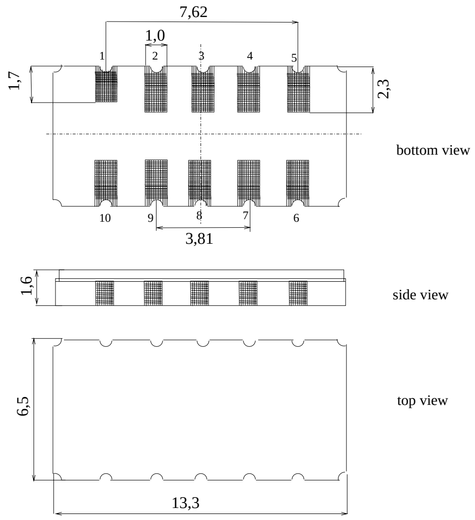
SAW Components

Data Sheet B3850

Ceramic package **DCC12A**



Dimensions in mm, approx. weight 0,4 g

Features

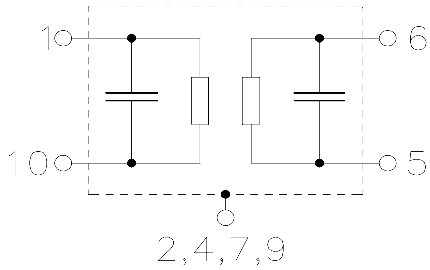
- Low-loss IF filter for GSM EDGE base station
- Usable bandwidth 400 kHz
- Very low group delay ripple
- Temperature stable
- Ceramic SMD package

Terminals

- Gold plated

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B3850	B39121-B3850-H510	C61157-A7-A94	F61074-V8131-Z000

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

Maximum ratings

Operable temperature range	T	–40 / +85	˚C
Storage temperature range	T_{stg}	–40 / +85	˚C
DC voltage	V_{DC}	1,2	V
Source power	P_s	10	dBm

Characteristics

Operating temperature range: T = -10 .. 85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

			min.	typ.	max.	
Nominal frequency		f_N	—	125,0	—	MHz
Minimum insertion attenuation		α_{min}	—	6,2	7,0	dB
Pass bandwidth						
	$\alpha_{rel} \le 1{,}0$ dB	B_{1dB}	400	560	—	kHz
	$\alpha_{rel} \le 3{,}0$ dB	B_{3dB}	—	840	—	kHz
Amplitude ripple (peak to adjacent valley)						
	f_N ± 200 kHz		—	0,1	—	dB
Amplitude variation (p-p)		$\Delta\alpha$				
	f_N ± 200 kHz		—	0,6	1,0	dB
Absolute group delay		τ				
	@ f_N		0,7	1,1	1,7	µs
Group delay ripple (p-p)		$\Delta\tau$				
	f_N ± 200 kHz		—	70	120	ns
Relative attenuation (relative to α_{min})		α_{rel}				
f_N ± 0,4 MHz ...	f_N ± 0,6 MHz		0	2	—	dB
f_N ± 0,6 MHz ...	f_N ± 1,2 MHz		8	10	—	dB
f_N ± 1,2 MHz ...	f_N ± 1,8 MHz		20	30	—	dB
f_N ± 1,8 MHz ...	f_N ± 3,4 MHz		25	40	—	dB
f_N ± 3,4 MHz ...	f_N ± 6,5 MHz		34	50	—	dB
f_N ± 6,5 MHz ...	f_N ± 9,5 MHz		40	50	—	dB
f_N ± 9,5 MHz ...	f_N ± 17,0 MHz		43	60	—	dB
10,0 MHz ...	f_N – 17,0 MHz		55	60	—	dB
f_N + 17,0 MHz ...	450,0 MHz[1)]		55	60	—	dB
VSWR (Input and output in pass band)			—	2,0	2,3	

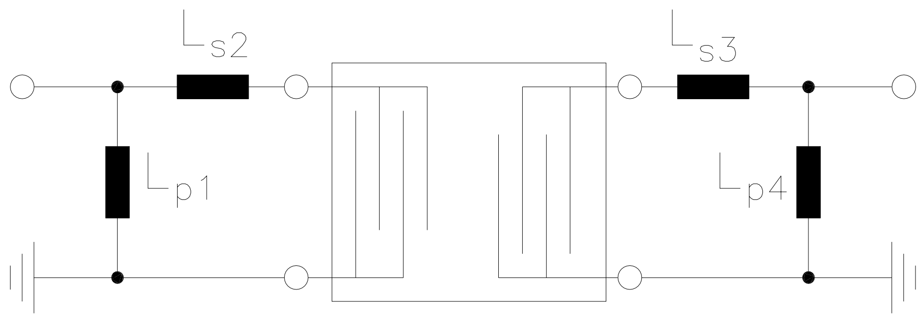
		min.	typ.	max.	
Temperature coefficient of frequency [2]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	50	—	˚C

[1] Narrowband responses (typ. 40 dB) at 202 MHz, 228 MHz, 250 MHz, and at 375 MHz

[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 upon PCB layout)



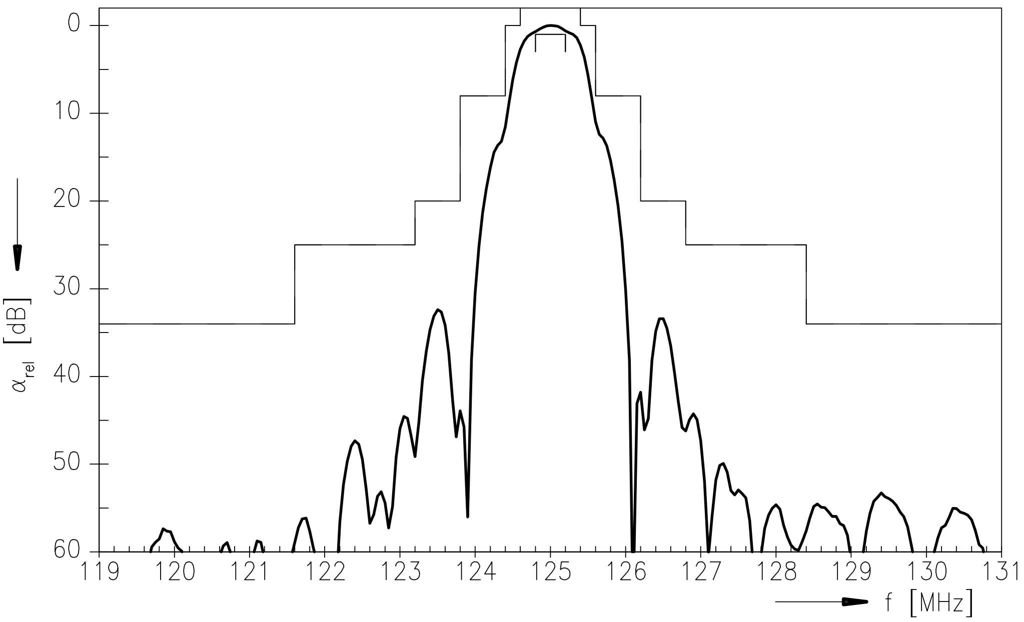
L_{p1} = 33 nH

L_{s2} = 68 nH

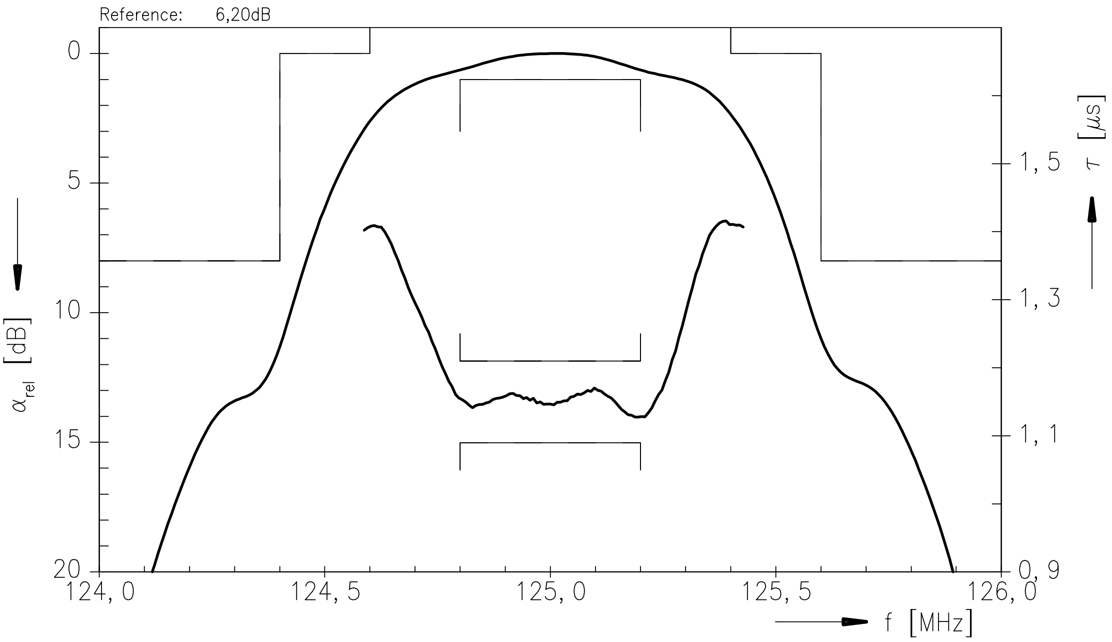
L_{s3} = 56 nH

L_{p4} = 27 nH

Normalized frequency response



Normalized frequency response (pass band)



Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC IS
P.O. Box 80 17 09, 81617 Munich, GERMANY

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