EPCOS

SAW Components

Data Sheet B3850

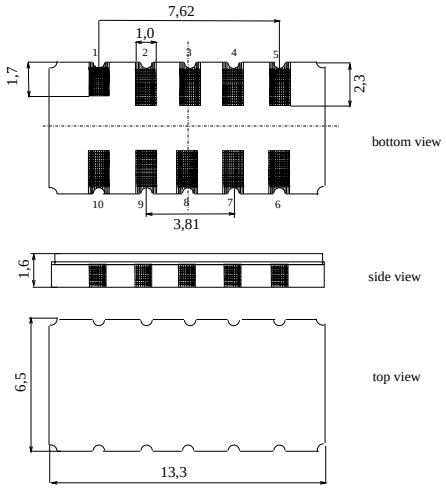
Ceramic package **DCC12A**

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

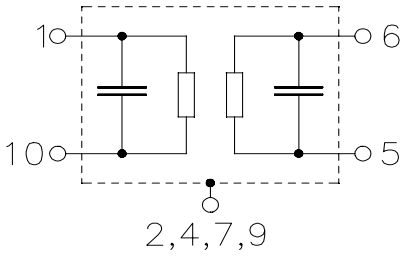
- Gold plated



Dimensions in mm, approx. weight 0,4 g

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					
$\alpha_{rel} \leq 1,0$ dB	B_{1dB}	400	560	—	kHz
$\alpha_{rel} \leq 3,0$ dB	B_{3dB}	—	840	—	kHz
Amplitude ripple (peak to adjacent valley)					
$f_N \pm 200$ kHz		—	0,1	—	dB
Amplitude variation (p-p)	$\Delta\alpha$				
$f_N \pm 200$ kHz		—	0,6	1,0	dB
Absolute group delay	τ				
@ f_N		0,7	1,1	1,7	µs
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 200$ kHz		—	70	120	ns
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm$ 0,4 MHz ... $f_N \pm$ 0,6 MHz		0	2	—	dB
$f_N \pm$ 0,6 MHz ... $f_N \pm$ 1,2 MHz		8	10	—	dB
$f_N \pm$ 1,2 MHz ... $f_N \pm$ 1,8 MHz		20	30	—	dB
$f_N \pm$ 1,8 MHz ... $f_N \pm$ 3,4 MHz		25	40	—	dB
$f_N \pm$ 3,4 MHz ... $f_N \pm$ 6,5 MHz		34	50	—	dB
$f_N \pm$ 6,5 MHz ... $f_N \pm$ 9,5 MHz		40	50	—	dB
$f_N \pm$ 9,5 MHz ... $f_N \pm$ 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	

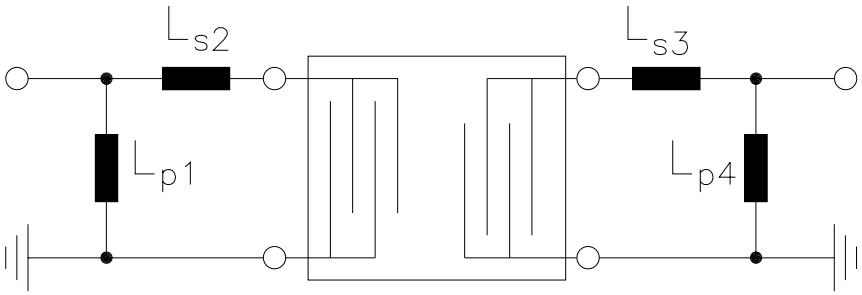
		min.	typ.	max.	
Temperature coefficient of frequency [2]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	50	—	°C

[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)



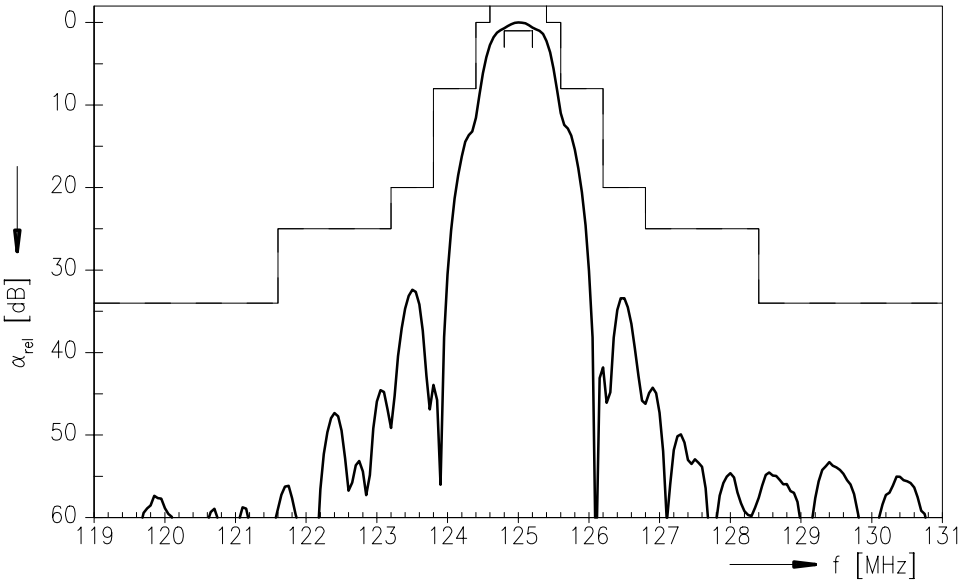
L_{p1} = 33 nH

L_{s2} = 68 nH

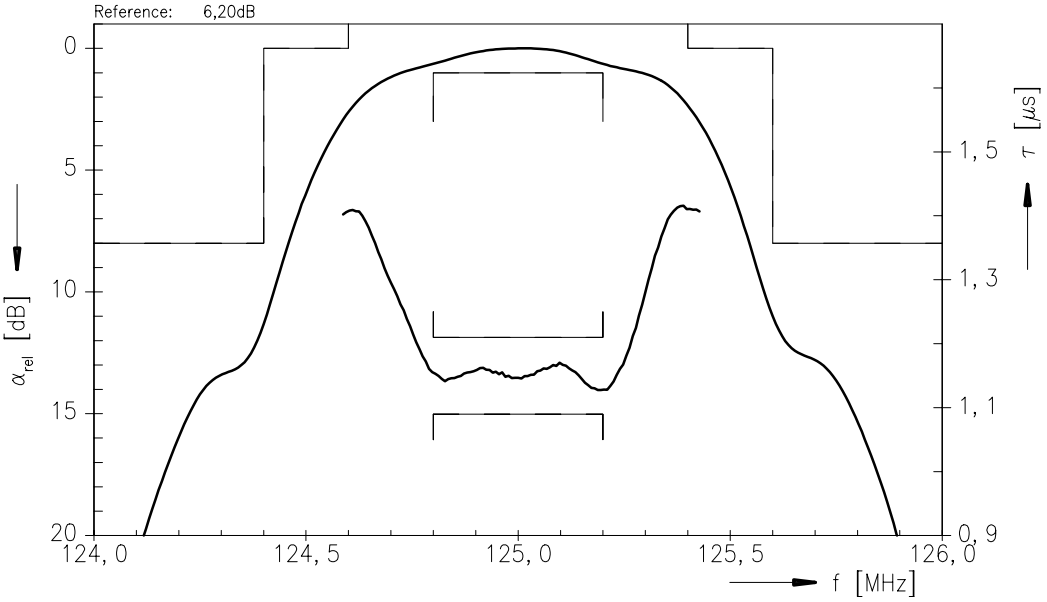
L_{s3} = 56 nH

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

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.