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The following products presented in this data sheet are being withdrawn.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



B4121

Low-Loss Filter for Mobile Communication

942,50 MHz

Data Sheet



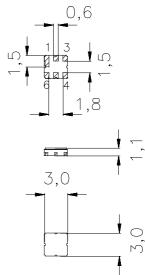
Ceramic package DCC6D

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- \blacksquare Impedance transformation from 50 Ω to 150 Ω
- Ceramic package for Surface Mounted Technology (SMT)



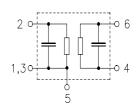
■ Ni, gold-plated



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



Туре	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	
Storage temperature range	$T_{ m stg}$	– 40 / + 85	°C	
DC voltage	$V_{\rm DC}$	3	V	
Input power max.	P_{IN}			source impedance 50Ω ,
880 915 MHz		18	dBm	load impedance 150 Ω ,
17051785 MHz		18	dBm	CW input for min. 2000 h



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Characteristics

 $T = 25+-2 \,^{\circ}\text{C}$ $Z_{\text{S}} = 50 \,\Omega$ $Z_{\text{L}} = 150 \,\Omega \, \parallel 80 \,\text{nH}$ Operating temperature range: Terminating source impedance:

Terminating load impedance:

	n insertion attenuat	i on 960,0		$f_{\mathbb{C}}$	_	942,5	_	MHz
	925,0	960,0		α_{max}				
			MHz		_	2,8	3,2	dB
Amplitud	e ripple (p-p)			Δα				
-	925,0	960,0	MHz		_	1,0	1,4	dB
Attenuati	on			α				
		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
Symmetr	y in band							
•	ed to the matched op	erating cond	dition)					
	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	0



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Characteristics

Operating temperature range:

Terminating source impedance:

T = -10 to +75 °C $Z_{\text{S}} = 50 \Omega$ $Z_{\text{L}} = 150 \Omega \parallel 80 \text{ nH}$ Terminating load impedance:

				min.	typ.	max.	
Center frequency			$f_{\mathbb{C}}$	_	942,5	_	MHz
Maximum insertion attenuat			α_{max}		0.0	0.0	
925,0	960,0	MHz		_	3,0	3,8	dB
Amplitude ripple (p-p)			Δα				
	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	o



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Low-Loss Filter for Mobile Communication

942,50 MHz

Data Sheet

Characteristics

 $T = -40 \text{ to } +85 \text{ }^{\circ}\text{C}$ Operating temperature range:

Terminating source impedance:

 $Z_{\rm S} = 50~\Omega$ $Z_{\rm L} = 150~\Omega \parallel 80~{\rm nH}$ Terminating load impedance:

				min.	typ.	max.	
Center frequency			$f_{\mathbb{C}}$	_	942,5	_	MHz
Maximum insertion attenuati	on		α_{max}				
925,0	960,0	MHz	IIIdX	_	3,4	4,2	dB
Amplitude ripple (p-p)			Δα				
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 ope	erating cond	dition)					
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	0

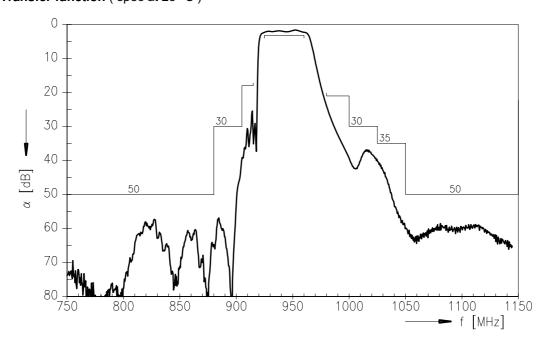


Low-Loss Filter for Mobile Communication

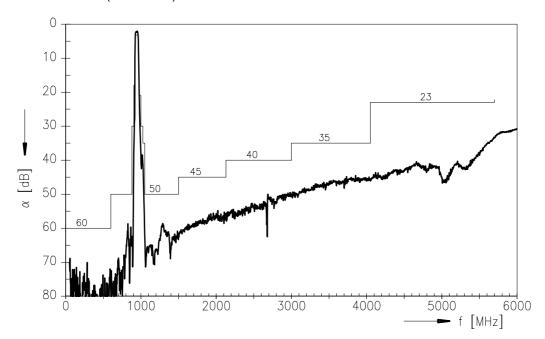
942,50 MHz

Transfer function (spec at 25 $^{\circ}$ C)

Data Sheet



Transfer function (wideband)





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Data Sheet



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