Attenuation	α					
50.0 ... 1580.0	MHz		35	38	—	dB
1580.0 ... 2485.0	MHz		36	40	—	dB
2412.0 ... 2472.0	MHz	α_{WLAN} 1)	36	41	—	dB
2485.0 ... 2510.0	MHz		30	41	—	dB
2680.0 ... 2705.0	MHz		30	50	—	dB
2705.0 ... 3000.0	MHz		44	52	—	dB
3000.0 ... 6000.0	MHz		25	33	—	dB

Annotation for characteristics section

1) Attenuation of WLAN signal ("Powertransferfunction", α_{WLAN}) is determined by

$$\int_{-\infty}^{\infty} \left| S_{ds21}(f) H_{RECT}(f - f_{Carrier}) \right|^2 df$$

$f_{Carrier}$ according to IEEE802.11 n (e.g. for WLAN, $f_{Carrier}$ ranges from 2412 MHz (lowest channel) to 2472 MHz (highest channel)). $H_{RECT}(f)$ is the transfer function of a rectangular shaped filter (BW=18MHz) with the following normalization:

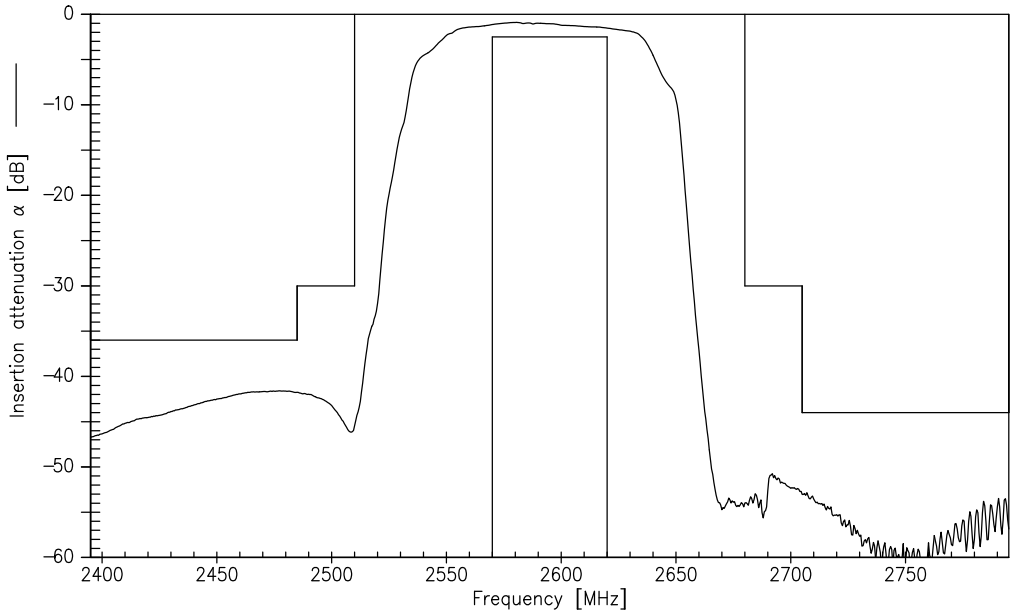
$$\int_{-\infty}^{\infty} \left| H_{RECT}(f) \right|^2 df = 1$$

Maximum ratings

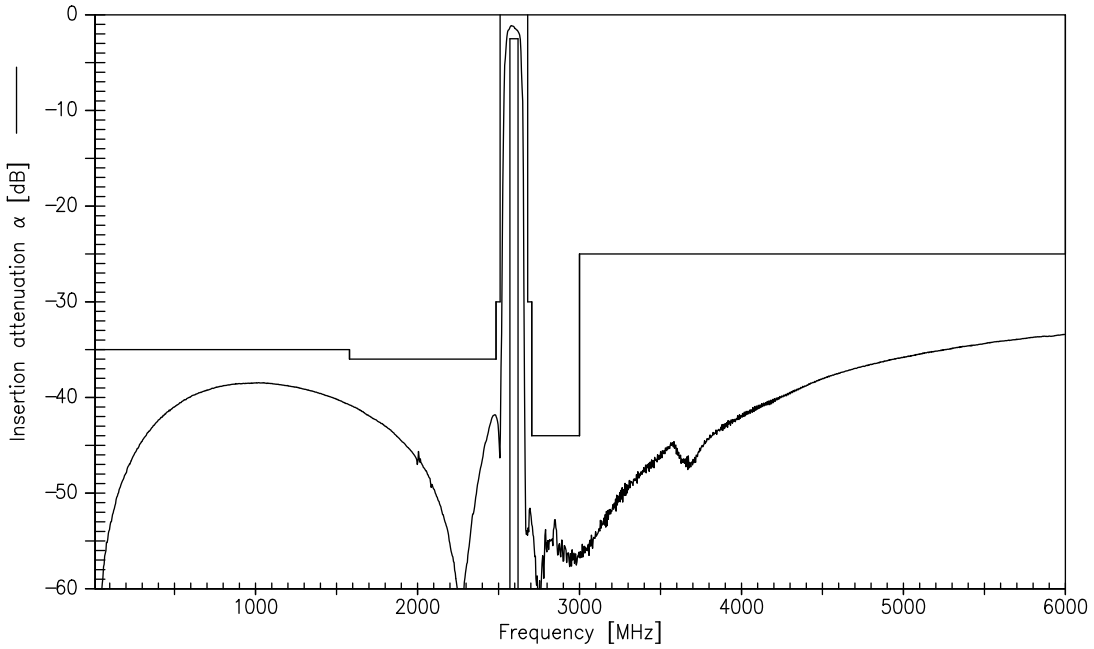
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
Input Power at 2570.0...2620.0 MHz	P_{IN}	12	dBm	cw signal for 2000h @55 ˚C

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

Transfer function (narrowband)

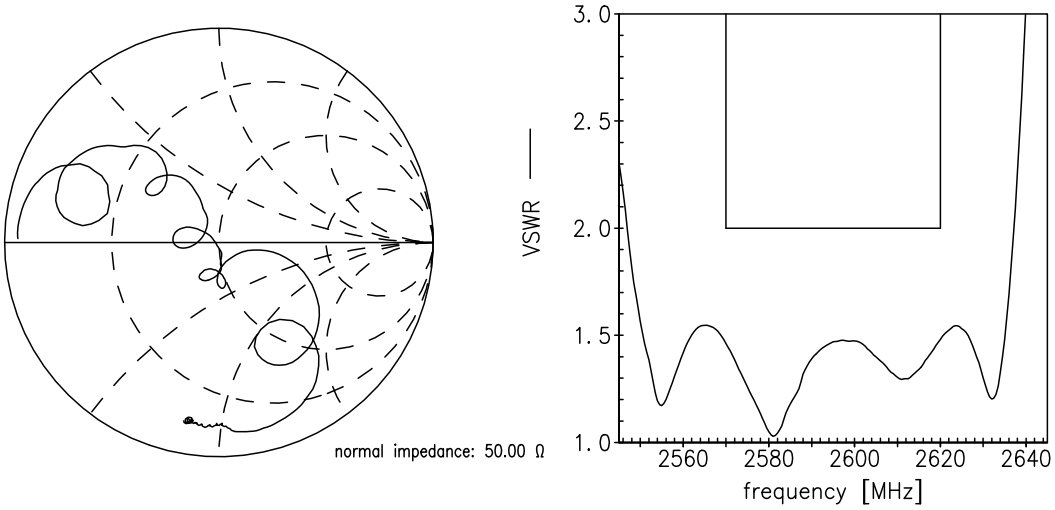


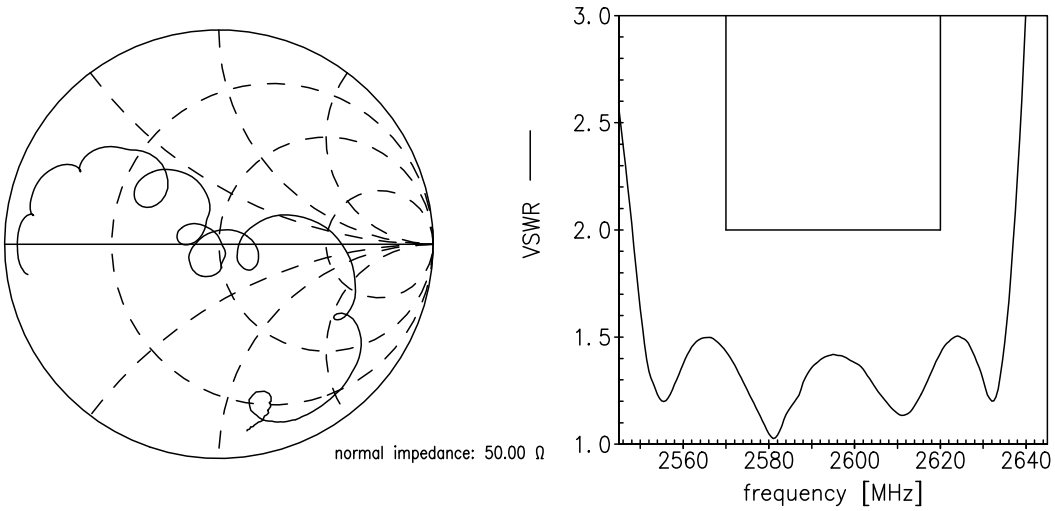
Transfer function (wideband)



Smith charts

S_{11} function





References

Type	B9497
Ordering code	B39262B9497P810
Marking and package	C61157-A8-A14
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9497_NB.s2p, B9497_WB.s2p see file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See http://www.tdk.co.jp/tefe02/coil.htm#aname1 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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