



## **SAW Components**

SAW band–stop filter

ISDB–T

<b>Series/type:</b>	<b>B8765</b>
<b>Ordering code:</b>	<b>B39841-B8765-P810</b>
Date:	June 26, 2009
Version:	2.0



SAW Components

B8765

SAW band-stop filter

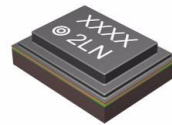
835.00 MHz

Data Sheet

SMD

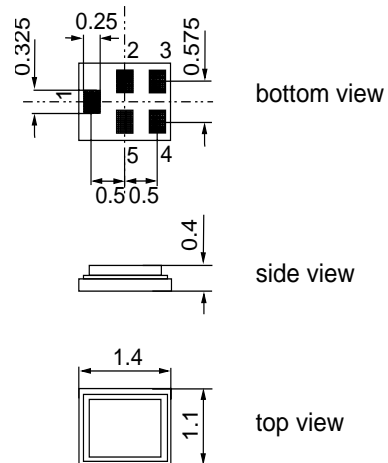
### Application

- Low-loss RF band-stop filter for ISDB-T
- Very low insertion loss
- Very low amplitude ripple and group delay ripple
- Usable pass band width 300 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation



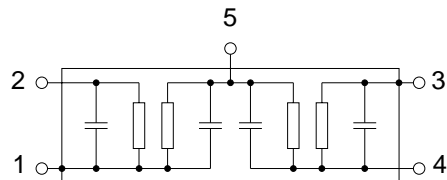
### Features

- Package size  $1.4 \times 1.1 \times 0.4$  mm<sup>3</sup>
- 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



Please read *cautions and warnings and important notes* at the end of this document.



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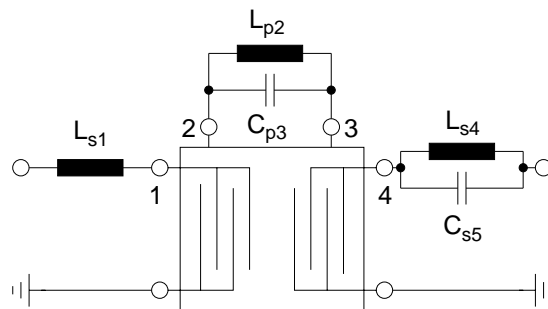
**SMD**

**Characteristics (including losses in the matching network)**

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.	
<b>Nominal frequency</b>	$f_N$	—	835.00	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	0.8	1.2	dB
	470.00 ... 710.00 MHz				
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1.2	1.3	dB
	470.00 ... 710.00 MHz				
	710.00 ... 758.00 MHz	—	1.6	1.9	dB
	758.00 ... 770.00 MHz	—	2.0	2.4	dB
<b>Attenuation</b>	$\alpha$				
	90.00 ... 222.00 MHz	13.0	14.0		dB
	830.00 ... 840.00 MHz	50.0	53.0	—	dB
	1427.90 ... 1447.90 MHz	56.0	65.0	—	dB
	1749.90 ... 1784.90 MHz	55.0	64.0	—	dB
	1920.00 ... 1980.00 MHz	58.0	64.0	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$	—	4	—	ns
	470.00 ... 770.00 MHz				

**Matching network** (element values depend on PCB layout)



$L_{s1} = 22\text{ nH}$   
 $L_{p2} = 18\text{ nH}$   
 $C_{p3} = 0.7\text{ pF}$   
 $L_{s4} = 16\text{ nH}$   
 $C_{s5} = 0.5\text{ pF}$

**Q factor of inductors:**  
**40 @ 770 MHz**



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<b>SAW band-stop filter</b>	<b>835.00 MHz</b>

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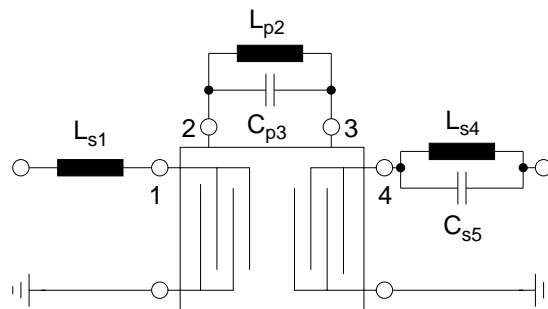
**SMD**

**Characteristics (including losses in the matching network)**

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.	
<b>Nominal frequency</b>	$f_N$	—	835.00	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	0.8	1.2	dB
	470.00 ... 710.00 MHz				
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	470.00 ... 710.00 MHz				
	710.00 ... 758.00 MHz	—	1.6	1.9	dB
	758.00 ... 770.00 MHz	—	2.0	2.5	dB
<b>Attenuation</b>	$\alpha$				
	90.00 ... 222.00 MHz	12.0	14.0		dB
	830.00 ... 840.00 MHz	48.0	53.0	—	dB
	1427.90 ... 1447.90 MHz	56.0	65.0	—	dB
	1749.90 ... 1784.90 MHz	55.0	64.0	—	dB
	1920.00 ... 1980.00 MHz	58.0	64.0	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$	—	4	—	ns
	470.00 ... 770.00 MHz				

**Matching network** (element values depend on PCB layout)



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**SAW band-stop filter** **835.00 MHz**

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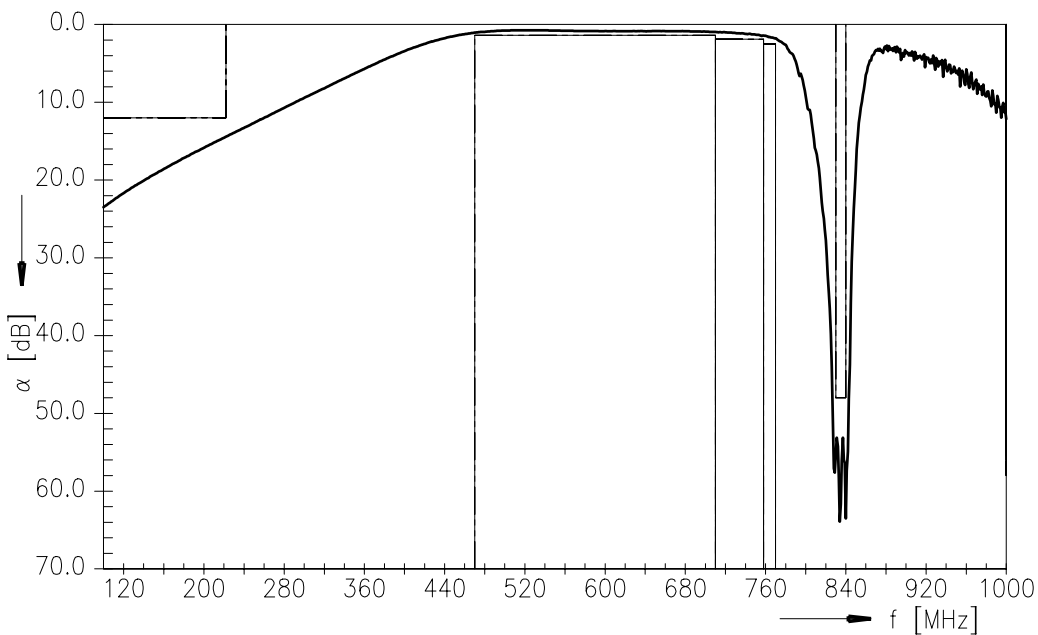


**Maximum ratings**

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	machine model, 10 pulses
Source power at 830.0 ... 840.0 MHz	P <sub>S</sub>	24	dBm	peak power of W-CDMA signal

<sup>1)</sup> according to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

**Transfer function**



Please read *cautions and warnings and important notes* at the end of this document.



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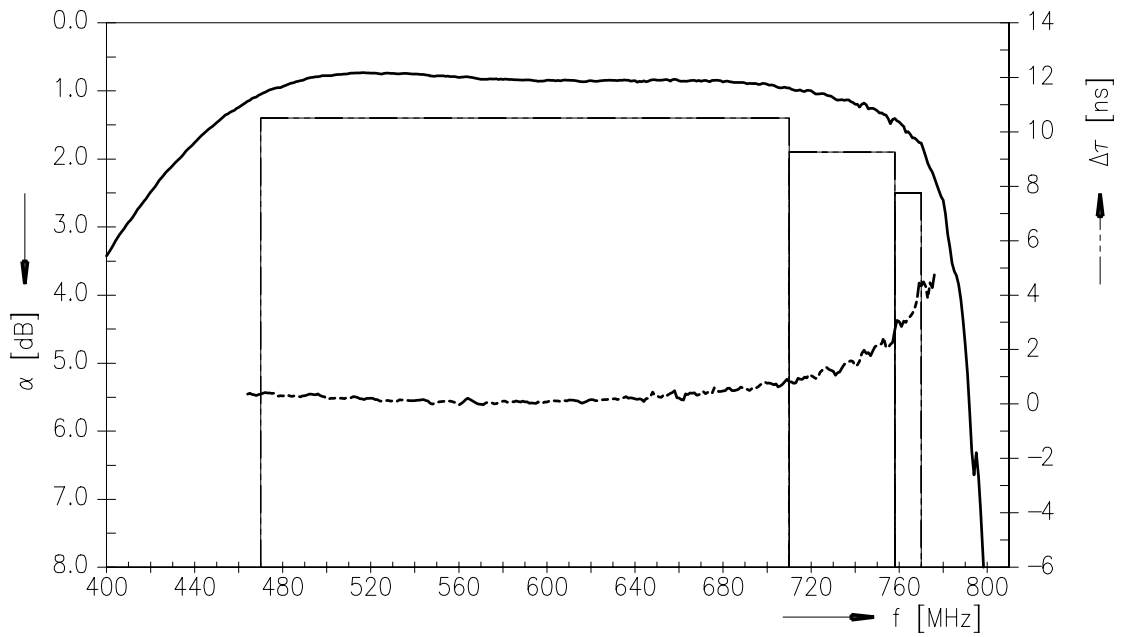
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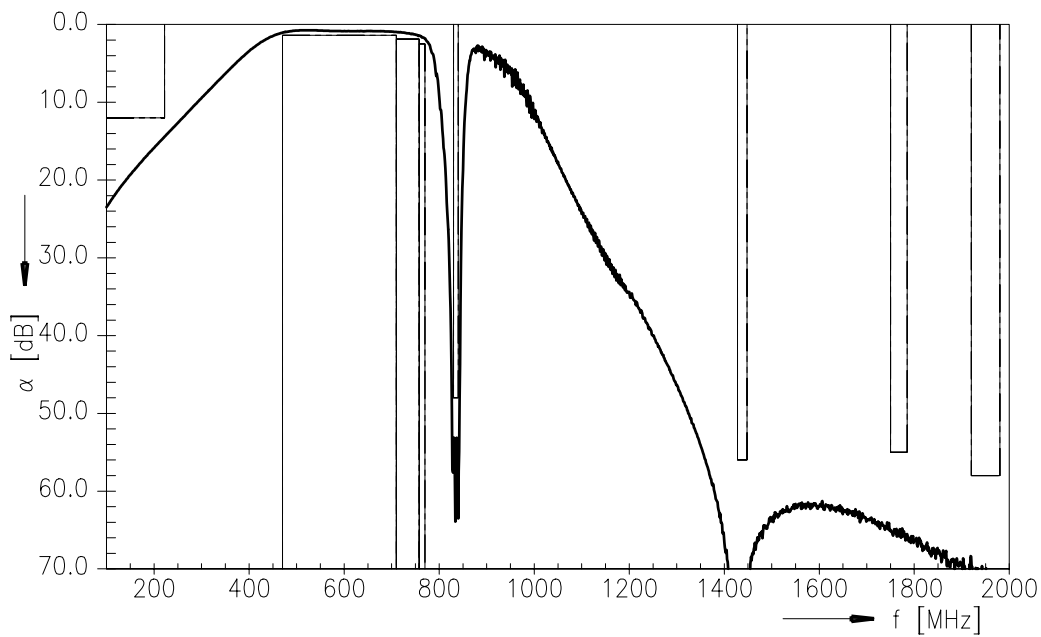
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SMD

Transfer function (pass band)



Transfer function (wide band)



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Data Sheet



## References

<b>Type</b>	B8765
<b>Ordering code</b>	B39841-B8765-P810
<b>Marking and package</b>	C61157-A8-A17
<b>Packaging</b>	F61074-V8212-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8765_WB_UN.s4p (unmatched) B8765_WB.s2p (matched) See file header for port/pin assignment table.
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.

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