EPCOS

SAW Components

Data Sheet B3848

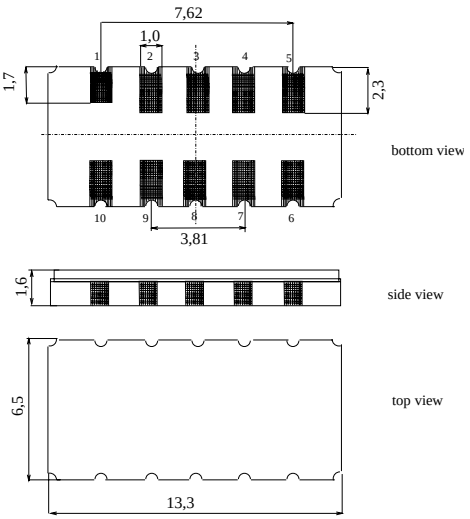
Ceramic package **DCC12A**

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

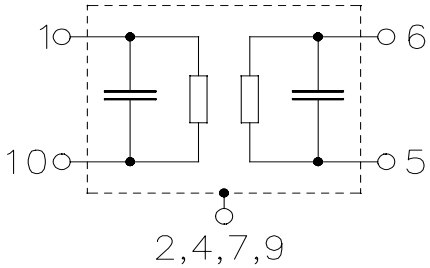
- Gold plated



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
B3848	B39211-B3848-H510	C61157-A7-A94	F61074-V8163-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}	0	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	—	208,0	—	MHz
Minimum insertion attenuation	α_{min}	—	6,5	7,5	dB
Pass bandwidth					
$\alpha_{rel} \le 1{,}0$ dB	B_{1dB}	400	590	—	kHz
$\alpha_{rel} \le 3{,}0$ dB	B_{3dB}	—	850	—	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		—	0,5	1,0	dB
Absolute group delay	τ				
@ f_N		0,7	1,3	1,7	µs
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 200$ kHz		—	50	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 ... $f_N \pm$ 6,0 MHz		34	50	—	dB
$f_N \pm$ 6,0 MHz ... $f_N \pm$ 9,5 MHz		40	50	—	dB
$f_N \pm$ 9,5 MHz ... $f_N \pm$ 13,0 MHz		43	60	—	dB
10,0 MHz ... f_N – 30,0 MHz		55	60	—	dB
f_N – 30,0 MHz ... f_N – 13,0 MHz		50	55	—	dB
f_N + 13,0 MHz ... f_N + 30,0 MHz		45	50	—	dB
f_N + 30,0 MHz ... 450,0 MHz [1)]		50	55	—	dB
VSWR (Input and output in pass band)		—	1,3	2,3	

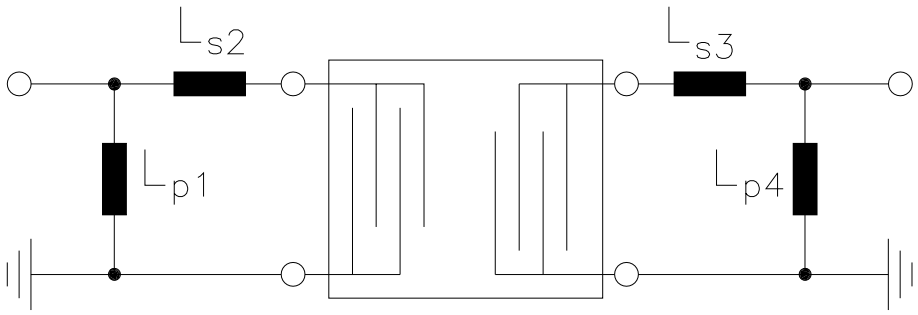
		min.	typ.	max.	
Temperature coefficient of frequency 2)	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	40	—	°C

1) Narrowband responses (typ. 40 dB) at 338 and 380 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)



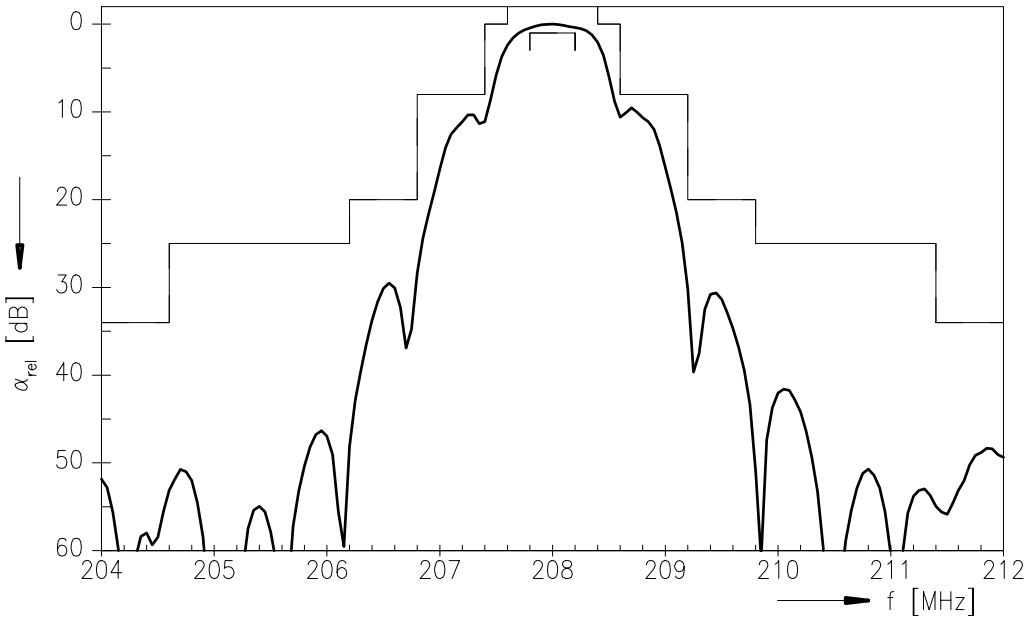
L_{p1} = 15 nH

L_{s2} = 27 nH

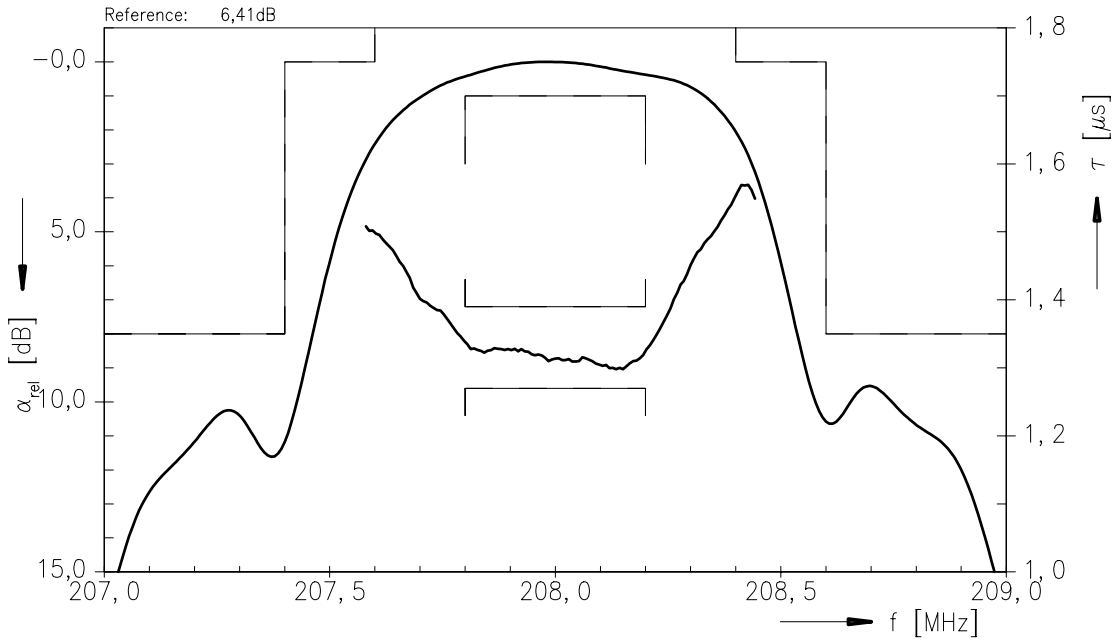
L_{s3} = 8,2 nH

L_{p4} = 15 nH

Normalized frequency response



Normalized frequency response (pass band)



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