



SAW Components

SAW filter

Band 38 LTE-2600

Series/type:	B8804
Ordering code:	B39262B8804P810
Date:	July 23, 2014
Version:	2.1

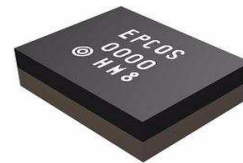
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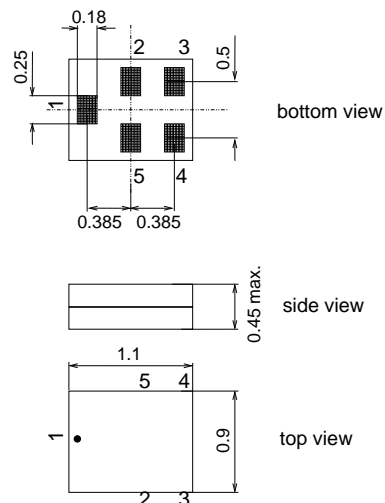
Data sheet

Application

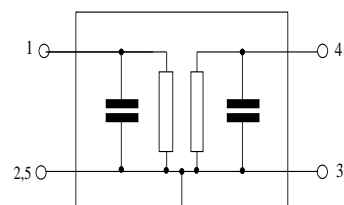
- Low-loss RF filter for mobile telephone Band 38 LTE-2600 systems
- Low amplitude ripple
- Usable passband 50 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation


Features

- Package size 1.1 x 0.9 mm²
- Max. package height 0.45mm
- RoHS compatible
- Approx. weight 0.001g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


Pin configuration

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



Data sheet


Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

				min.	typ. @ 25 °C	max.	
Center frequency	f_C			—	2595.0	—	MHz
Maximum insertion attenuation							
	2570.0... 2620.0 MHz	α_{\max}		—	1.7	2.4	dB
Amplitude ripple (p-p)							
	2570.0... 2620.0 MHz	$\Delta\alpha$		—	0.4	1.2	dB
Input VSWR	2570.0... 2620.0 MHz			—	1.4	2.0	
Output VSWR	2570.0... 2620.0 MHz			—	1.4	2.0	
Attenuation		α					
	10.0 ... 1580.0 MHz			35	39	—	dB
	1580.0 ... 1606.0 MHz			35	42	—	dB
	1606.0 ... 2300.0 MHz			35	43	—	dB
	2300.0 ... 2400.0 MHz			35	41	—	dB
	2400.0 ... 2510.0 MHz			34	38	—	dB
	2680.0 ... 2705.0 MHz			30	50	—	dB
	2705.0 ... 3000.0 MHz			40	47	—	dB
	3000.0 ... 6000.0 MHz			25	30	—	dB

Annotation for characteristics section

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

$$\int_{-\infty}^{\infty} |S_{\text{ds21}}(f)H_{\text{RRC}}(f - f_{\text{Carrier}})|^2 df$$

f_{Carrier} according to 3GPP TS 25.101 (e.g. for band VIII RX passband, f_{Carrier} ranges from 927.4 MHz (lowest Rx channel) to 957.6 MHz (highest Rx channel)). $H_{\text{RRC}}(f)$ is the transfer function of the root-raised cosine transmit pulse shaping filter according to 3GPP TS 25.101 with the following normalization:

$$\int_{-\infty}^{\infty} |H_{\text{RRC}}(f)|^2 df = 1$$

Maximum ratings

Operable temperature range	T	-40/+85	°C	Machine Model Human Body Model Charged Device Model
Storage temperature range	T _{stg}	-40/+85 ¹⁾	°C	
DC voltage	V _{DC}	5 ²⁾	V	
ESD voltage	V _{ESD}	50 ³⁾	V	
		50 ⁴⁾	V	
		600 ⁵⁾	V	
Input power at 2570 ... 2620.0 MHz	P _{IN}	23	dBm	ON State condition: CW for 2000h @ 55°C

1) extended upper limit: 168h @ 125C acc. to IEC 60068-2-2 Bb

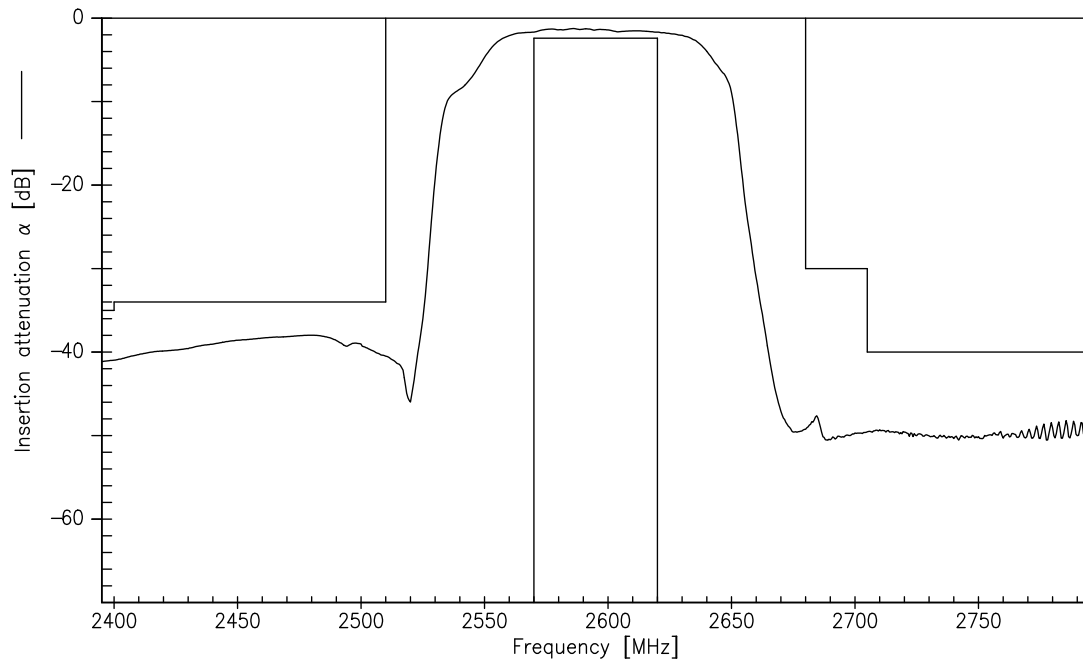
2) 168h Damp Heat Steady State acc. to IEC 60068-2-67 Cy.

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

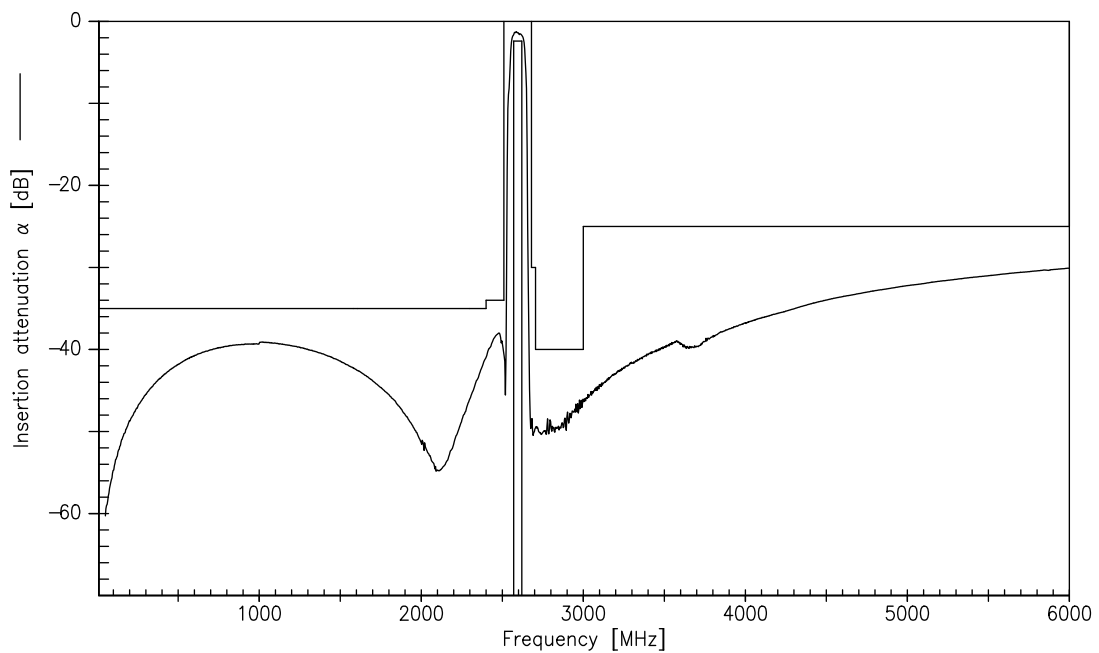
4) acc. to JESD22-A114F (HDM - Human Body model), 1 negative & 1 positive pulse.

5) acc. to JESD22-C101C (CDM - Field Induced Charged Device Model), 3 negative & 3 positive pulses.

Transfer function for CW signals (narrowband)



Transfer function for CW signals (wideband)

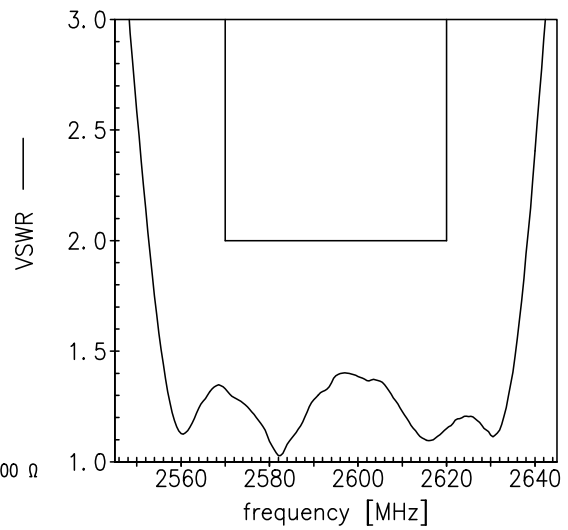
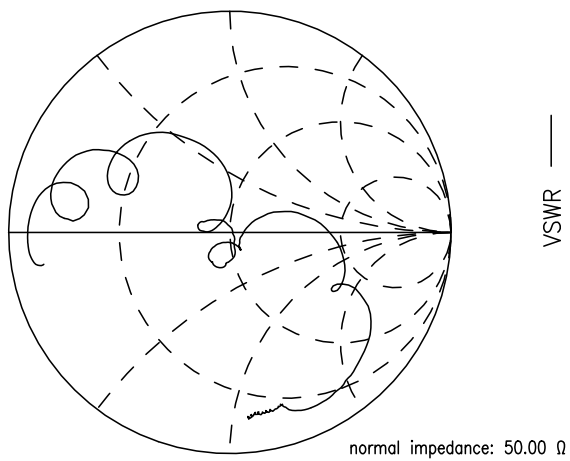


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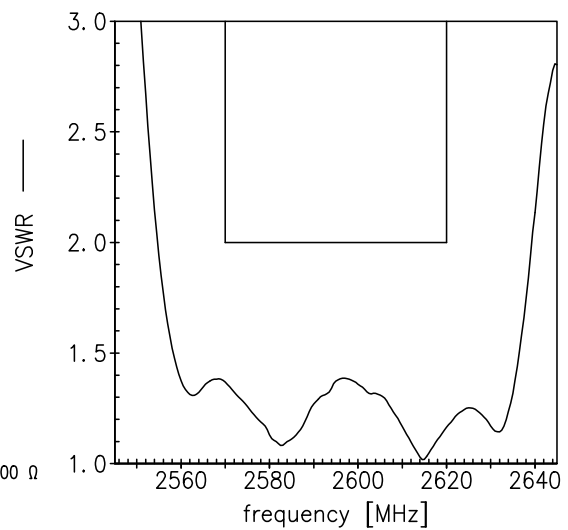
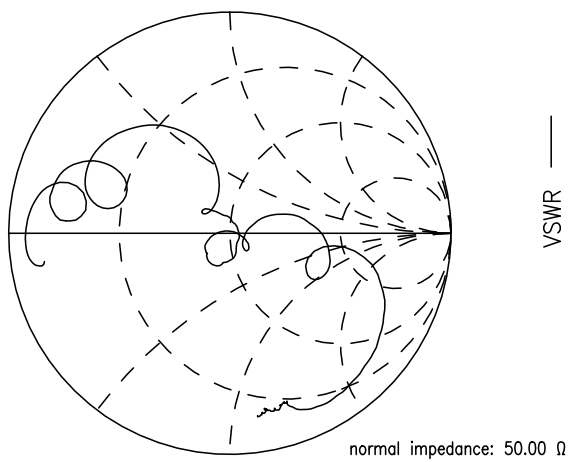
SMD

Smith charts

S₁₁ function



S₂₂ function



SAW Components	B8804
SAW filter	2595.0 MHz

Data sheet



References

Type	B8804
Ordering code	B39262B8804P810
Marking and package	C61157-A8-A56
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B8804_NB.s2p B8804_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 regards to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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

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