EPCOS

SAW Components

Data Sheet B4170

Preliminary Data

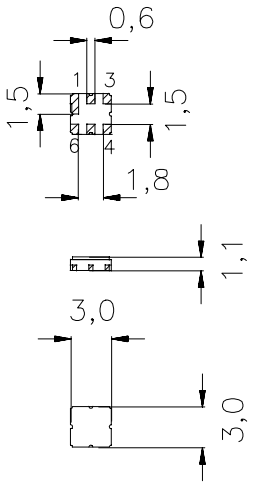
Ceramic package **DCC6D**

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 **S**urface **M**ounted **T**echnology (**SMT**)
- Ceramic SMD package

Terminals

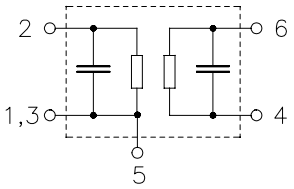
- Gold-plated Ni



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

Maximum ratings

Operating temperature range	T	–30 / +85	˚C	
Storage temperature range	T_{stg}	–40 / +85	˚C	
DC voltage	V_{DC}	5	V	
Input power max.	P_{IN}			source/load impedance 50Ω/200Ω
1850,0 ... 1910,0 MHz		13	dBm	peak power of GSM signal duty cycle 1:8
elsewhere		0	dBm	

Preliminary Data SMD

Characteristics

Operating temperature range: T = +25 +-2 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω (balanced) || 15 nH

			min.	typ.	max.	
Center frequency		f_C	—	1960,0	—	MHz
Maximum insertion attenuation		α_{max}				
	1930,0 ... 1990,0 MHz		—	3,0	3,5	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
	1930,0 ... 1990,0 MHz		—	1,0	1,6	dB
Input VSWR						
	1930,0 ... 1990,0 MHz		—	1,9	2,1	
Output VSWR						
	1930,0 ... 1990,0 MHz		—	1,7	2,1	
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

Preliminary Data SMD

Characteristics

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

			min.	typ.	max.	
Center frequency		f_C	—	1960,0	—	MHz
Maximum insertion attenuation		α_{max}				
	1930,0 ... 1990,0 MHz		—	3,0	3,8	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
	1930,0 ... 1990,0 MHz		—	1,0	1,9	dB
Input VSWR						
	1930,0 ... 1990,0 MHz		—	1,9	2,1	
Output VSWR						
	1930,0 ... 1990,0 MHz		—	1,7	2,1	
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

Preliminary Data

SMD

Characteristics

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

			min.	typ.	max.	
Center frequency		f_C	—	1960,0	—	MHz
Maximum insertion attenuation		α_{max}				
	1930,0 ... 1990,0 MHz		—	3,2	4,0	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
	1930,0 ... 1990,0 MHz		—	1,2	2,1	dB
Input VSWR						
	1930,0 ... 1990,0 MHz		—	1,9	2,2	
Output VSWR						
	1930,0 ... 1990,0 MHz		—	1,7	2,2	
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

Preliminary Data

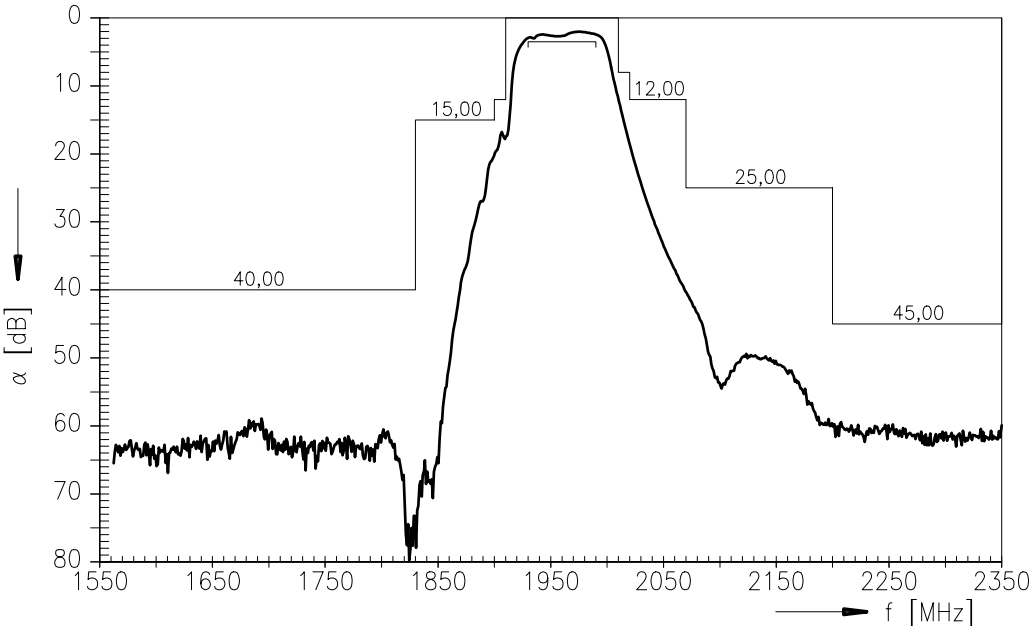
SMD

Characteristics

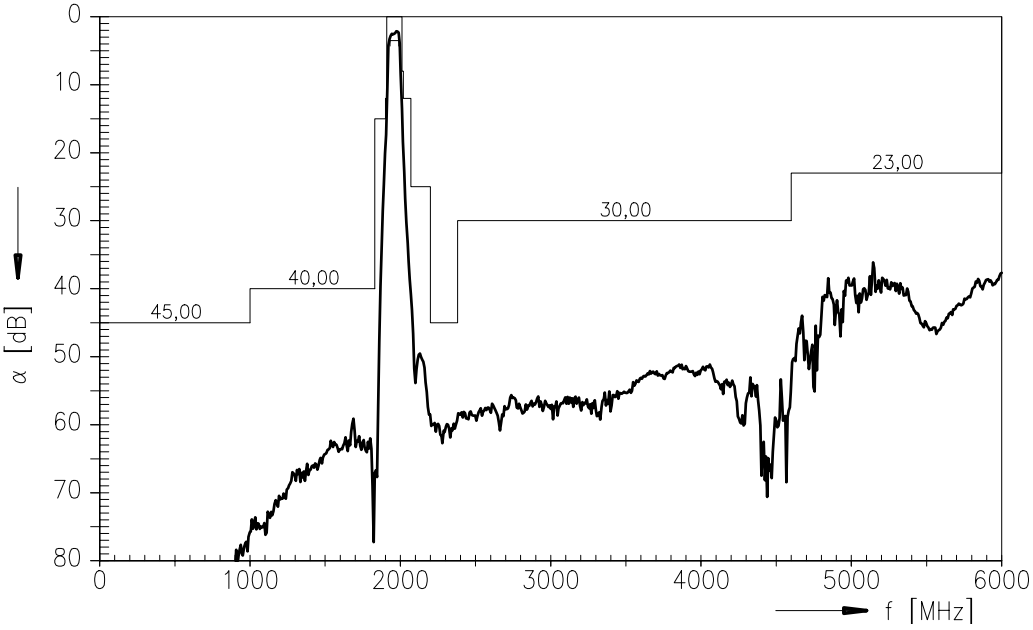
Operating temperature range: T = -30 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω (balanced) || 15 nH

			min.	typ.	max.	
Center frequency		f_C	—	1960,0	—	MHz
Maximum insertion attenuation		α_{max}				
	1930,0 ... 1990,0 MHz		—	3,3	4,5	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
	1930,0 ... 1990,0 MHz		—	1,3	2,4	dB
Input VSWR						
	1930,0 ... 1990,0 MHz		—	1,9	2,2	
Output VSWR						
	1930,0 ... 1990,0 MHz		—	1,7	2,2	
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

Transfer function (spec at 25 ˚C)



Transfer function (wide band):



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