EPCOS

SAW Components

Preliminary Data Sheet LE92C

Preliminary Data Sheet

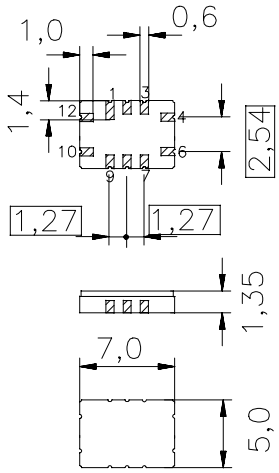
Ceramic package **QCC12B**

Features

- IF low-loss filter for base stations
- Channel selection in W-CDMA systems
- Balanced and unbalanced operation possible
- 3,84 MHz usable bandwidth
- Ceramic SMD package

Terminals

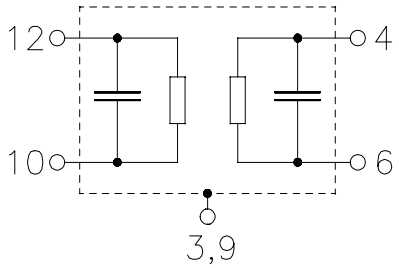
- Gold plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

10	Input
12	Input ground or balanced input
4	Output
6	Output ground or balanced output
1, 2, 7, 8	to be grounded
3, 9	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
LE92C		C61157-A7-A52	F61074-V8038-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 = 440 Ω || 11 nH
Terminating load impedance: Z_L = 237 Ω || 9 nH

		min.	typ.	max.	
Nominal frequency	f_N	—	570,0	—	MHz
Minimum insertion attenuation (including matching network [1)])	α_{min}	10,0	11,8	12,5	dB
Pass bandwidth $\alpha_{rel} \leq 3{,}0$ dB	$B_{3,0dB}$	4,6	4,8	5,0	MHz
Amplitude ripple (p-p) $f_N \pm 1{,}92$ MHz	$\Delta\alpha$	0,1	0,8	1,5	dB
Absolute Group delay @f_N	τ	550	620	690	ns
Group delay ripple (p-p) $f_N \pm 1{,}92$ MHz	$\Delta\tau$	50	150	300	ns
Adjacent channel selectivity	*ACS*	21	29	39	dB
Minimum relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm$ 3,5 MHz ... $f_N \pm$ 5,0 MHz		20	25	40	dB
f_N - 5,0 MHz ... f_N - 8,0 MHz		45	47	55	dB
f_N - 8,0 MHz ... f_N - 20,0 MHz		48	50	55	dB
f_N + 5,0 MHz ... f_N + 7,0 MHz		45	50	55	dB
f_N + 7,0 MHz ... f_N + 9,0 MHz		44	45	55	dB
f_N + 9,0 MHz ... f_N +10,0 MHz		46	47	55	dB
f_N +10,0 MHz ... f_N +20,0 MHz		48	50	55	dB
Intermodulation f1 = 569 MHz, input power +1dBm f2 = 571 MHz, input power +1dBm	*IM3*				
@f_N + 3 MHz		-130	-105	-95	dBm
@f_N - 3 MHz		-130	-104	-94	dBm

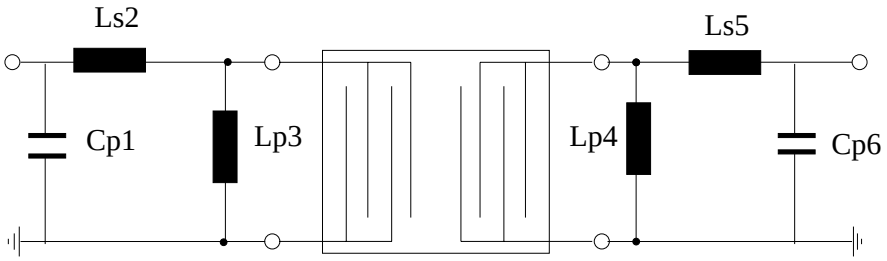
		min.	typ.	max.	
Impedance at f_N (without matching)					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	244 || 8	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	119 || 12	—	Ω || pF
Temperature coefficient of frequency[2)]	TC_f	—	– 0,036	—	ppm/K^2
Turnover temperature	T_0	—	30	—	˚C

[1)] Matching inductor Q=40

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

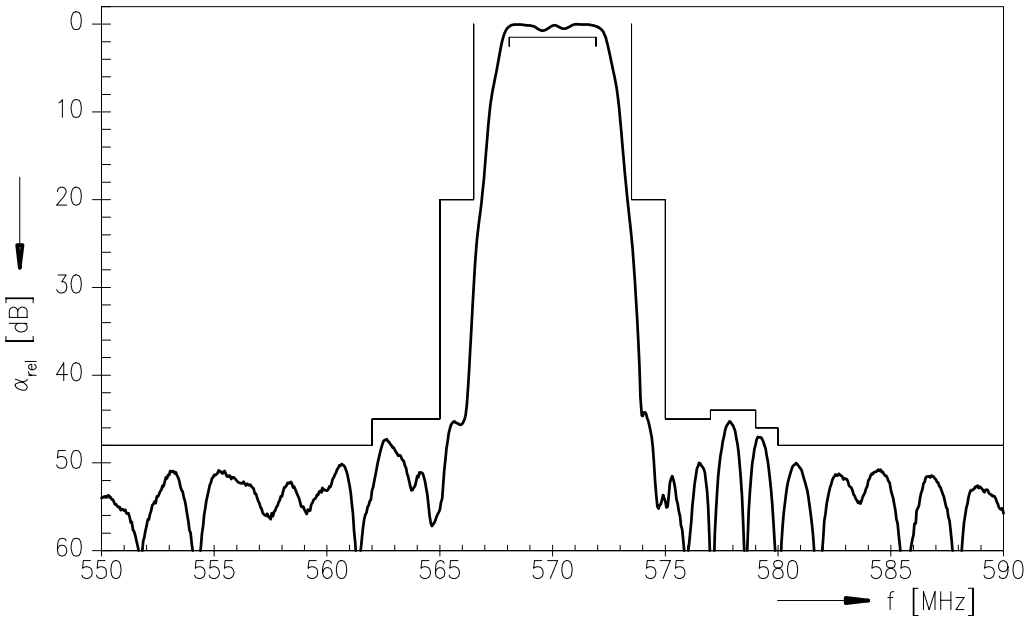
Matching network

(Element values depend upon PCB layout)

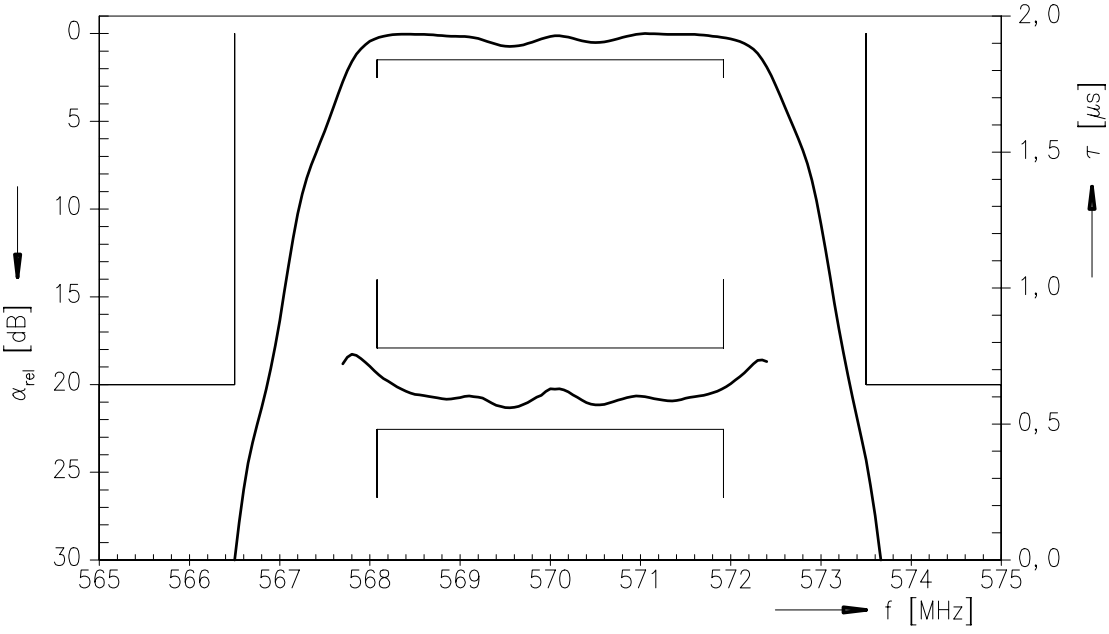


C_{p1} = 3,3 pF
L_{s2} = 33 nH
L_{p3} = 18 nH
L_{p4} = 12 nH
L_{s5} = 22 nH
C_{p6} = 2,7 pF

Normalized frequency response



Normalized frequency response (pass band)



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