EPCOS

SAW Components

Data Sheet B5007

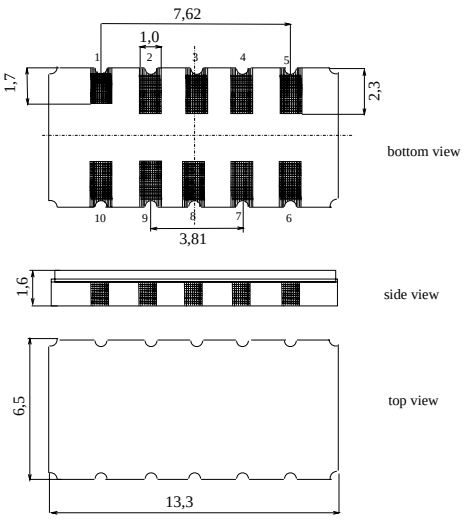
Ceramic package **DCC12A**

Features

- Low-loss IF filter for CDMA2000 base station, receive path
- 3,78 MHz usable bandwidth
- Balanced or unbalanced operation possible
- Temperature stable
- Hermetically sealed ceramic SMD package

Terminals

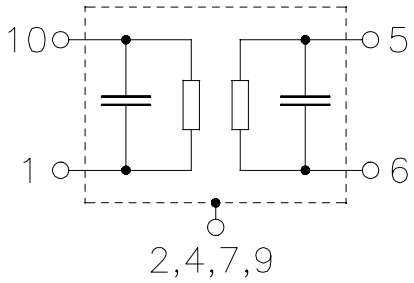
- Gold plated



Dimensions in mm, approx. weight 0,4 g

Pin configuration

10	Input
1	Input ground
5	Output
6	Output ground
2, 4, 7, 9	Case Ground
3, 8	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B5007	B39141-B5007-H510	C61157-A7-A94	F61074-V8163-Z000

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

Maximum ratings

Operable temperature range	T	–30 / +85	°C	
Storage temperature range	T_{stg}	–30 / +85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_s	0	dBm	

Data Sheet

Characteristics

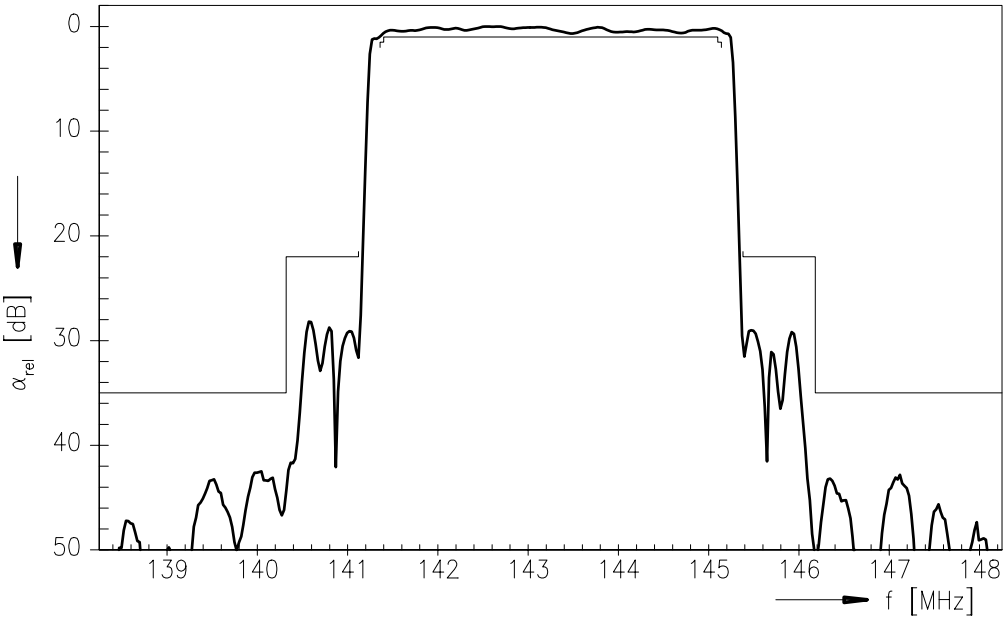
Operating temperature range: T= 0 .. 70 ˚C
Terminating source impedance: Z_S= 50 Ω unbalanced and matching network
Terminating load impedance: Z_L= 50 Ω unbalanced and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	143,25	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	18,5	22,0	dB
Passband width $\alpha_{rel} \le 1{,}5$ dB	$B_{1,5dB}$	3,78	3,95	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 1{,}89$ MHz		—	1,0	1,5	dB
$f_N \pm 1{,}85$ MHz		—	0,6	1,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 1{,}875$ MHz		—	300	400	ns
$f_N \pm 1{,}775$ MHz		—	150	220	ns
Difference of mean group delay in adj. channel [1)]					
$f_N + k*1{,}25$ MHz	$\Delta\tau_{ch}$	—	8	30	ns
Absolute Group delay $f_N \pm 1{,}875$ MHz	τ	1,8	2,0	2,35	µs
Phase Linearity[1)] (rms)	$\Delta\varphi$				
$f_N + k*1{,}25$ MHz ± 0,625 MHz		—	1,0	2,0	°
Average Error Vector Magnitude[1)]	*EVM*				
$f_N + k*1{,}25$ MHz ± 0,625 MHz		—	2,5	4,0	%
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm 2{,}13$ MHz ... $f_N \pm 2{,}93$ MHz		22	27	—	dB
$f_N \pm 2{,}93$ MHz ... $f_N \pm 35$ MHz		35	40	—	dB
$f_N \pm 35$ MHz ... $f_N \pm 45$ MHz		40	55	—	dB
Temperature coefficient of frequency[2)]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	35	—	˚C

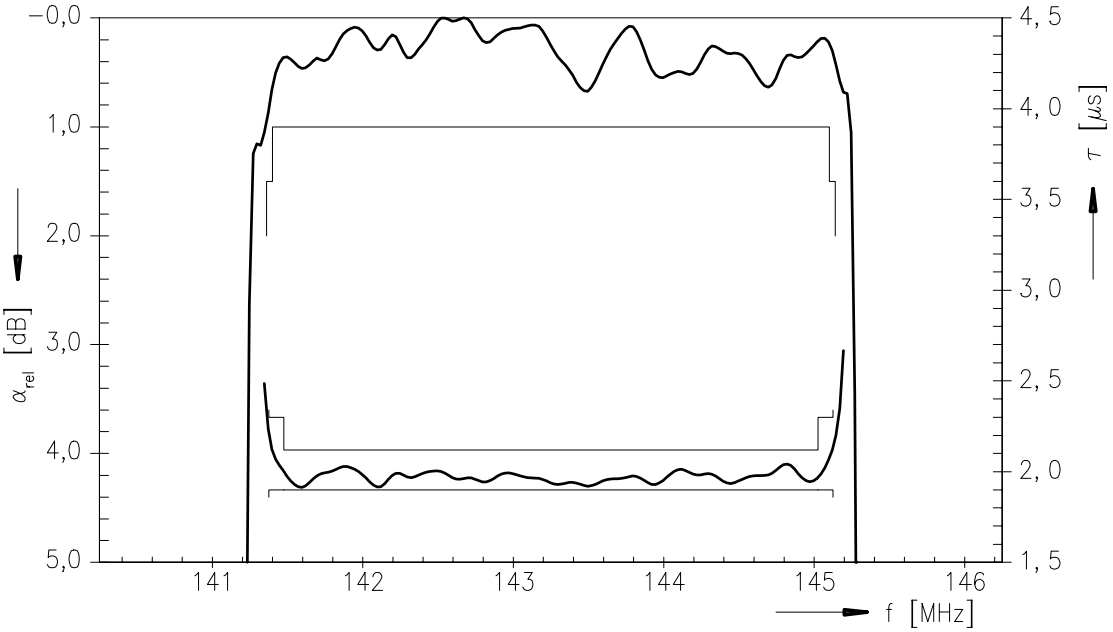
[1)] k = (-1,0,1)

[2)] Temperature dependance of fc: $fc(T_A) = fc(T_0)(1 + TC_f(T_A - T_0)^2)$

Normalized frequency response

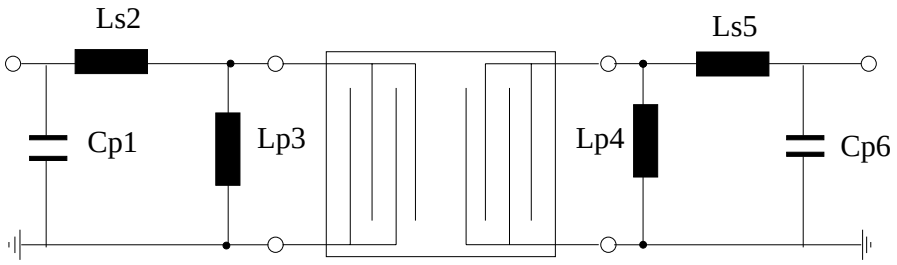


Normalized frequency response (pass band)



Matching network to 50 Ω :

(element values depend on PCB layout)



C_{p1} = 22 pF L_{p3} = not used L_{s5} = 180 nH

L_{s2} = 82 nH L_{p4} = 390 nH C_{p6} = 22 pF

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