



# SAW Components

Data Sheet B5013

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a white, glowing, sans-serif font, appearing to float or be attached to a dark, curved, metallic-looking surface. The background is dark and textured, suggesting a globe or a complex circuit board layout.



Data Sheet

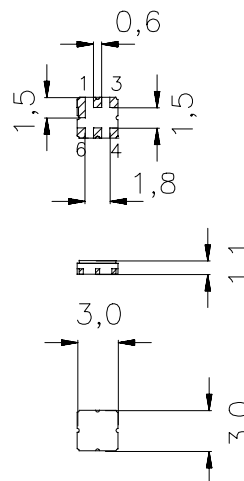
Ceramic package DCC6D

Features

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

Terminals

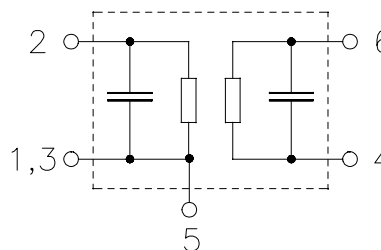
- Gold-plated



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	°C	
Storage temperature range	$T_{stg}$	-40 / +85	°C	
DC voltage	$V_{DC}$	5	V	
Source power	$P_s$	13,0	dBm	source impedance 50 Ω



**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:

$$Z_S = 50 \text{ } \Omega \text{ unbalanced to balanced operation}$$

Terminating load impedance:

$$Z_L = 50 \text{ } \Omega \text{ unbalanced to balanced operation}$$

		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	°
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-36	—	ppm/K


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

Operating temperature range:

$$T_A = -30 \dots +70 \text{ } ^\circ\text{C}$$

Terminating source impedance:

$$Z_S = 50 \text{ } \Omega \text{ unbalanced to balanced operation}$$

Terminating load impedance:

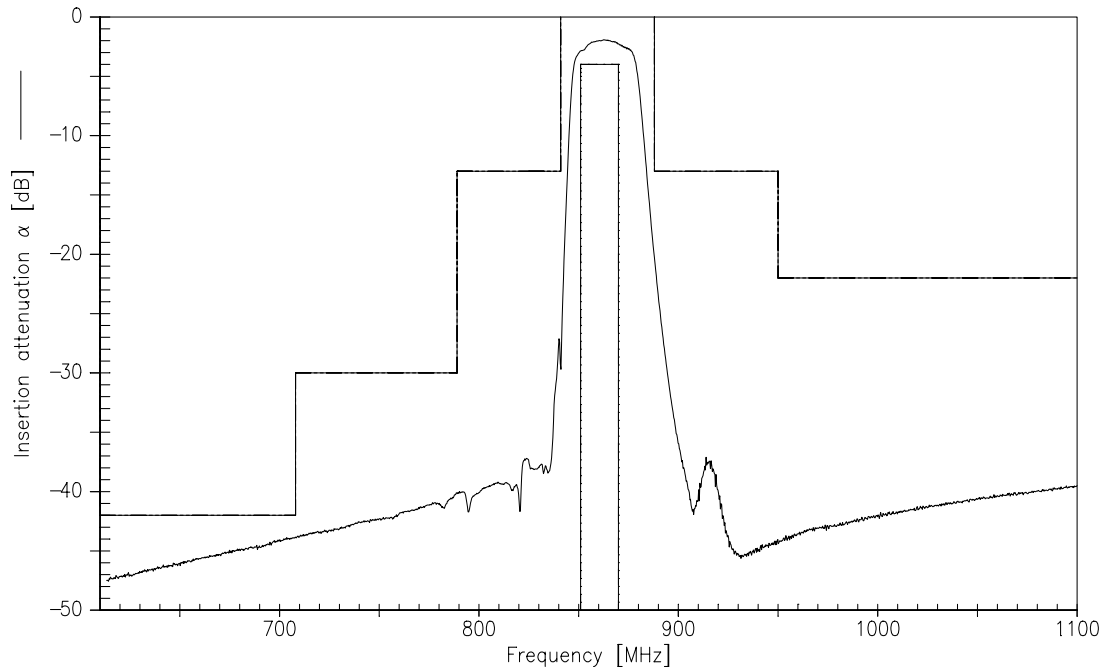
$$Z_L = 50 \text{ } \Omega \text{ unbalanced to balanced operation}$$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	860,5	—	MHz
<b>Maximum insertion attenuation</b> 851,0 MHz ... 870,0 MHz	$\alpha_{\max}$	—	3,6	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

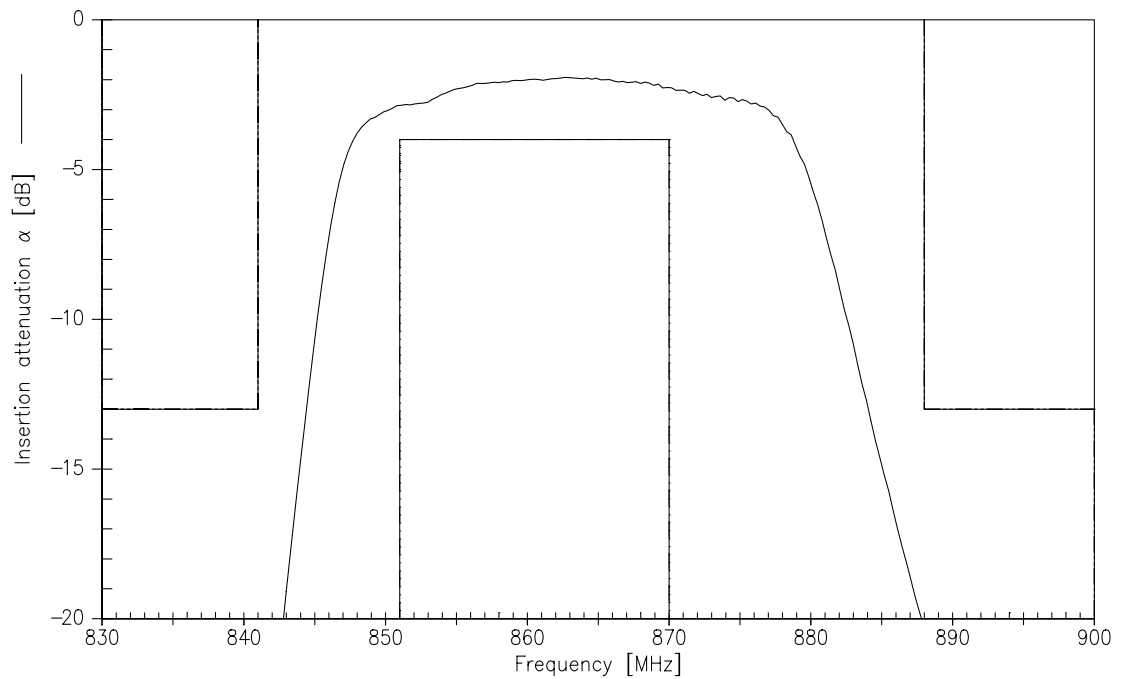


Data Sheet

Transfer function (unbalanced to balanced operation)



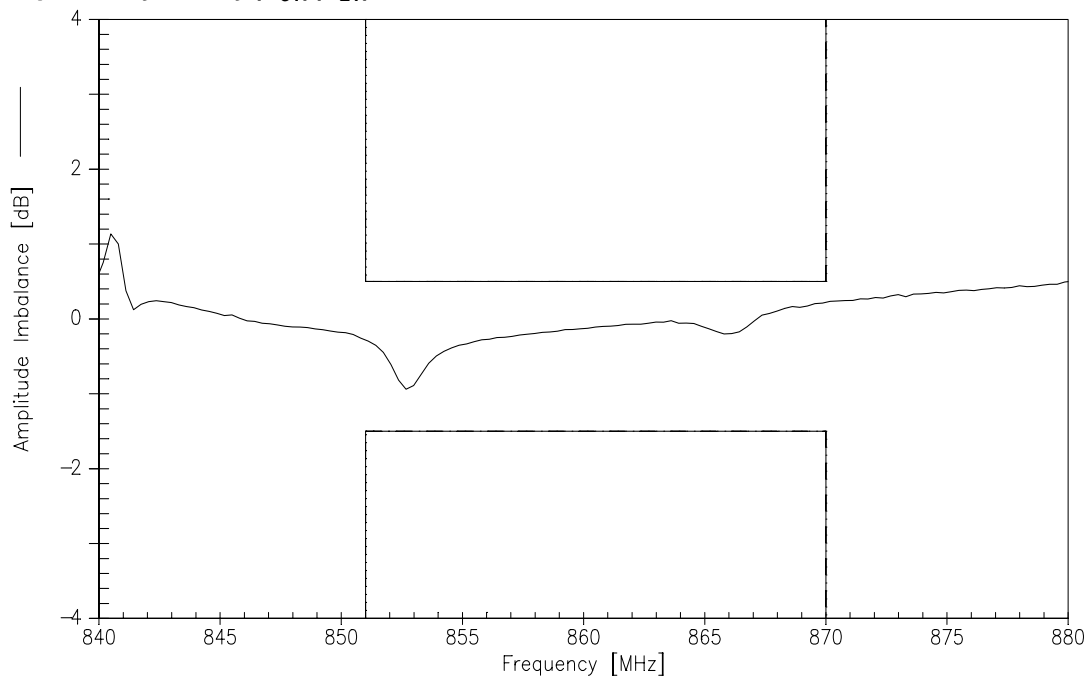
Transfer function (pass band; unbalanced to balanced operation)



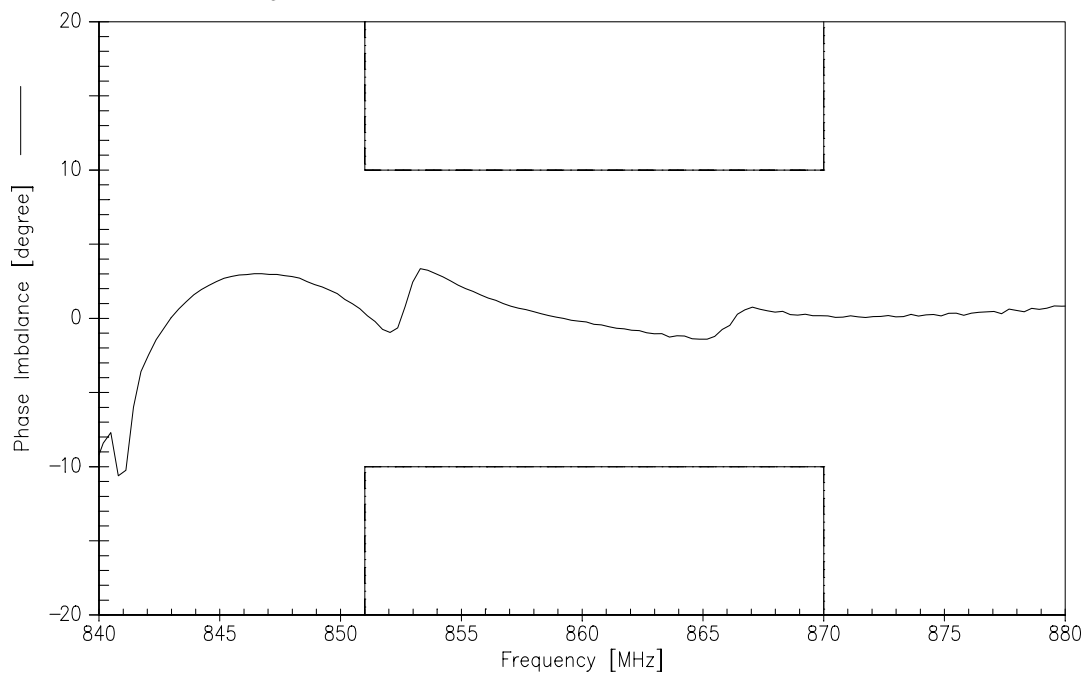


Data Sheet

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



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





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**B5013**

**Low-Loss Filter**

**860,5 MHz**

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**Published by EPCOS AG**

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

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

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