

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW Rx Filter

GSM 850

Series/type:	B9851
Ordering code:	B39881B9851P810
Date:	October 11, 2010
Version:	2.0

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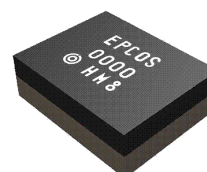
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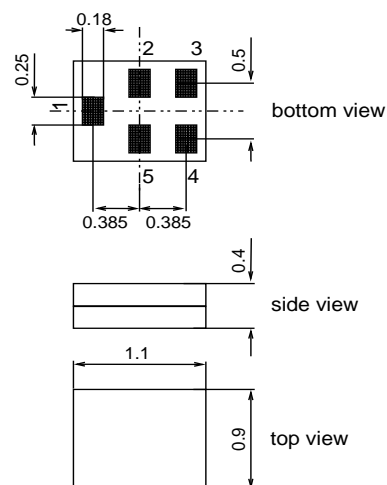
Data sheet

Application

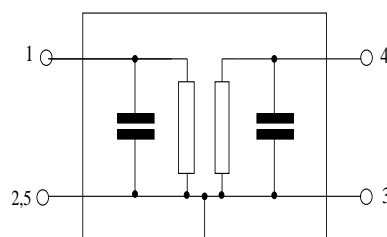
- Low-loss RF filter for mobile telephone GSM 850 systems, receive path (Rx)
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS class 1 to 12


Features

- Package size 1.1x0.9x0.4 mm³
- 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
- 3,4 Output, balanced
- 2,5 Case-ground



Data sheet

Characteristics

Temperature range for specification:	T = -20 °C to +75 °C
Terminating source impedance:	Z _S = 50 Ω (unbalanced)
Terminating load impedance:	Z _L = 150 Ω 82nH (balanced)

				min.	typ. @ 25°C	max.	
Center frequency			f _C	—	881.5	—	MHz
Maximum insertion attenuation			α _{max}				
	869.0 ... 894.0		MHz	—	1.5	2.0	dB
Amplitude ripple (p-p)			Δα				
	869.0 ... 894.0		MHz	—	0.5	1.2	dB
Input VSWR							
	869.0 ... 894.0		MHz	—	1.6	2.0	
Output VSWR							
	869.0 ... 894.0		MHz	—	1.6	2.0	
CMRR (S₂₁-S₃₁ / S₂₁+S₃₁)							
	869.0 ... 894.0		MHz	18 ¹⁾	24	—	dB
Attenuation			α				
	10.0 ... 447.0		MHz	45	49	—	dB
	447.0 ... 849.0		MHz	30	36	—	dB
	914.0 ... 954.0		MHz	21	27	—	dB
	954.0 ... 1738.0		MHz	28	36	—	dB
	1738.0 ... 1788.0		MHz	40	52	—	dB
	1788.0 ... 3476.0		MHz	35	42	—	dB
	3476.0 ... 6000.0		MHz	26	38	—	dB

¹⁾ A CMRR of 17.3dB corresponds to a phase balance of 12° together with an amplitude balance of 1.5dB

Maximum ratings

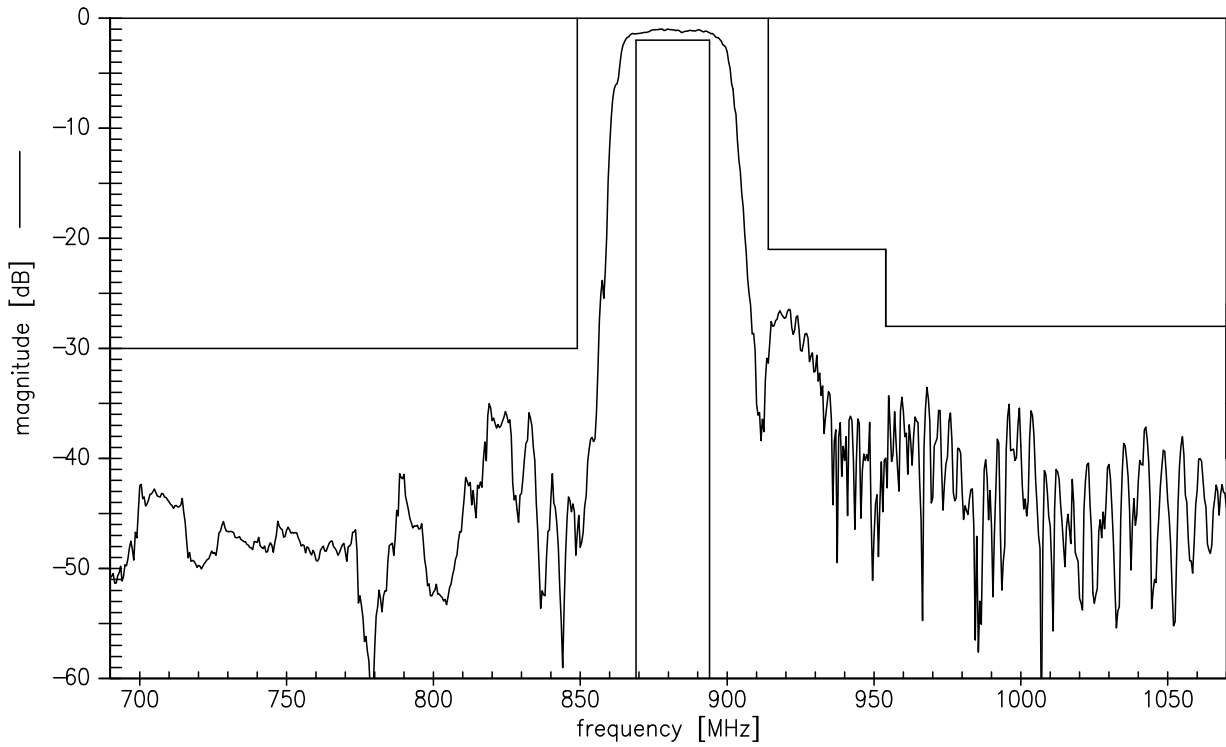
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 1 pulse
Input power at				
GSM 850, GSM 900	P _{IN}	15	dBm	effective power in the on-state, duty cycle 4:8
GSM 1800, GSM 1900	P _{IN}	15	dBm	
Tx bands				

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

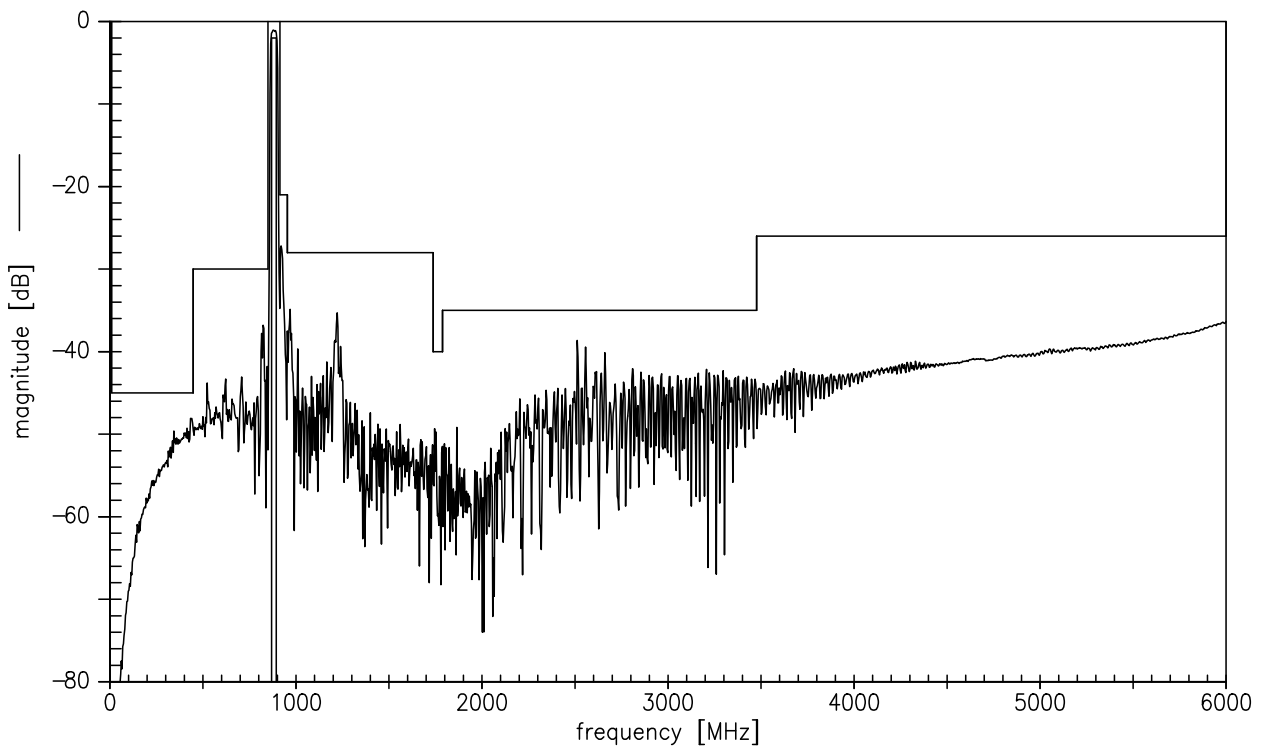
Data sheet



Transfer function (narrowband)

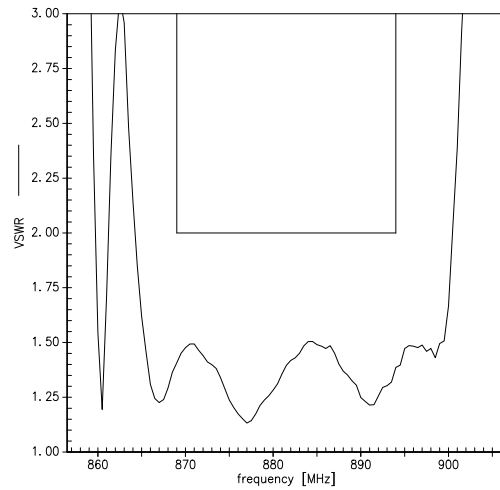
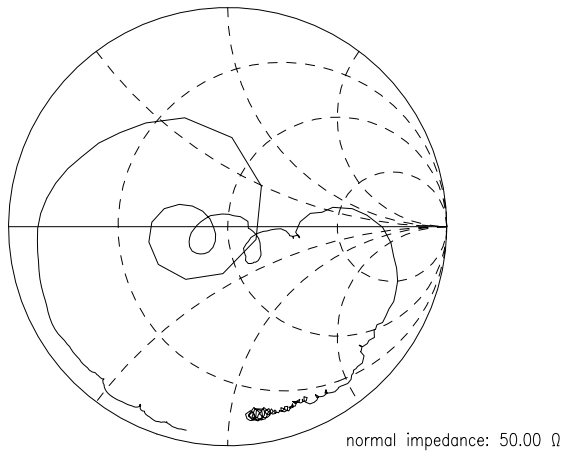


Transfer function (wideband)

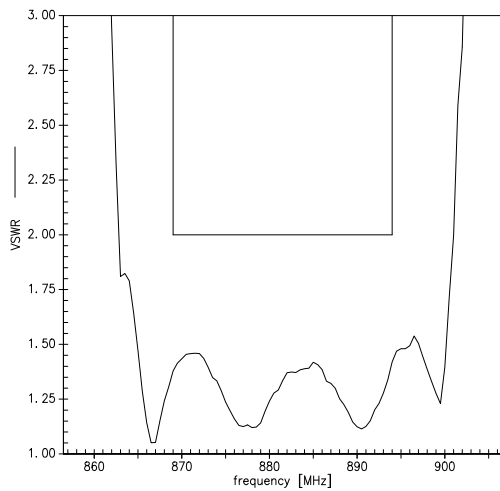
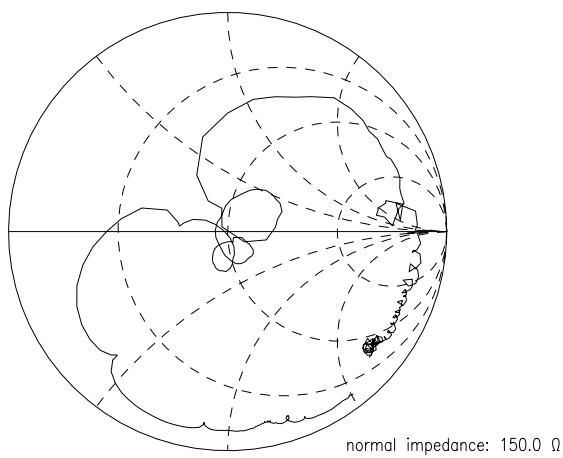




S₁₁ function



S₂₂ function



References

Type	B9851
Ordering code	B39881B9851P810
Marking and package	C61157-A8-A30
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B9851_NB.s3p B9851_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 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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