



SAW Components

Data Sheet B4170





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B4170

Low-Loss Filter for Mobile Communication

1960,0 MHz

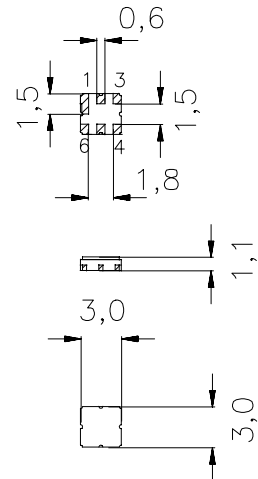
Preliminary Data



Ceramic package **DCC6D**

Features

- Low-loss RF filter for mobile telephone PCS systems, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 200 Ω
- Package for **Surface Mounted Technology (SMT)**
- Ceramic SMD package



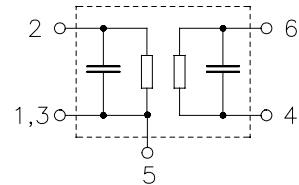
Terminals

- Gold-plated Ni

Dimensions in mm, approx. weight 0,037 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4170	B39202-B4170-U510	C61157-A7-A68	F61074-V8089-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operating temperature range	T	-30 / +85	°C	source/load impedance 50Ω/200Ω
Storage temperature range	T_{stg}	-40 / +85	°C	
DC voltage	V_{DC}	5	V	
Input power max.	P_{IN}			
1850,0 ... 1910,0 MHz		13	dBm	peak power of GSM signal duty cycle 1:8
elsewhere		0	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: $Z_L = 200 \text{ } \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{\max}	—	3,0	3,5	dB
	1930,0 ... 1990,0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,6	dB
	1930,0 ... 1990,0 MHz				
Input VSWR		—	1,9	2,1	
	1930,0 ... 1990,0 MHz				
Output VSWR		—	1,7	2,1	
	1930,0 ... 1990,0 MHz				
Attenuation	α				
	0,0 ... 1000,0 MHz	45	72	—	dB
	1000,0 ... 1830,0 MHz	40	60	—	dB
	1830,0 ... 1900,0 MHz	15	19	—	dB
	1900,0 ... 1910,0 MHz	12	17	—	dB
	2010,0 ... 2020,0 MHz	8	12	—	dB
	2020,0 ... 2070,0 MHz	12	18	—	dB
	2070,0 ... 2200,0 MHz	25	40	—	dB
	2200,0 ... 2380,0 MHz	45	55	—	dB
	2380,0 ... 4600,0 MHz	30	40	—	dB
	4600,0 ... 6000,0 MHz	23	30	—	dB



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Characteristics

Operating temperature range: $T = +15$ to $+60$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,0	3,8	dB
1930,0 ... 1990,0	MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,9	dB
1930,0 ... 1990,0	MHz				
Input VSWR		—	1,9	2,1	
1930,0 ... 1990,0	MHz				
Output VSWR		—	1,7	2,1	
1930,0 ... 1990,0	MHz				
Attenuation	α				
0,0 ... 1000,0	MHz	45	72	—	dB
1000,0 ... 1830,0	MHz	40	60	—	dB
1830,0 ... 1900,0	MHz	15	19	—	dB
1900,0 ... 1910,0	MHz	8	16	—	dB
2010,0 ... 2020,0	MHz	7	10	—	dB
2020,0 ... 2070,0	MHz	12	17	—	dB
2070,0 ... 2200,0	MHz	25	40	—	dB
2200,0 ... 2380,0	MHz	45	55	—	dB
2380,0 ... 4600,0	MHz	30	40	—	dB
4600,0 ... 6000,0	MHz	23	30	—	dB



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Characteristics

Operating temperature range: $T = -10$ to $+80$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,2	4,0	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,2	2,1	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,9	2,2	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,7	2,2	
1930,0 ... 1990,0 MHz					
Attenuation	α				
0,0 ... 1000,0 MHz		45	72	—	dB
1000,0 ... 1830,0 MHz		40	60	—	dB
1830,0 ... 1900,0 MHz		15	17	—	dB
1900,0 ... 1910,0 MHz		7	15	—	dB
2010,0 ... 2020,0 MHz		6	9	—	dB
2020,0 ... 2070,0 MHz		12	17	—	dB
2070,0 ... 2200,0 MHz		25	40	—	dB
2200,0 ... 2380,0 MHz		45	55	—	dB
2380,0 ... 4600,0 MHz		30	40	—	dB
4600,0 ... 6000,0 MHz		23	30	—	dB



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Characteristics

Operating temperature range: $T = -30$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,3	4,5	dB
	1930,0 ... 1990,0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,3	2,4	dB
	1930,0 ... 1990,0 MHz				
Input VSWR		—	1,9	2,2	
	1930,0 ... 1990,0 MHz				
Output VSWR		—	1,7	2,2	
	1930,0 ... 1990,0 MHz				
Attenuation	α				
	0,0 ... 1000,0 MHz	45	72	—	dB
	1000,0 ... 1830,0 MHz	40	60	—	dB
	1830,0 ... 1900,0 MHz	15	17	—	dB
	1900,0 ... 1910,0 MHz	7	15	—	dB
	2010,0 ... 2020,0 MHz	6	9	—	dB
	2020,0 ... 2070,0 MHz	12	17	—	dB
	2070,0 ... 2200,0 MHz	25	40	—	dB
	2200,0 ... 2380,0 MHz	45	55	—	dB
	2380,0 ... 4600,0 MHz	30	40	—	dB
	4600,0 ... 6000,0 MHz	23	30	—	dB



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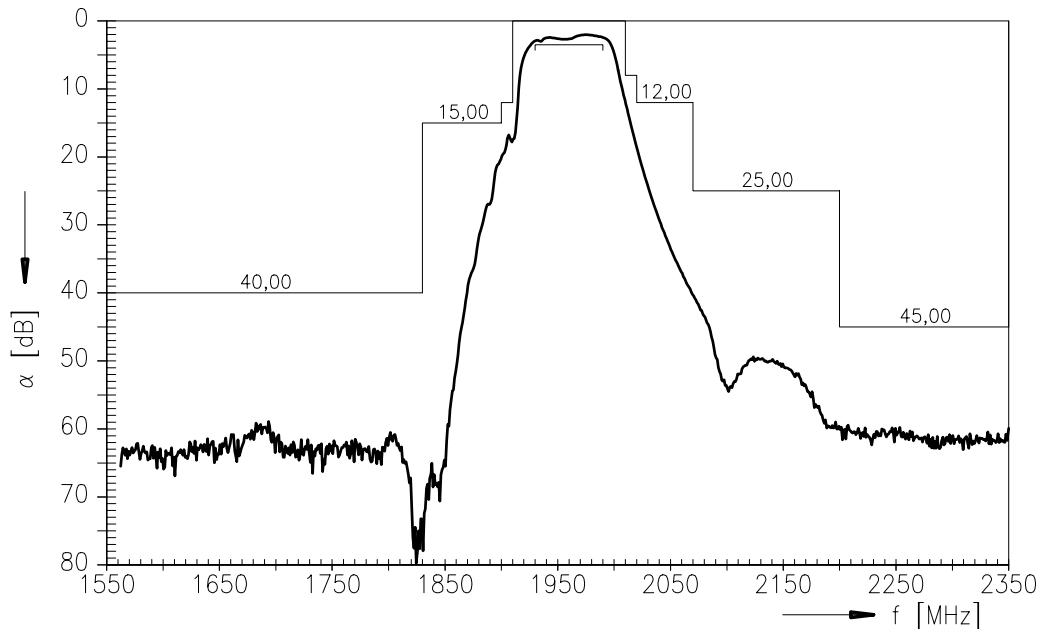
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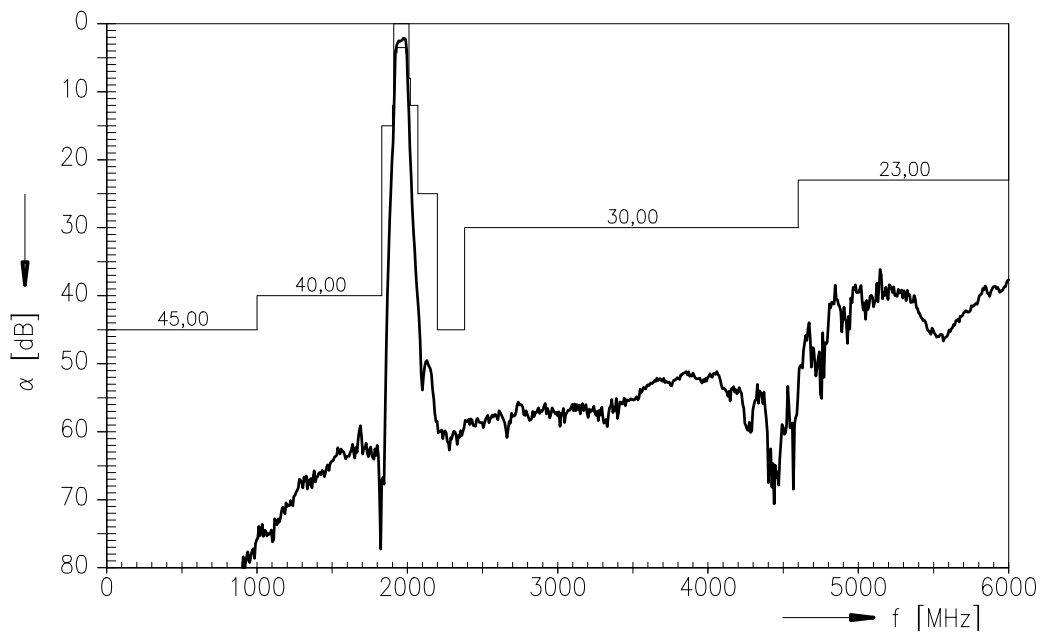
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Transfer function (spec at 25 °C)



Transfer function (wide band):





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