



SAW Components

SAW band-stop filter

DVB-H / DVB-T / ISDB-TB

Series/type:	B8766
Ordering code:	B39901-B8766-P810
Date:	August 31, 2009
Version:	2.0

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SAW Components	B8766
SAW band-stop filter	897.5 MHz

Data Sheet



Revision history: changes compared to previous iteration issue

ISSUE	ORIGINATOR	DETAILED SPECIFICATION CHANGES	DATE
LU31A_v1.0	G. Kloska	initial release	Jan 26, 2009
B8766_v1.0	G. Kloska	adaption of specification for maximum and minimum insertion attenuation and typical suppression levels based on statistical data	Aug 27, 2009
B8766_v2.0	G. Kloska	maximum rating for source power added	Aug 31, 2009

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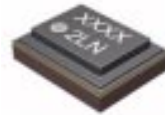
897.5 MHz

Data Sheet

SMD

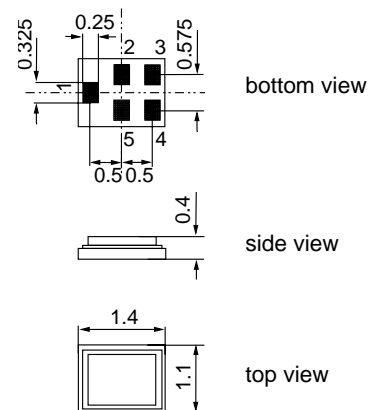
Application

- Low-loss band-stop filter for DVB-H, DVB-T and ISDB-TB
- GSM900 Tx suppression
- Low insertion attenuation
- Low amplitude ripple
- Impedance at input and output 50Ω
- Unbalanced to unbalanced operation



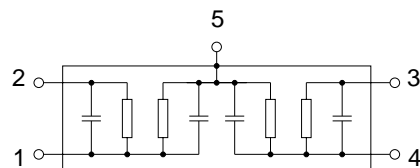
Features

- Package size $1.4 \times 1.1 \times 0.4 \text{ mm}^3$
- Maximum height of 0.45 mm
- Package code QCS5W
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input
- 2 Coupling pin
- 3 Coupling pin
- 4 Output
- 5 Case ground



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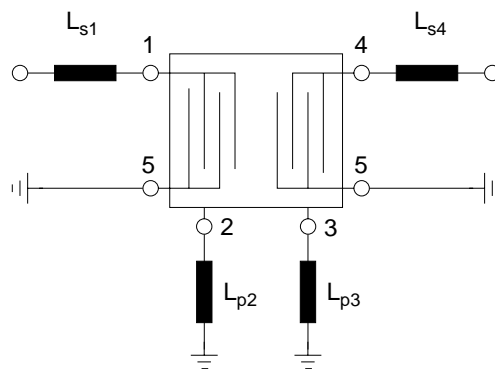


Characteristics

Temperature range for specification: $T = +25\text{ °C} \pm 2\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ and matching network
 Terminating load impedance: $Z_L = 50\ \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal center frequency	f_N	—	897.5	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.3	1.6	dB
	470.00 ... 862.00 MHz				
Maximum insertion attenuation	α_{\max}	—	1.8	2.0	dB
	470.00 ... 750.00 MHz				
	750.00 ... 798.00 MHz		1.7	2.0	dB
	798.00 ... 858.00 MHz		3.4	3.8	dB
	858.00 ... 862.00 MHz		4.1	5.0	dB
Attenuation	α				
	174.00 ... 230.00 MHz	37.0	40.0	—	dB
	880.00 ... 915.00 MHz	37.0	41.0	—	dB
	1710.00 ... 1785.00 MHz	25.0	28.0	—	dB
	1920.00 ... 1980.00 MHz	30.0	34.0	—	dB

Matching network (element values depend on PCB layout)



$L_{s1} = 16\text{ nH}$
 $L_{p2} = 20\text{ nH}$
 $L_{p3} = 15\text{ nH}$
 $L_{s4} = 20\text{ nH}$

Q factor of inductors:
40 @ 770 MHz

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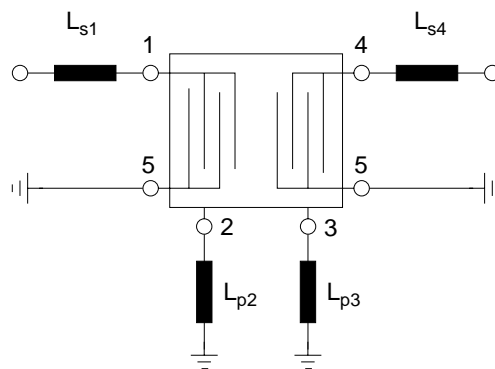


Characteristics

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

		min.	typ. @ 25 °C	max.	
Nominal center frequency	f_N	—	897.5	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.3	1.6	dB
	470.00 ... 862.00 MHz				
Maximum insertion attenuation	α_{\max}	—	1.8	2.0	dB
	470.00 ... 750.00 MHz				
	750.00 ... 798.00 MHz		1.7	2.0	dB
	798.00 ... 858.00 MHz		3.4	5.0	dB
	858.00 ... 862.00 MHz		4.1	7.0	dB
Attenuation	α				
	174.00 ... 230.00 MHz	37.0	40.0	—	dB
	880.00 ... 915.00 MHz	26.0	41.0	—	dB
	1710.00 ... 1785.00 MHz	25.0	28.0	—	dB
	1920.00 ... 1980.00 MHz	30.0	34.0	—	dB

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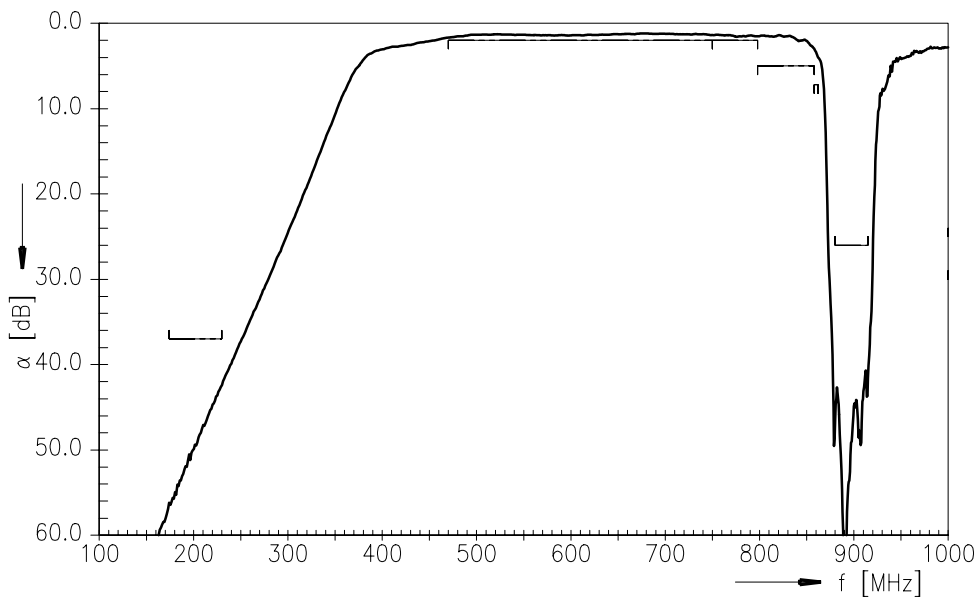


Maximum ratings

Operable temperature range	T	-30/+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, 10 pulses
Source power at				
GSM 900 Tx band	P _{IN}	21	dBm	effective power in the on-state, duty cycle 2:8

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

Transfer function



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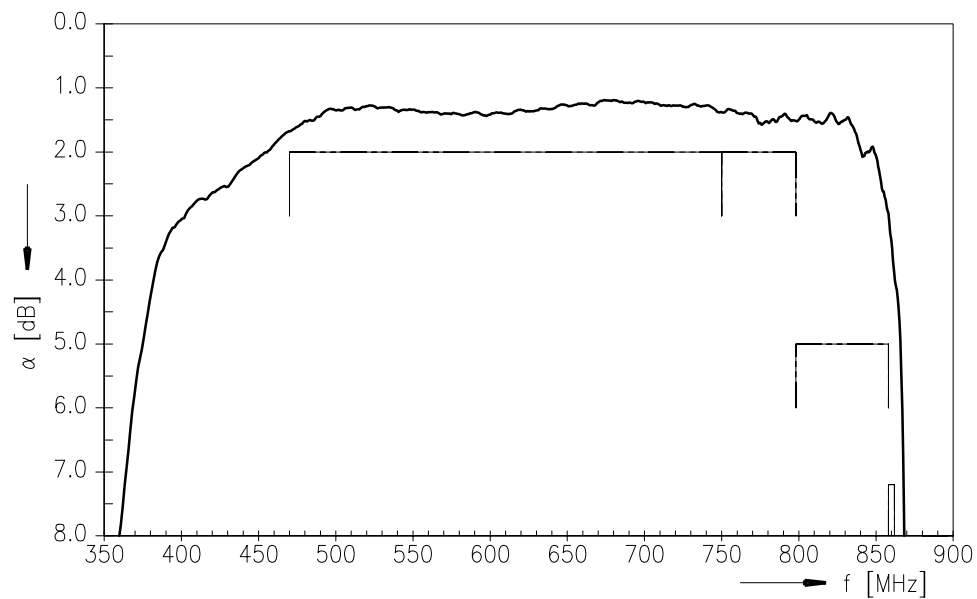
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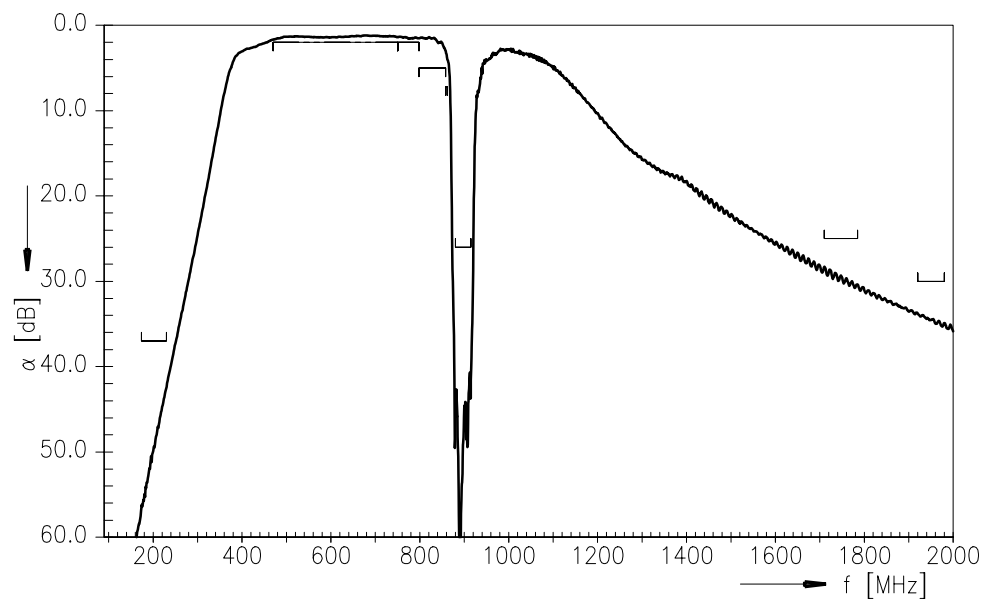
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Transfer function (pass band)



Transfer function (wide band)



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References

Type	B8766
Ordering code	B39901-B8766-P810
Marking and package	C61157-A8-A17
Packaging	F61074-V8212-Z000
Date code	L_1126
S-parameters	LU31A_WB_UN.s4p (unmatched) LU31A_WB.s2p (matched) 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.

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