



SAW Components

Data Sheet B4141

Data Sheet

An abstract, grayscale graphic featuring a stylized, three-dimensional representation of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a globe or a stylized wave. The background is dark and textured, with light reflecting off the surfaces of the logo.



SAW Components

B4141

Low-Loss Filter for Mobile Communication

942,50 MHz

Data Sheet



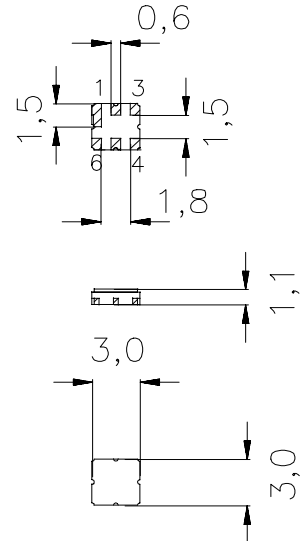
Ceramic package DCC6D

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced Operation
- Impedance transformation from 50 Ω to 200 Ω
- Ceramic package for Surface Mounted Technology (SMT)

Terminals

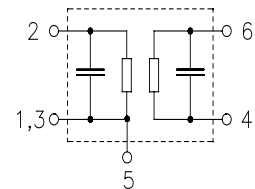
- Ni, gold-plated



Dimensions in mm, approx. weight 0,037 g

Pin configuration

2	Input, unbalanced
1, 3	Input ground
4, 6	Output, balanced
5	To be grounded
1, 3, 5	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B4141	B39941-B4141-U510	C61157-A7-A68	F61074-V8089-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 10 / + 80	$^{\circ}\text{C}$	source impedance 50 Ω , load impedance 200 Ω , peak power of GSM signal, duty cycle 2 : 8
Storage temperature range	T_{stg}	- 40 / + 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	0	V	
Input power max. 880 ... 915 MHz	P_{IN}	3,5	dBm	



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Characteristics

Operating temperature range:	$T = 25 \pm 2 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$
Terminating load impedance:	$Z_L = 200 \text{ } \Omega \parallel 47\text{nH}$ (L simulated with Q factor 20)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	2,5	3,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	0,9	1,4	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Attenuation	α				
0,0 ... 600,0 MHz		60	78	—	dB
600,0 ... 880,0 MHz		50	66	—	dB
880,0 ... 905,0 MHz		30	47	—	dB
905,0 ... 915,0 MHz		20	28	—	dB
980,0 ... 1025,0 MHz		22	25	—	dB
1025,0 ... 1050,0 MHz		35	45	—	dB
1050,0 ... 1920,0 MHz		50	70	—	dB
1920,0 ... 2880,0 MHz		30	60	—	dB
2880,0 ... 3840,0 MHz		23	49	—	dB
3840,0 ... 5000,0 MHz		18	36	—	dB
5000,0 ... 6000,0 MHz		10	35	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	$^{\circ}$



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Characteristics

Operating temperature range:	$T = +20$ to $+40$ °C
Terminating source impedance:	$Z_S = 50 \Omega$
Terminating load impedance:	$Z_L = 200 \Omega \parallel 47 \text{ nH}$ (L simulated with Q factor 20)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	2,6	3,4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,0	1,6	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Attenuation	α				
0,0 ... 600,0 MHz		60	78	—	dB
600,0 ... 880,0 MHz		50	66	—	dB
880,0 ... 905,0 MHz		30	44	—	dB
905,0 ... 915,0 MHz		20	28	—	dB
980,0 ... 1025,0 MHz		22	25	—	dB
1025,0 ... 1050,0 MHz		35	45	—	dB
1050,0 ... 1920,0 MHz		50	70	—	dB
1920,0 ... 2880,0 MHz		30	60	—	dB
2880,0 ... 3840,0 MHz		23	48	—	dB
3840,0 ... 5000,0 MHz		18	36	—	dB
5000,0 ... 6000,0 MHz		10	35	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



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Data Sheet	SMD	

Characteristics

Operating temperature range:	$T = +10$ to $+60$ °C
Terminating source impedance:	$Z_S = 50 \Omega$
Terminating load impedance:	$Z_L = 200 \Omega \parallel 47 \text{ nH}$ (L simulated with Q factor 20)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	2,6	3,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,0	1,8	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Attenuation	α				
0,0 ... 600,0 MHz		60	78	—	dB
600,0 ... 880,0 MHz		50	66	—	dB
880,0 ... 905,0 MHz		30	43	—	dB
905,0 ... 915,0 MHz		20	28	—	dB
980,0 ... 1025,0 MHz		21	25	—	dB
1025,0 ... 1050,0 MHz		35	44	—	dB
1050,0 ... 1920,0 MHz		50	70	—	dB
1920,0 ... 2880,0 MHz		30	60	—	dB
2880,0 ... 3840,0 MHz		23	49	—	dB
3840,0 ... 5000,0 MHz		18	36	—	dB
5000,0 ... 6000,0 MHz		10	35	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



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Characteristics

Operating temperature range:	$T = -10$ to $+80$ °C
Terminating source impedance:	$Z_S = 50 \Omega$
Terminating load impedance:	$Z_L = 200 \Omega \parallel 47$ nH (L simulated with Q factor 20)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	2,7	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,1	2,0	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Attenuation	α				
0,0 ... 600,0 MHz		60	78	—	dB
600,0 ... 880,0 MHz		50	66	—	dB
880,0 ... 905,0 MHz		30	40	—	dB
905,0 ... 915,0 MHz		20	28	—	dB
980,0 ... 1025,0 MHz		20	23	—	dB
1025,0 ... 1050,0 MHz		35	44	—	dB
1050,0 ... 1920,0 MHz		50	70	—	dB
1920,0 ... 2880,0 MHz		30	60	—	dB
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3840,0 ... 5000,0 MHz		18	36	—	dB
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$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



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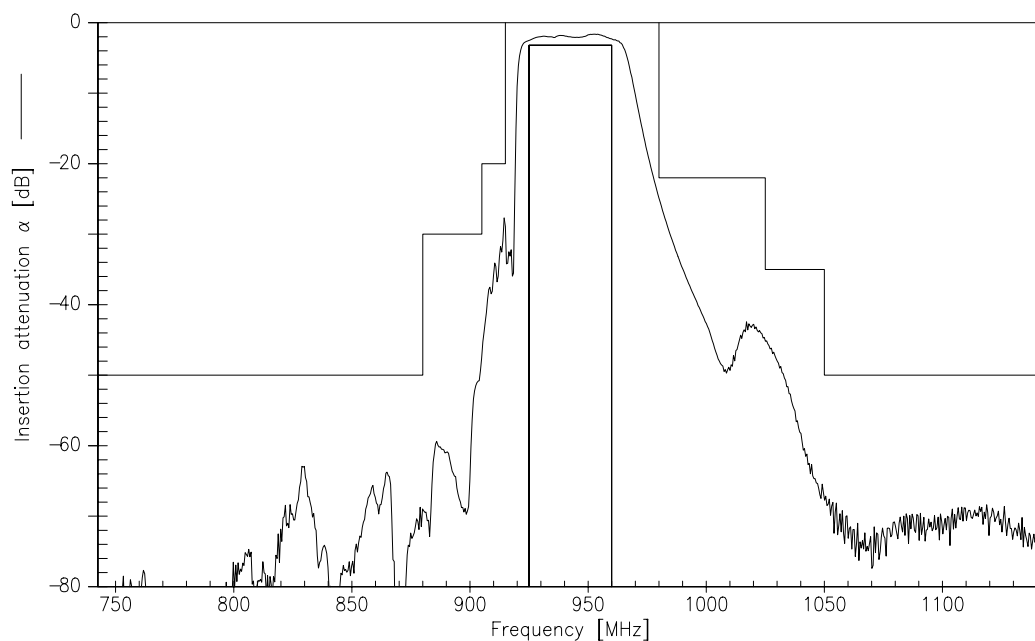
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942,50 MHz

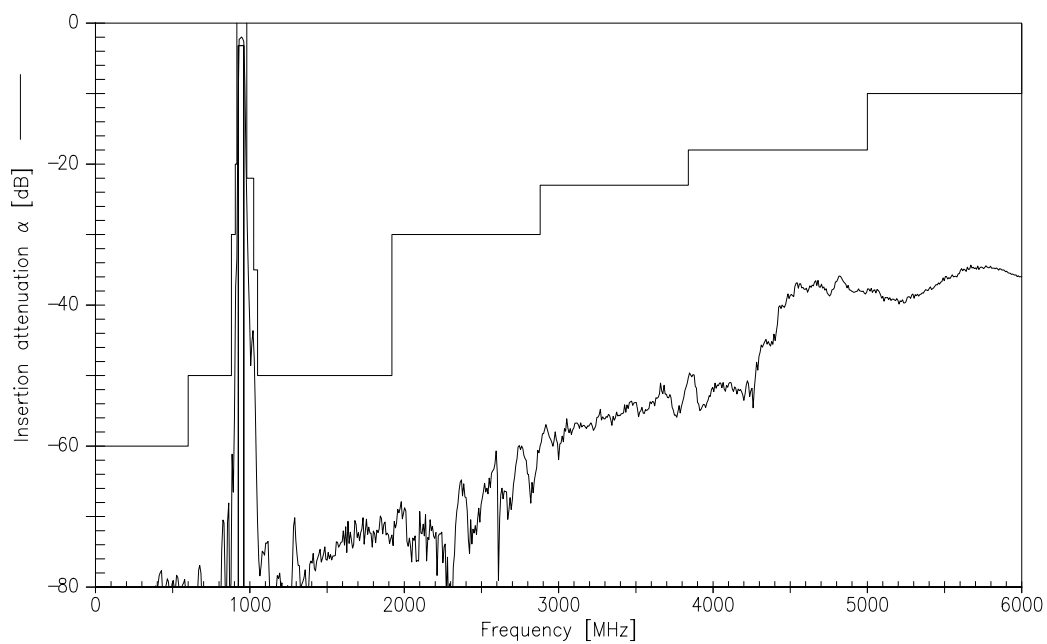
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Transfer function (spec at 25 °C)



Transfer function (wideband)





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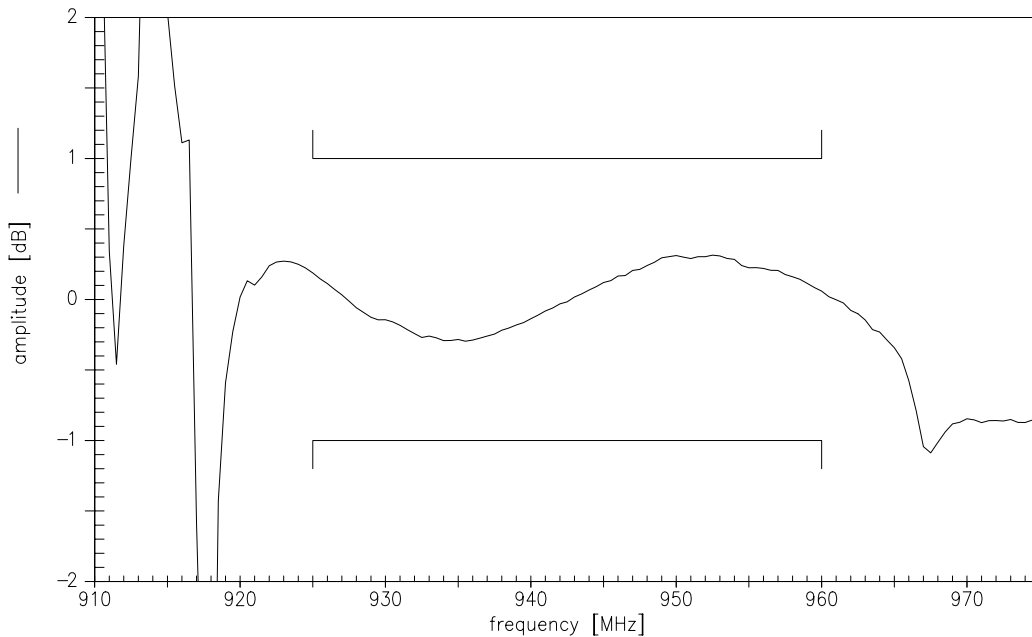
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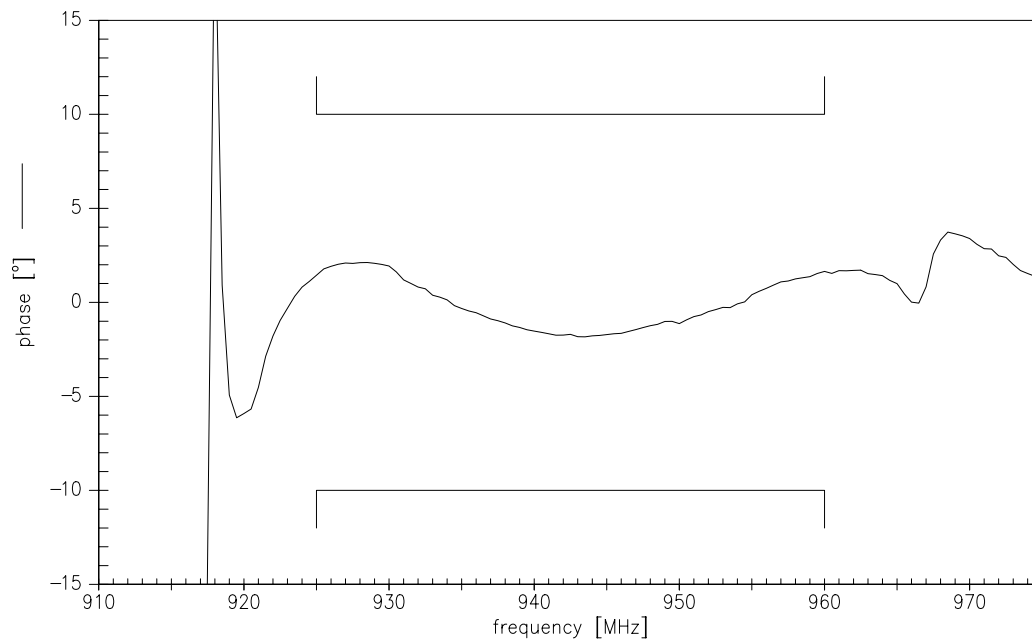
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Amplitude Symmetry $|S_{31}|/|S_{21}|$ (referenced to the matched operating condition)



Phase Symmetry $\arg(S_{31}/S_{21}) - 180^\circ$ (referenced to the matched operating condition)





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