



# SAW Components

Data Sheet B5013

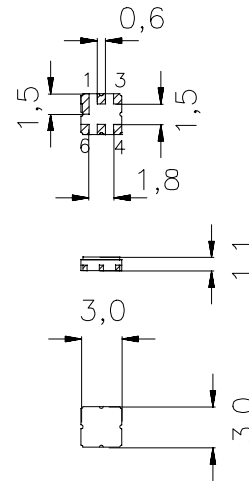


**Data Sheet**
**Ceramic package DCC6D**
**Features**

- Low-loss filter (RX) for Trunked Radio
- Usable bandwidth 19 MHz
- No matching required for operation at 50  $\Omega$
- Unbalanced to unbalanced or unbalanced to balanced operation
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package

**Terminals**

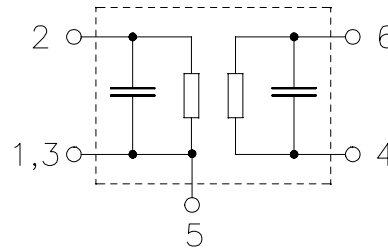
- Gold-plated



typ. Dimensions in mm, approx. weight 0,037 g

**Pin configuration**

- |         |                                 |
|---------|---------------------------------|
| 2       | Input                           |
| 6       | Output / Output balanced        |
| 4       | Output ground / Output balanced |
| 1, 3, 5 | Input ground / Case ground      |



Type	Ordering code	Marking and Package according to	Packing according to
B5013	B39861-B5013-U510	C61157-A7-A68	F61074-V8168-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T_A$	-40 / +85	$^{\circ}\text{C}$	
Storage temperature range	$T_{\text{stg}}$	-40 / +85	$^{\circ}\text{C}$	
DC voltage	$V_{\text{DC}}$	5	V	
Source power	$P_s$	13,0	dBm	source impedance 50 $\Omega$


**SAW Components**
**B5013**
**Low-Loss Filter**
**860,5 MHz**
**Data Sheet**
**Characteristics**

Operating temperature range:  $T_A = +15 \dots +35 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$  unbalanced to balanced operation  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$  unbalanced to balanced operation

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	860,5	—	MHz
<b>Maximum insertion attenuation</b> 851,0 MHz ... 870,0 MHz	$\alpha_{\max}$	—	3,0	3,9	dB
<b>Amplitude ripple (p-p)</b> 851,0 MHz ... 870,0 MHz	$\Delta\alpha$	—	0,9	1,5	dB
<b>VSWR (Input)</b> 851,0 MHz ... 870,0 MHz		—	2,2	2,4	
<b>VSWR (Output)</b> 851,0 MHz ... 870,0 MHz		—	2,6	2,8	
<b>Absolute attenuation</b>	$\alpha_{\text{abs}}$				
0,1 MHz ... 708,0 MHz		42	44	—	dB
708,0 MHz ... 789,0 MHz		30	40	—	dB
789,0 MHz ... 825,0 MHz		23	37	—	dB
825,0 MHz ... 841,0 MHz		13	22	—	dB
888,0 MHz ... 950,0 MHz		13	18	—	dB
950,0 MHz ... 2450,0 MHz		22	25	—	dB
2450,0 MHz ... 3700,0 MHz		20	23	—	dB
3700,0 MHz ... 4000,0 MHz		10	18	—	dB
<b>Symmetry in band</b>					
$ S_{31} / S_{21} $ 851,0 ... 870,0 MHz		-1,5	-0,5	0,5	dB
$\arg(S_{31}/S_{21})$ 851,0 ... 870,0 MHz		170	180	190	$^\circ$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-36	—	ppm/K


**SAW Components**
**B5013**
**Low-Loss Filter**
**860,5 MHz**
**Data Sheet**
**Characteristics**

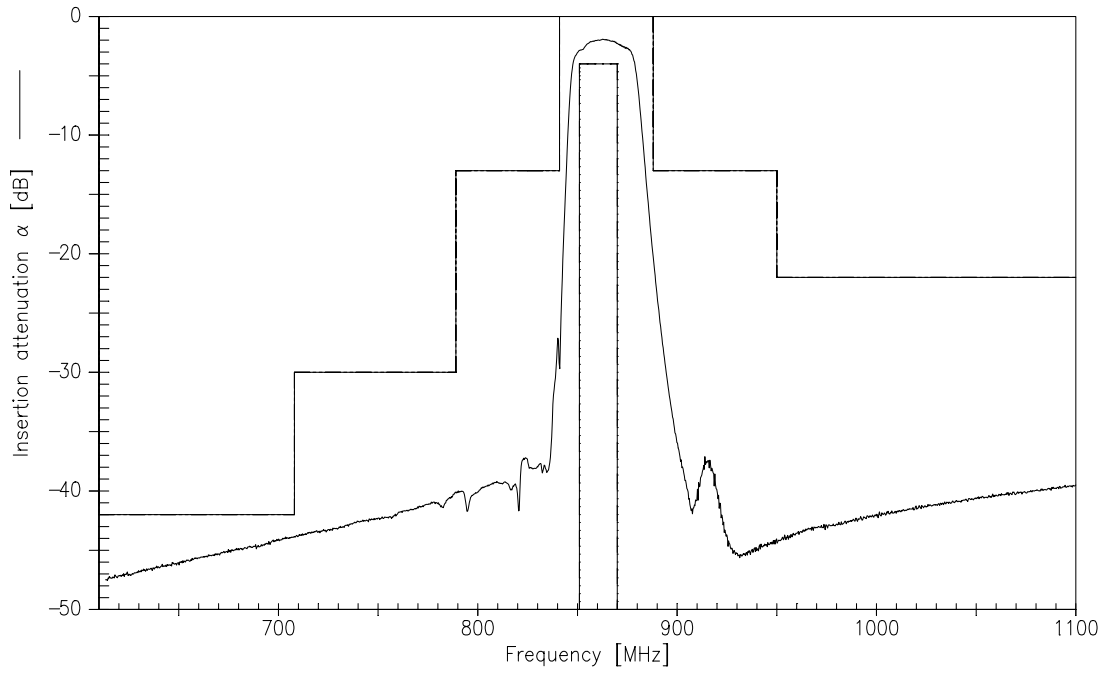
Operating temperature range:  $T_A = -30 \dots +70 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$  unbalanced to balanced operation  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$  unbalanced to balanced operation

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	860,5	—	MHz
<b>Maximum insertion attenuation</b> 851,0 MHz ... 870,0 MHz	$\alpha_{\max}$	—	3,6	4,5	dB
<b>Amplitude ripple (p-p)</b> 851,0 MHz ... 870,0 MHz	$\Delta\alpha$	—	1,1	2,5	dB
<b>VSWR (Input)</b> 851,0 MHz ... 870,0 MHz		—	2,4	2,6	
<b>VSWR (Output)</b> 851,0 MHz ... 870,0 MHz		—	2,7	2,9	
<b>Absolute attenuation</b>	$\alpha_{\text{abs}}$				
0,1 MHz ... 708,0 MHz		42	44	—	dB
708,0 MHz ... 789,0 MHz		30	40	—	dB
789,0 MHz ... 825,0 MHz		23	37	—	dB
825,0 MHz ... 841,0 MHz		13	22	—	dB
888,0 MHz ... 950,0 MHz		13	18	—	dB
950,0 MHz ... 2450,0 MHz		22	25	—	dB
2450,0 MHz ... 3700,0 MHz		20	23	—	dB
3700,0 MHz ... 4000,0 MHz		10	18	—	dB
<b>Symmetry in band</b>					
$ S_{31} / S_{21} $ 851,0 ... 870,0 MHz		-1,5	-0,5	0,5	dB
$\arg(S_{31}/S_{21})$ 851,0 ... 870,0 MHz		170	180	190	$^\circ$
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 36	—	ppm/K

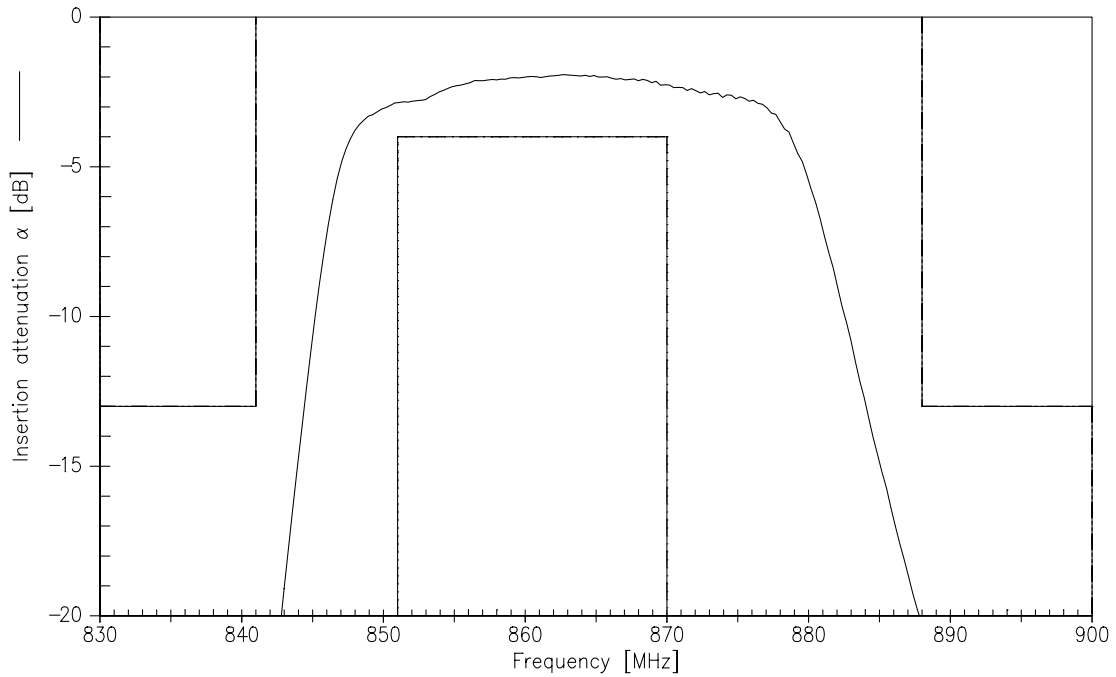


Data Sheet

Transfer function (unbalanced to balanced operation)



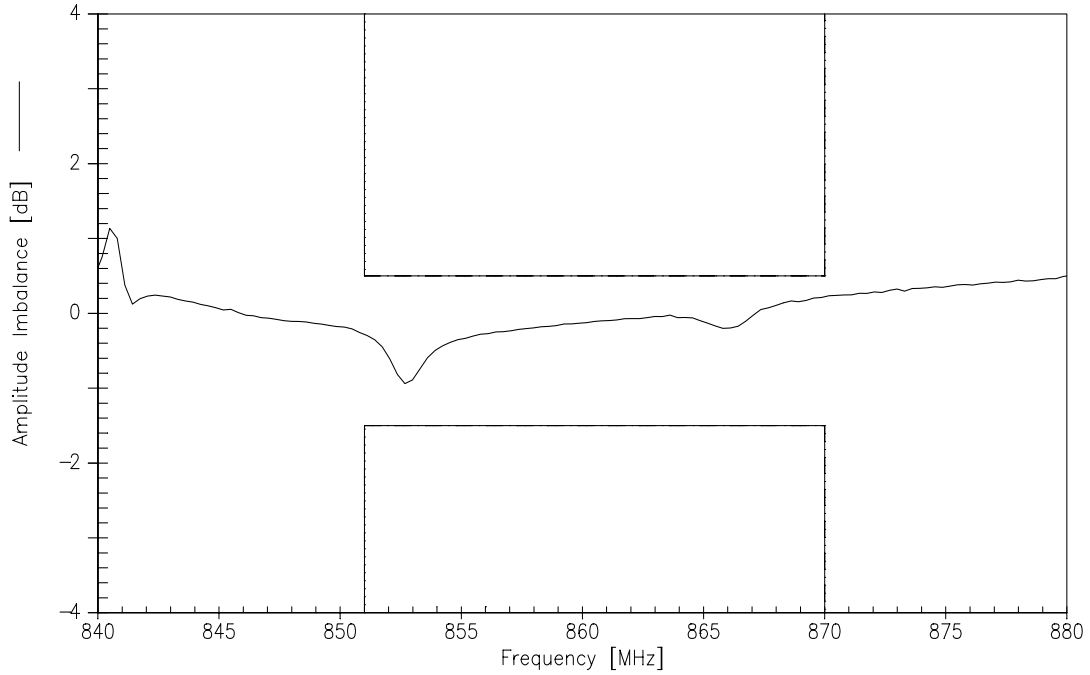
Transfer function (pass band; unbalanced to balanced operation)



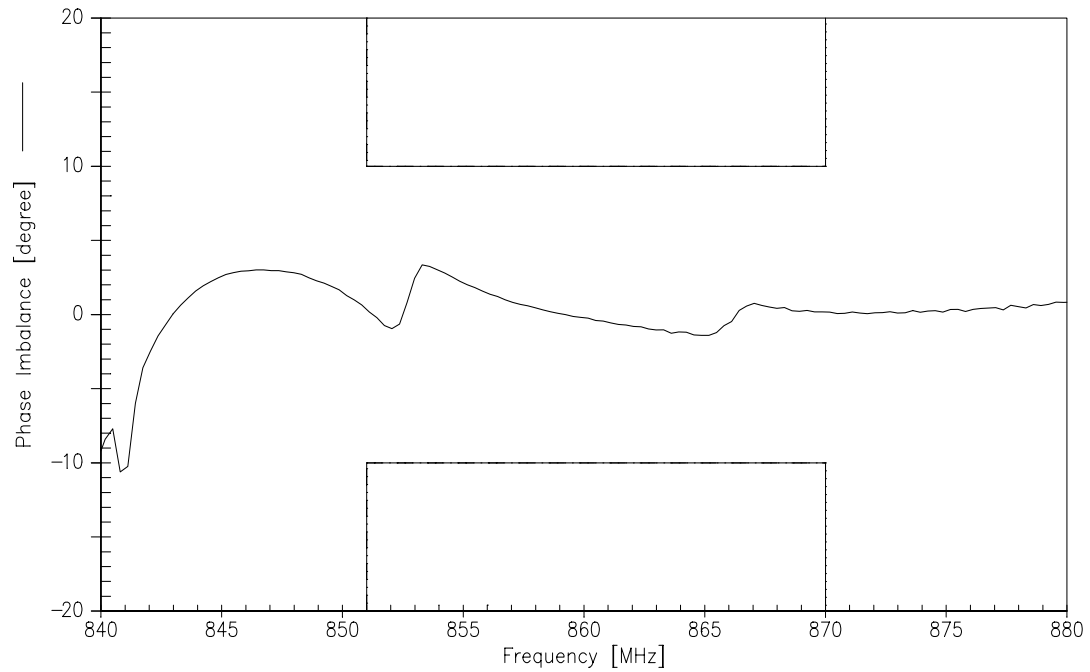


Data Sheet

Amplitude symmetry  $|S_{31}|/|S_{21}|$



Phase symmetry  $\arg(S_{31}/S_{21}) - 180^\circ$





**SAW Components**

**B5013**

**Low-Loss Filter**

**860,5 MHz**

Data Sheet

**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW MC PD**

**P.O. Box 80 17 09, D-81617 Munich, GERMANY**

© EPCOS AG 2004. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.