



SAW Components

Data Sheet B3861





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B3861

Bandpass Filter

250,0 MHz

Data Sheet

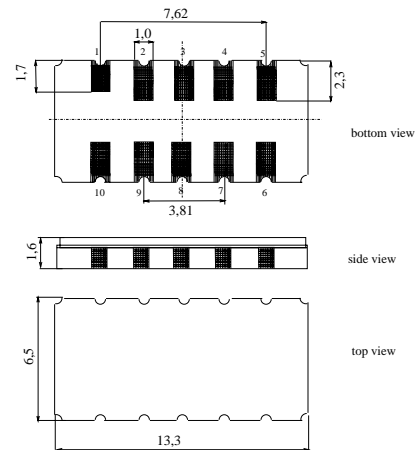
Ceramic package **DCC12A**

Features

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

Terminals

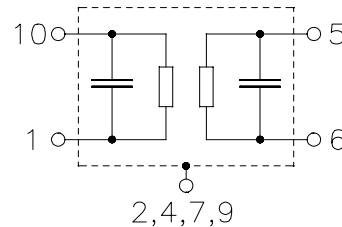
- Gold plated



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 Sensitive Device (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



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Characteristics

Operating temperature: $T_A = -10 \dots +85 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$ and matching network
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$ and matching network
 Group delay aperture: 125 kHz

		min.	typ.	max.	
Nominal frequency	f_N	—	250,0	—	MHz
Maximum insertion attenuation in passband¹⁾ (including matching network)	α_{\max}	—	16,3	19,0	dB
Passband width	$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	4,0	4,2	— MHz
Amplitude ripple (p-p)	$f_N \pm 2,0 \text{ MHz}$	$\Delta\alpha$	—	0,5	1,0 dB
Group delay ripple (p-p)	$f_N \pm 2,0 \text{ MHz}$	$\Delta\tau$	—	120	150 ns
Relative attenuation (relative to α_{f_N})	α_{rel}				
$f_N \pm 3,0 \text{ MHz} \dots f_N \pm 3,5 \text{ MHz}$		11	15	—	dB
$f_N \pm 3,5 \text{ MHz} \dots f_N \pm 4,0 \text{ MHz}$		21	35	—	dB
$f_N \pm 4,0 \text{ MHz} \dots f_N \pm 6,0 \text{ MHz}$		24	35	—	dB
$f_N + 6,0 \text{ MHz} \dots f_N + 12,5 \text{ MHz}$		40	45	—	dB
$f_N + 12,5 \text{ MHz} \dots f_N + 14,3 \text{ MHz}$		54	57	—	dB
$f_N + 13,4 \text{ MHz}$		54	65	—	dB
$f_N + 14,3 \text{ MHz} \dots f_N + 24,6 \text{ MHz}$		40	47	—	dB
$f_N + 24,6 \text{ MHz} \dots f_N + 29,0 \text{ MHz}$		54	57	—	dB
0,1 MHz ... 244 MHz		40	50	—	dB
279 MHz ... 2,5 GHz		30	40		
VSWR	$f_N \pm 2,0 \text{ MHz}$	—	1,5:1	2:1	

1) matched with coilcraft CS0805 inductors



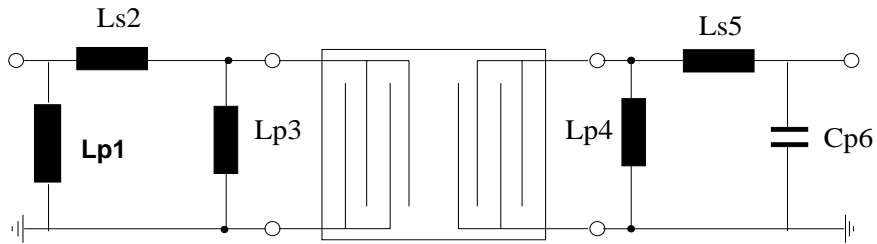
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		min.	typ.	max.	
Impedance at f_N (without matching)					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	2,3 4,1	—	k Ω pF
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	1,3 12,2	—	k Ω pF
Temperature coefficient of frequency²⁾	TC_f	—	- 0,036	—	ppm/K ²
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)



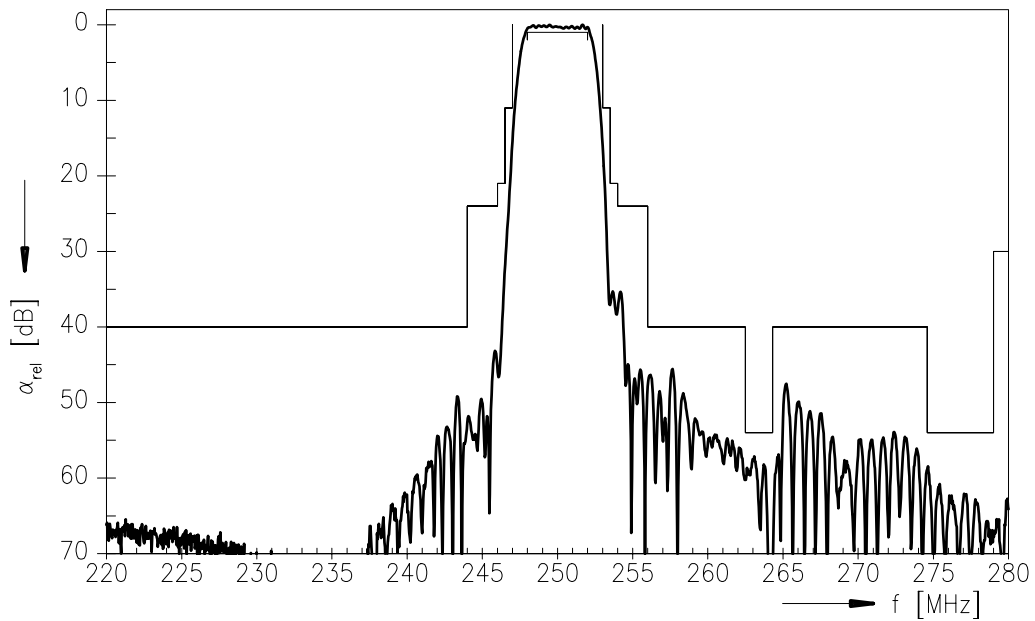
$L_{p1} = 27 \text{ nH}$
 $L_{s2} = 120 \text{ nH}$
 $L_{p3} = 100 \text{ nH}$

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

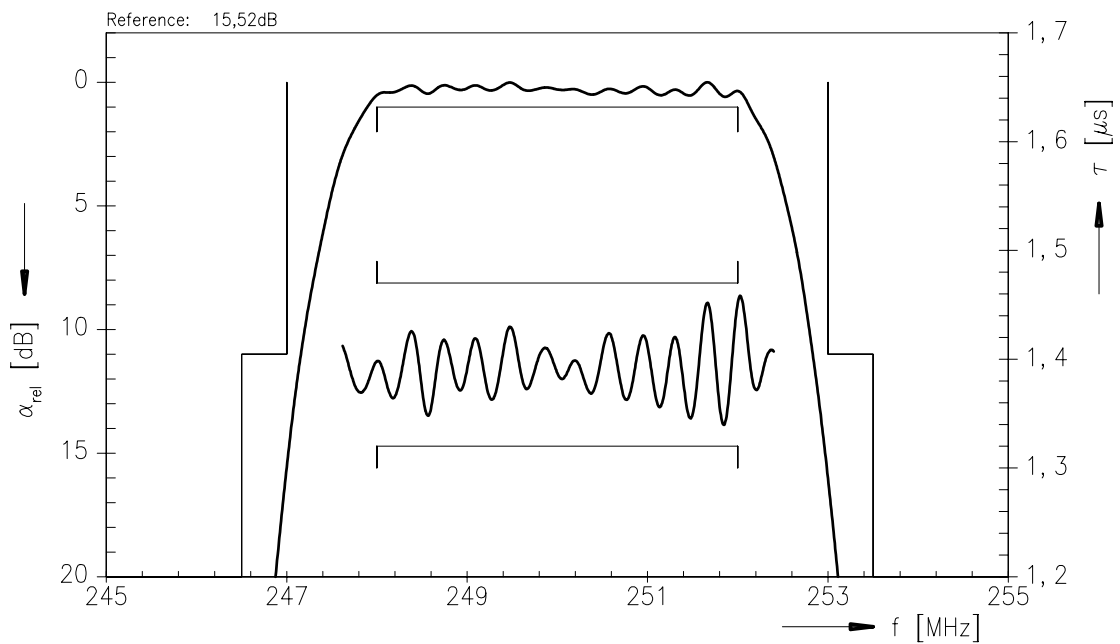


Data Sheet

Normalized frequency response



Normalized frequency response





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