EPCOS

SAW Components

Data Sheet B3861

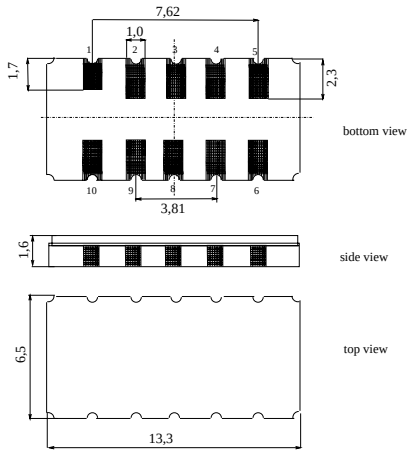
Ceramic package **DCC12A**

Features

- IF filter for W-CDMA base station
- Usable bandwidth 4,0 MHz
- Temperature stable
- Ceramic SMD package

Terminals

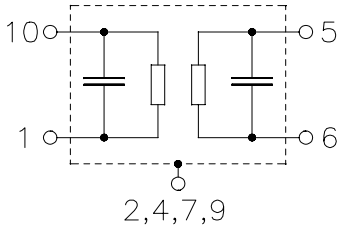
- Gold plated



Dimensions in mm, appr. 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
B3861	B39251-B3861-H510	C61157-A7-A94	F61074-V8163-Z000

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

Maximum ratings

Operable temperature range	T_A	-40 / +85	˚C	
Storage temperature range	T_{stg}	-40 / +85	˚C	
DC voltage	V_{DC}	0	V	
Source power (average)	P_s	10	dBm	
(peak < 10ns)		20	dBm	

Data Sheet

Characteristics

Operating temperature: T_A = -10 ... +85 °C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network
Group delay aperture: 125 kHz

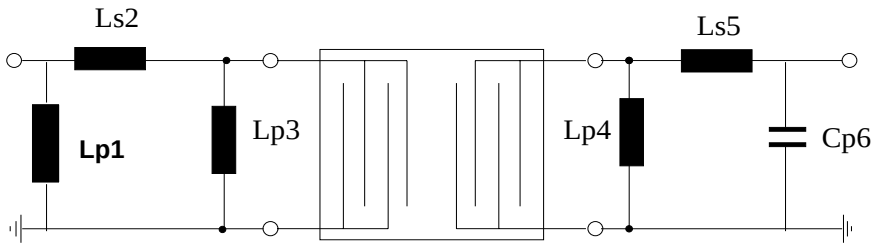
			min.	typ.	max.	
Nominal frequency		f_N	—	250,0	—	MHz
Maximum insertion attenuation in passband[1] (including matching network)		α_{max}	—	16,3	19,0	dB
Passband width						
	$\alpha_{rel} \leq 1$ dB	B_{1dB}	4,0	4,2	—	MHz
Amplitude ripple (p-p)		$\Delta\alpha$				
	$f_N \pm 2{,}0$ MHz		—	0,5	1,0	dB
Group delay ripple (p-p)		$\Delta\tau$				
	$f_N \pm 2{,}0$ MHz		—	120	150	ns
Relative attenuation (relative to α_{fN})		α_{rel}				
$f_N \pm 3{,}0$ MHz ...	$f_N \pm 3{,}5$ MHz		11	15	—	dB
$f_N \pm 3{,}5$ MHz ...	$f_N \pm 4{,}0$ MHz		21	35	—	dB
$f_N \pm 4{,}0$ MHz ...	$f_N \pm 6{,}0$ MHz		24	35	—	dB
$f_N + 6{,}0$ MHz ...	$f_N + 12{,}5$ MHz		40	45	—	dB
$f_N + 12{,}5$ MHz ...	$f_N + 14{,}3$ MHz		54	57	—	dB
$f_N + 13{,}4$ MHz			54	65	—	dB
$f_N + 14{,}3$ MHz ...	$f_N + 24{,}6$ MHz		40	47	—	dB
$f_N + 24{,}6$ MHz ...	$f_N + 29{,}0$ MHz		54	57	—	dB
0,1 MHz ...	244 MHz		40	50	—	dB
279 MHz ...	2,5 GHz		30	40		
VSWR	$f_N \pm 2{,}0$ MHz		—	1,5:1	2:1	

1) matched with coilcraft CS0805 inductors

		min.	typ.	max.	
Impedance at f_N (without matching)					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	2,3 || 4,1	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	1,3 || 12,2	—	kΩ || pF
Temperature coefficient of frequency[2)]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	17	—	°C

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

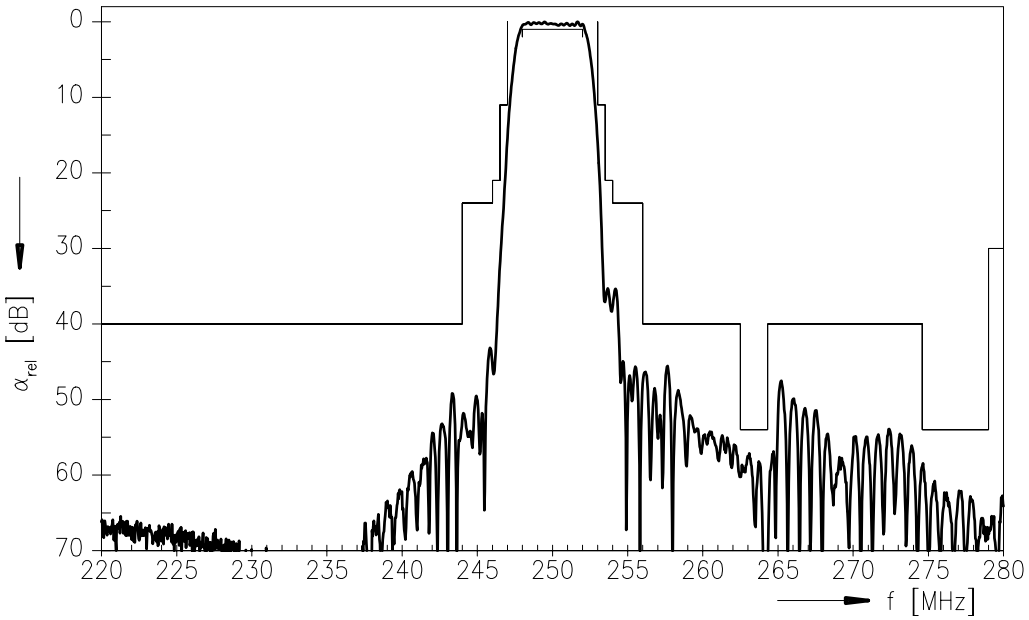
Matching network to 50 Ω (element values depend on pcb layout)



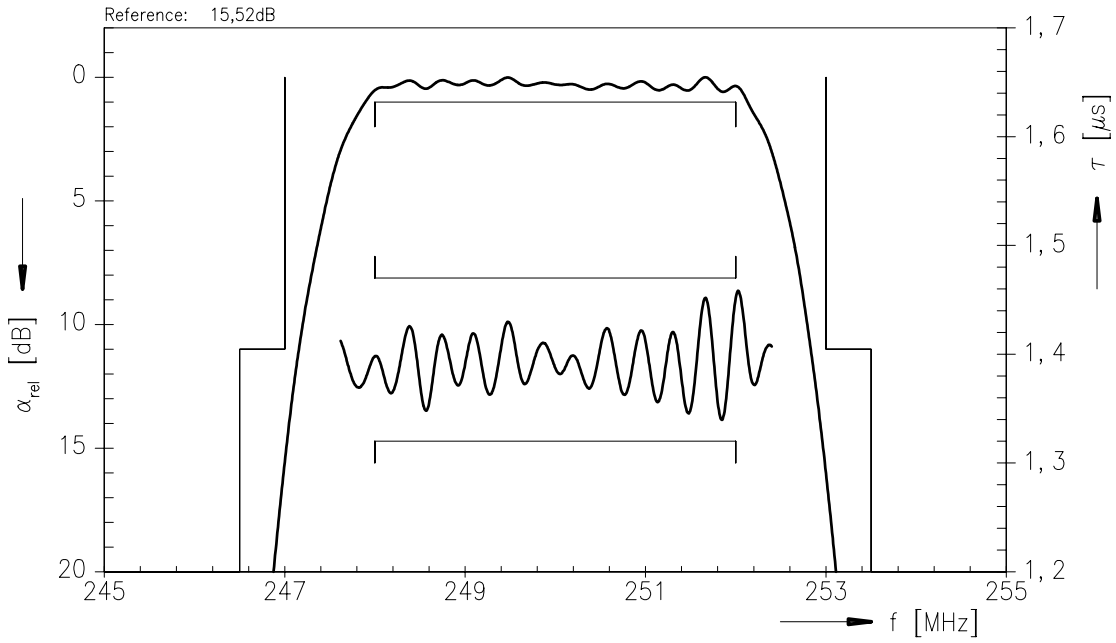
L_{p1} = 27 nH
L_{s2} = 120 nH
L_{p3} = 100 nH

L_{p4} = 33 nH
L_{s5} = 120 nH
C_{p6} = 2,7 pF

Normalized frequency response



Normalized frequency response



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