



SAW Components

SAW Rx filter

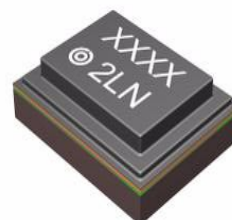
Automotive telematics

Series/type:	B4306
Ordering code:	B39182B4306F210
Date:	March 23, 2011
Version:	2.0

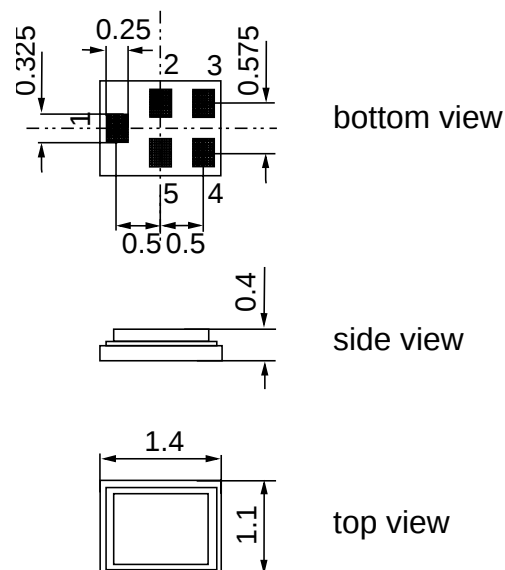
Data sheet

Application

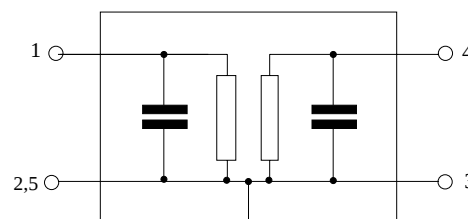
- Low-loss RF filter for mobile telephone
GSM 1800 systems, receive path (RX)
- Impedance transform from 50 Ω to 150 Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 75 MHz
- Suitable for GPRS class 1 to 12


Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5M
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- AEC-Q200 qualified component family (operable temperature range -40°C to +85°C)
- **Electrostatic Sensitive Device (ESD)**


Pin configuration

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



Characteristics

Operating temperature range: $T = -20$ to $+75\text{ }^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\Omega$
 Terminating load impedance: $Z_L = 150\Omega \parallel 18\text{ nH (balanced)}$

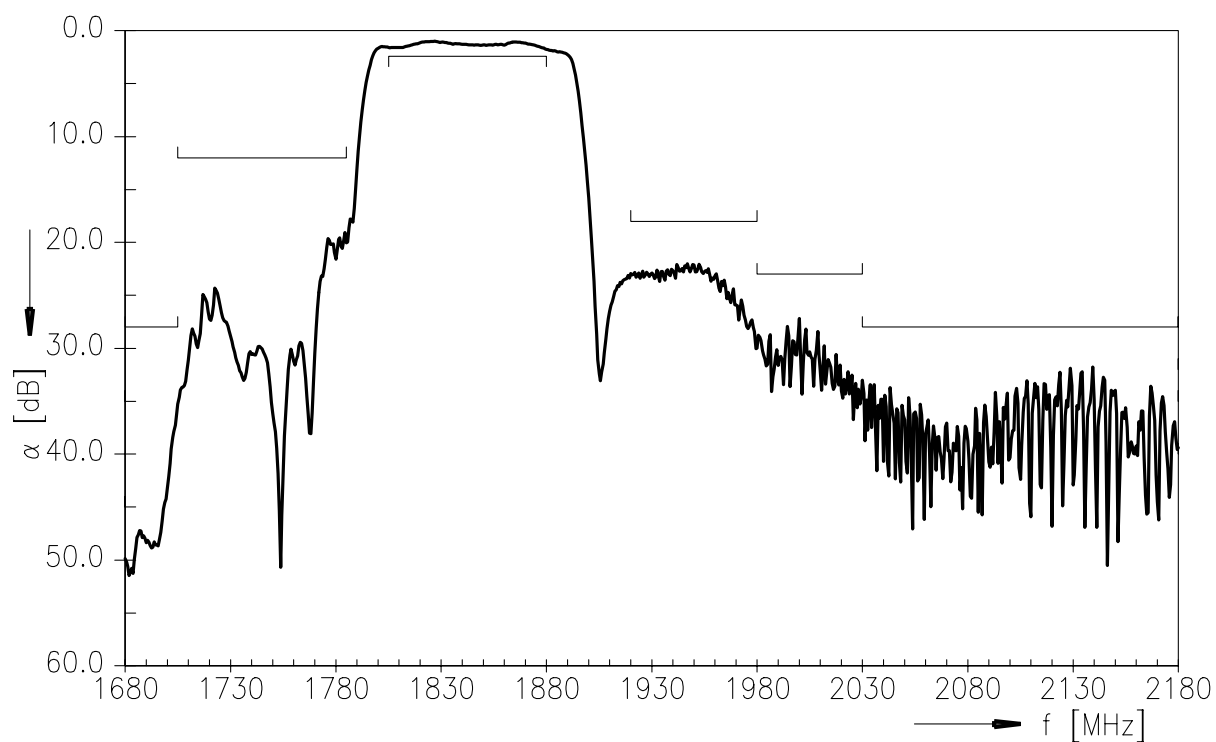
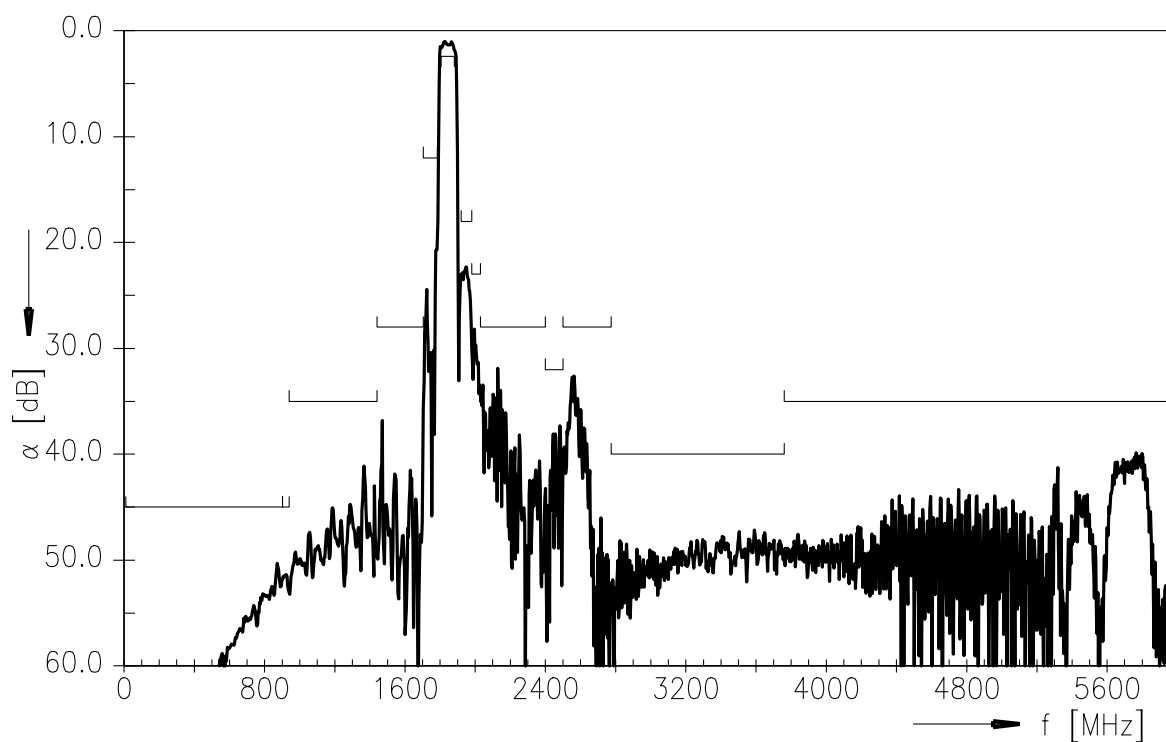
				min.	typ. @ 25°C	max.	
Center frequency	f_C			—	1842.5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	1805.0 ... 1880.0	MHz	—	1.8	2.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$	1805.0 ... 1880.0	MHz	—	0.7	1.5	dB
VSWR							
Input		1805.0 ... 1880.0	MHz	—	1.9	2.3	
Output		1805.0 ... 1880.0	MHz	—	1.9	2.3	
CMRR ($S_{21}-S_{31} / S_{21}+S_{31}$)		1805.0 ... 1880.0	MHz	19 ¹⁾	24	—	dB
Attenuation	α						
		0.0 ... 902.0	MHz	45	50	—	dB
		902.0 ... 940.0	MHz	45	51	—	dB
		940.0 ... 1440.0	MHz	35	41	—	dB
		1440.0 ... 1705.0	MHz	28	36	—	dB
		1705.0 ... 1785.0	MHz	12	18	—	dB
		1920.0 ... 1980.0	MHz	18	23	—	dB
		1980.0 ... 2030.0	MHz	23	26	—	dB
		2030.0 ... 2400.0	MHz	28	31	—	dB
		2400.0 ... 2500.0	MHz	30	37	—	dB
		2500.0 ... 2775.0	MHz	28	32	—	dB
		2775.0 ... 3760.0	MHz	40	47	—	dB
		3760.0 ... 6000.0	MHz	35	40	—	dB

1) A CMRR of 19.6 dB corresponds to a phase imbalance of $\pm 10^{\circ}$ together with an amplitude imbalance of ± 1.0 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, 10 pulses
Input Power at				
GSM850, GSM900	P _{IN}	15	dBm	effective power in the on-state, duty cycle 4:8
GSM1800, GSM1900	P _{IN}	15	dBm	
Tx bands				

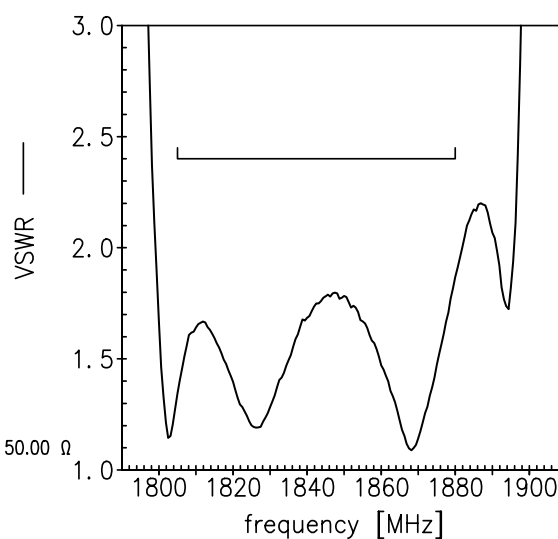
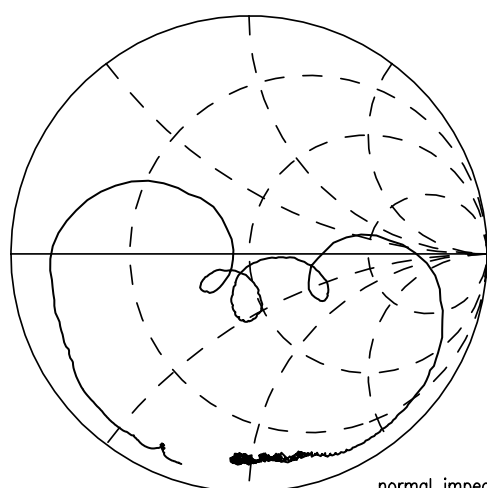
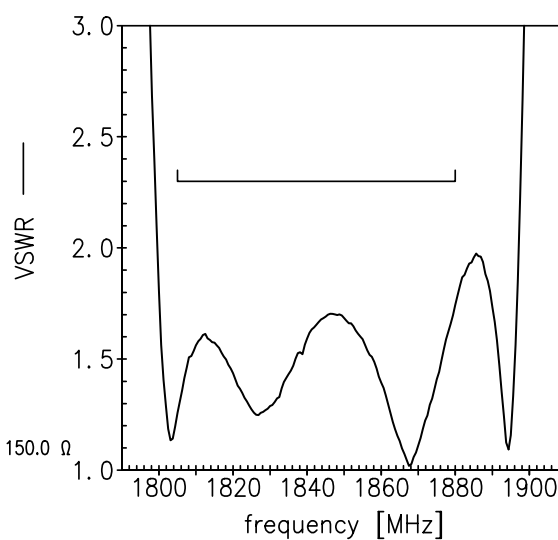
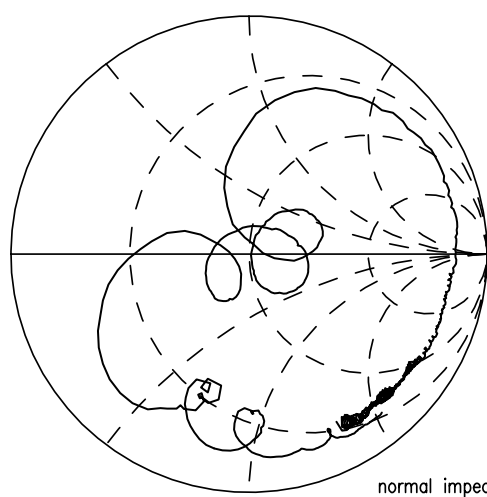
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Transfer function

Transfer function (wideband)


Data sheet



Smith chart

 S_{11} function

 S_{22} function


References

Type	B4306
Ordering code	B39182B4306F210
Marking and package	C61157-A8-A8
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B4306_NB.s3p, B4306_WB.s3p 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 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 further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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