



RF Filters for Cellular Phones

Series/Type: B4121

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39941B4121U510	B39941B4124U410	2009-04-03	2009-07-15	2009-10-15

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.



SAW Components

B4121

Low-Loss Filter for Mobile Communication

942,50 MHz

Data Sheet



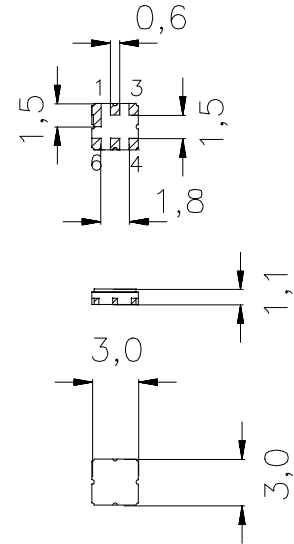
Ceramic package DCC6D

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 150 Ω
- Ceramic package for Surface Mounted Technology (SMT)

Terminals

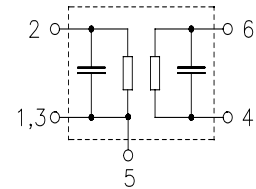
- Ni, gold-plated



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
B4121	B39941-B4121-U510	C61157-A7-A68	F61074-V8089-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40 / + 85	°C	source impedance 50 Ω , load impedance 150 Ω , CW input for min. 2000 h
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	3	V	
Input power max.	P_{IN}			
880 ... 915 MHz		18	dBm	
1705 ... 1785 MHz		18	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:	$Z_L = 150 \text{ } \Omega \parallel 80 \text{ nH}$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,8	3,2	dB
	925,0 ... 960,0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,4	dB
	925,0 ... 960,0 MHz				
Attenuation	α				
	0,0 ... 600,0 MHz	60	70	—	dB
	600,0 ... 880,0 MHz	50	55	—	dB
	880,0 ... 905,0 MHz	30	38	—	dB
	905,0 ... 915,0 MHz	18	23	—	dB
	980,0 ... 1000,0 MHz	21	23	—	dB
	1000,0 ... 1025,0 MHz	30	37	—	dB
	1025,0 ... 1050,0 MHz	35	40	—	dB
	1050,0 ... 1500,0 MHz	50	57	—	dB
	1500,0 ... 2130,0 MHz	45	55	—	dB
	2130,0 ... 3000,0 MHz	40	48	—	dB
	3000,0 ... 4050,0 MHz	35	41	—	dB
	4050,0 ... 5700,0 MHz	23	30	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,8	0	1,2	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	192	$^{\circ}$



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Characteristics

Operating temperature range: $T = -10$ to $+75$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega \parallel 80 \text{ nH}$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	3,0	3,8	dB
	925,0 ... 960,0 MHz	—	3,0	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,2	2,0	dB
	925,0 ... 960,0 MHz	—	1,2	2,0	dB
Attenuation	α				
	0,0 ... 600,0 MHz	60	70	—	dB
	600,0 ... 880,0 MHz	50	55	—	dB
	880,0 ... 905,0 MHz	28	33	—	dB
	905,0 ... 915,0 MHz	18	21	—	dB
	980,0 ... 1000,0 MHz	20	22	—	dB
	1000,0 ... 1025,0 MHz	30	37	—	dB
	1025,0 ... 1050,0 MHz	35	40	—	dB
	1050,0 ... 1500,0 MHz	50	57	—	dB
	1500,0 ... 2130,0 MHz	45	55	—	dB
	2130,0 ... 3000,0 MHz	40	48	—	dB
	3000,0 ... 4050,0 MHz	35	41	—	dB
	4050,0 ... 5700,0 MHz	23	30	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-2,3	0	1,2	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	192	°



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Characteristics

Operating temperature range: $T = -40$ to $+85$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega \parallel 80 \text{ nH}$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,4	4,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,8	2,6	dB
Attenuation	α				
0,0 ... 600,0 MHz		60	70	—	dB
600,0 ... 880,0 MHz		50	55	—	dB
880,0 ... 905,0 MHz		28	33	—	dB
905,0 ... 915,0 MHz		18	21	—	dB
980,0 ... 1000,0 MHz		19	21	—	dB
1000,0 ... 1025,0 MHz		30	37	—	dB
1025,0 ... 1050,0 MHz		35	40	—	dB
1050,0 ... 1500,0 MHz		50	57	—	dB
1500,0 ... 2130,0 MHz		45	55	—	dB
2130,0 ... 3000,0 MHz		40	48	—	dB
3000,0 ... 4050,0 MHz		35	41	—	dB
4050,0 ... 5700,0 MHz		23	30	—	dB
Symmetry in band (referenced to the matched operating condition)					
$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-2,6	0	1,2	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	192	°



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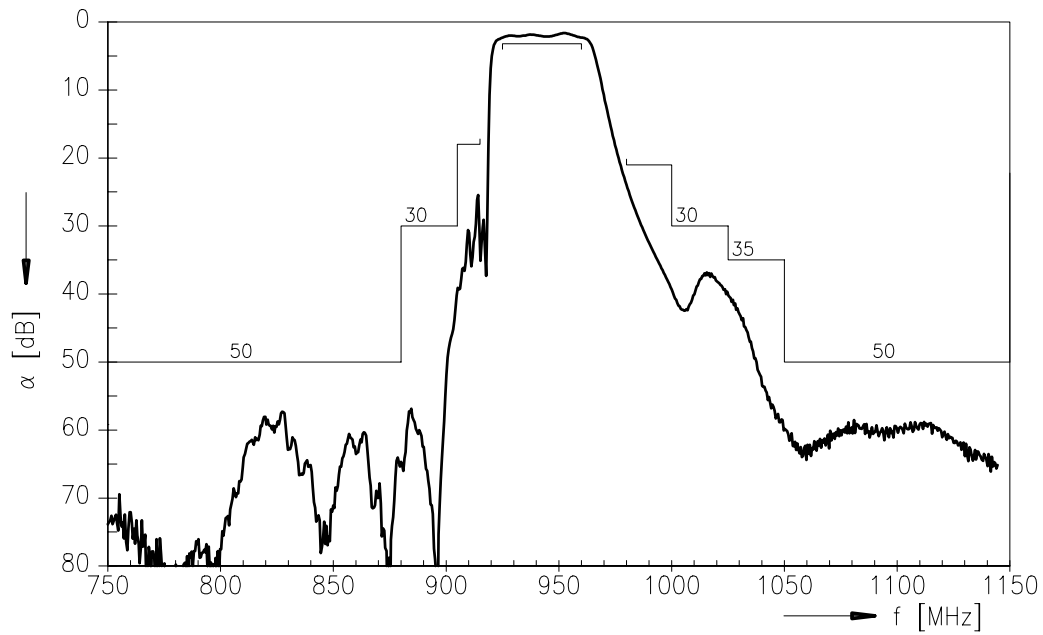
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942,50 MHz

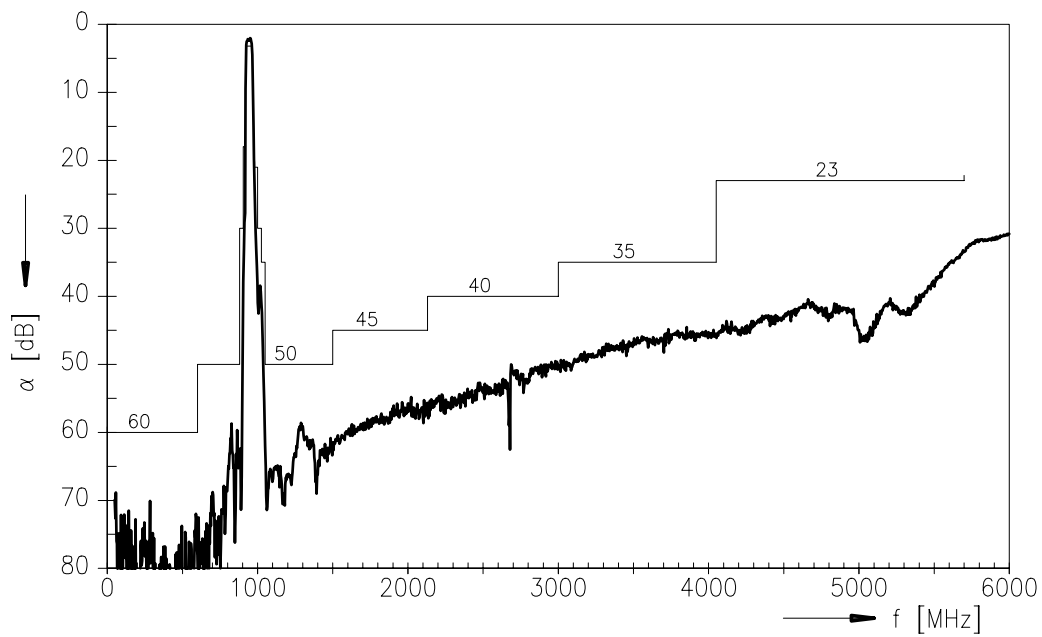
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Transfer function (spec at 25 °C)



Transfer function (wideband)





SAW Components	B4121
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Data Sheet	SMD

Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

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