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The following products presented in this data sheet are being withdrawn.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

Data Sheet SMD

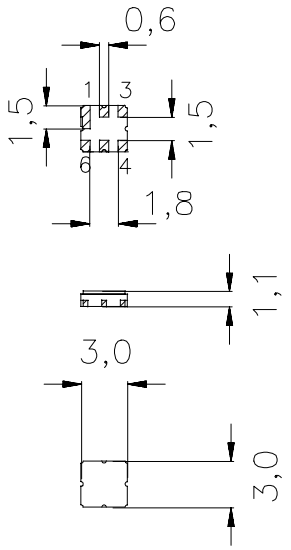
Ceramic package **DCC6D**

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 **S**urface **M**ounted **T**echnology (**SMT**)

Terminals

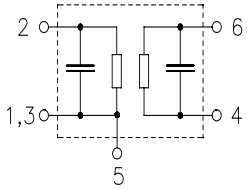
- Ni, gold-plated



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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 40 / + 85	°C	
Storage temperature range	T_{stg}	– 40 / + 85	°C	
DC voltage	V_{DC}	3	V	
Input power max.	P_{IN}			source impedance 50 Ω,
880 ... 915 MHz		18	dBm	load impedance 150 Ω,
1705 ...1785 MHz		18	dBm	CW input for min. 2000 h

Characteristics

Operating temperature range: T = 25+-2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 80 nH

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	2,8	3,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,0	1,4	dB
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)					
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$ 925,0 ... 960,0 MHz		-1,8	0	1,2	dB
$\arg(S_{31}/S_{21})$ 925,0 ... 960,0 MHz		170	180	192	°

Characteristics

Operating temperature range: T = -10 to +75 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 80 nH

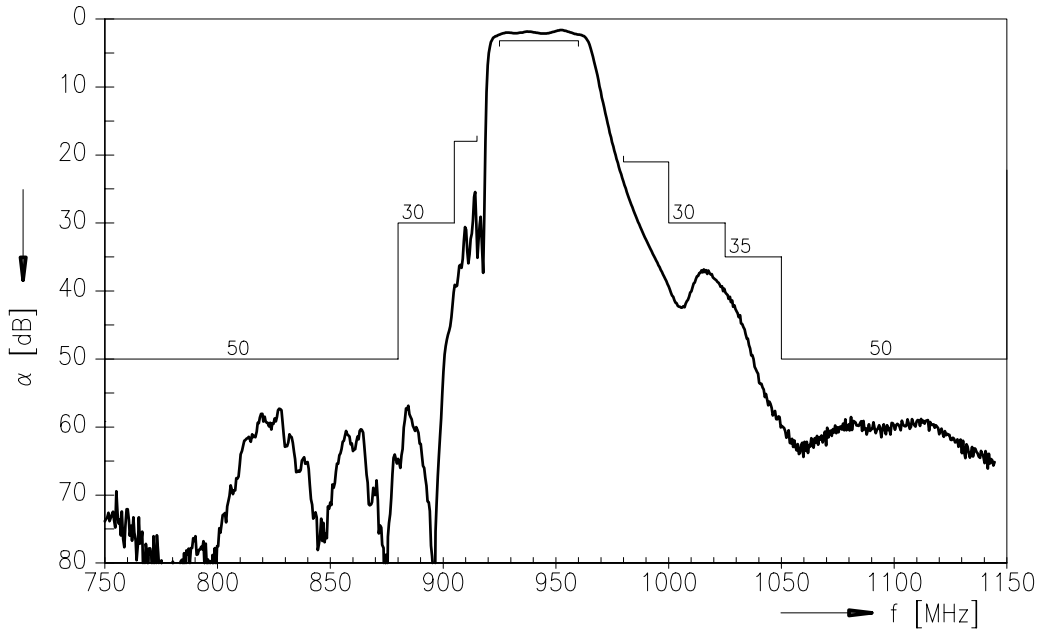
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	3,0	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,2	2,0	dB
Attenuation	α				
0,0 ... 600,0 MHz		60	70	—	dB
600,0 ... 880,0 MHz		50	55	—	dB
880,0 ... 905,0 MHz		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)					
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$ 925,0 ... 960,0 MHz		-2,3	0	1,2	dB
$\arg(S_{31}/S_{21})$ 925,0 ... 960,0 MHz		170	180	192	°

Characteristics

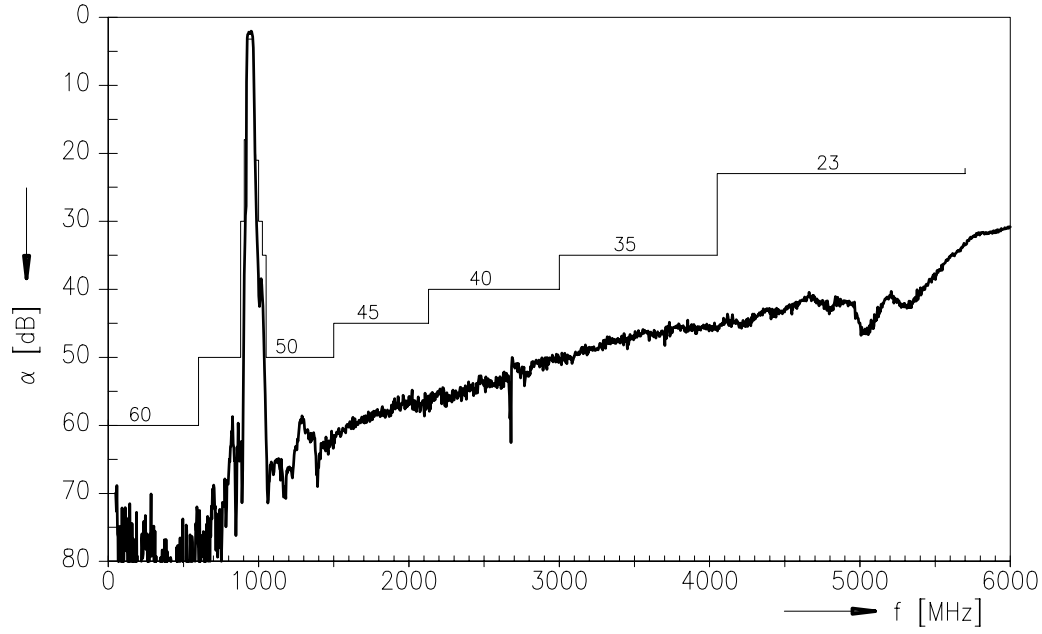
Operating temperature range: T = -40 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 80 nH

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{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)					
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$ 925,0 ... 960,0 MHz		-2,6	0	1,2	dB
$\arg(S_{31}/S_{21})$ 925,0 ... 960,0 MHz		170	180	192	°

Transfer function (spec at 25 °C)



Transfer function (wideband)



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