EPCOS

SAW Components

Data Sheet B3697

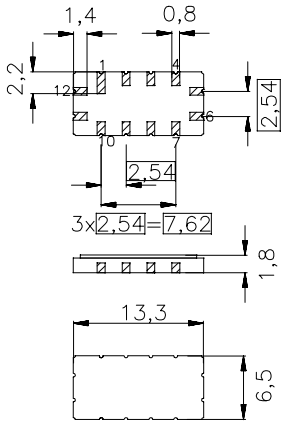
Ceramic package **QCC12**

Features

- IF filter for WCDMA
- Low insertion loss
- Ceramic SMD package

Terminals

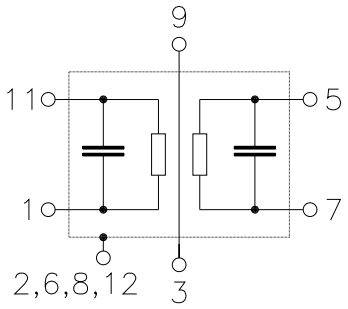
- Gold plated



Dimensions in mm, appr. weight 0,44 g

Pin configuration

11	Input
1	Input ground
5	Output
7	Output ground
2, 6, 8, 12	Case ground
3, 4, 9, 10	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3697	B39191-B3697-Z510	C61157-A7-A55	F61074-V8026-Z000

Electrostatic **S**ensitive **D**evice (**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	P_s	0	dBm	

Characteristics

Operating temperature: T_A = -10 ... +85 °C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

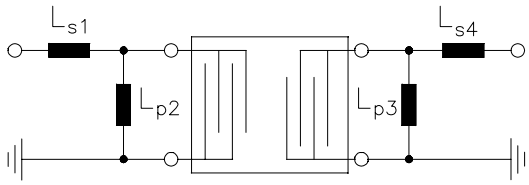
Group delay aperture: 50 kHz

			min.	typ.	max.	
Nominal frequency		f_N	—	190,00	—	MHz
Minimum insertion attenuation		α_{min}				
(including matching network)	$f_N \pm 2{,}05$ MHz		—	10,7	12,0	dB
Passband width						
	$\alpha_{rel} \leq 1$ dB	B_{1dB}	4,5	4,9	—	MHz
	$\alpha_{rel} \leq 3$ dB	B_{3dB}	5,6	5,8	—	MHz
	$\alpha_{rel} \leq 10$ dB	B_{10dB}	—	7,0	7,2	MHz
	$\alpha_{rel} \leq 30$ dB	B_{30dB}	—	8,4	8,6	MHz
Amplitude ripple (p-p)		$\Delta\alpha$				
	$f_N \pm 2{,}05$ MHz		—	0,45	1,0	dB
Phase ripple (p-p)		$\Delta\varphi$				
	$f_N \pm 2{,}05$ MHz		—	3,5	4	°
Group delay ripple (p-p)		$\Delta\tau$				
	$f_N \pm 2{,}05$ MHz		—	70	100	ns
Absolute group delay		τ				
mean value within $f_N \pm 2{,}05$ MHz at 25 °C[1)]			952	957	962	ns

1) At other temperatures the variation from filter to filter is also restricted to +/- 5 ns.
From -10 ... +85 °C the variation of mean value of group delay is restricted to +/- 20 ns.

Relative attenuation (relative to α_{min})	α_{rel}				
$f_N + 5{,}0$ MHz ... $f_N + 6{,}5$ MHz		38	41	—	dB
$f_N - 5{,}0$ MHz ... $f_N - 6{,}5$ MHz		40	43	—	dB
$f_N \pm 6{,}5$ MHz ... $f_N \pm 14{,}0$MHz		45	48	—	dB
$f_N \pm 14{,}0$ MHz ... $f_N \pm 60{,}0$MHz		50	55	—	dB
$f_N \pm 10{,}0$ MHz		50	55	—	dB
$f_N + 20{,}0$ MHz		55	60	—	dB
$f_N - 20{,}0$ MHz		50	55	—	dB
165,7 MHz		55	58	—	dB
157,6 MHz		55	60	—	dB
Temperature coefficient of frequency	TC_f	—	– 18	—	ppm/K

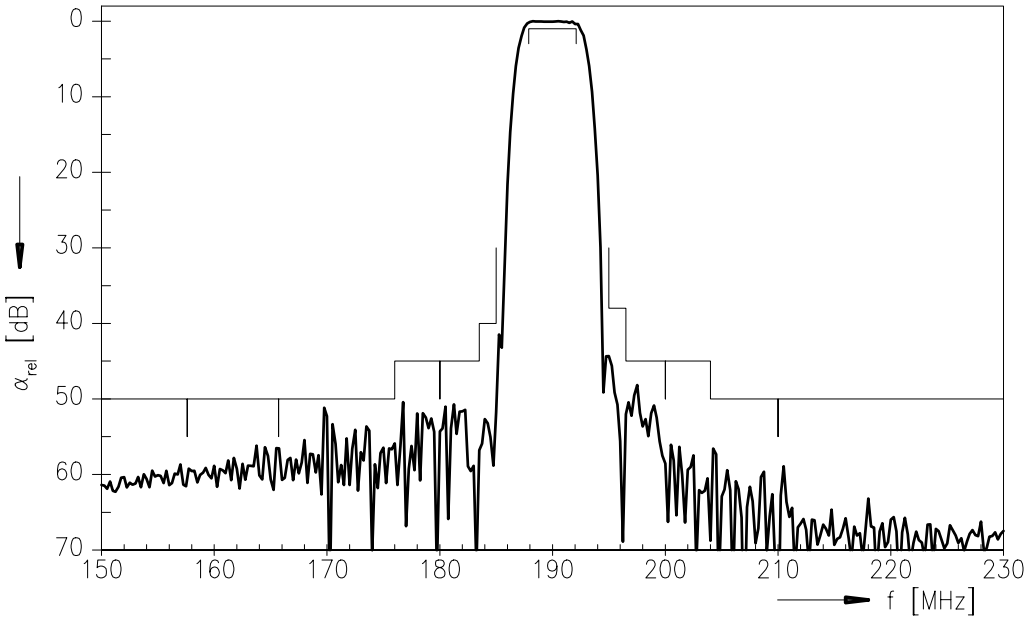
Matching network to 50 Ω (element values depend on pcb layout)



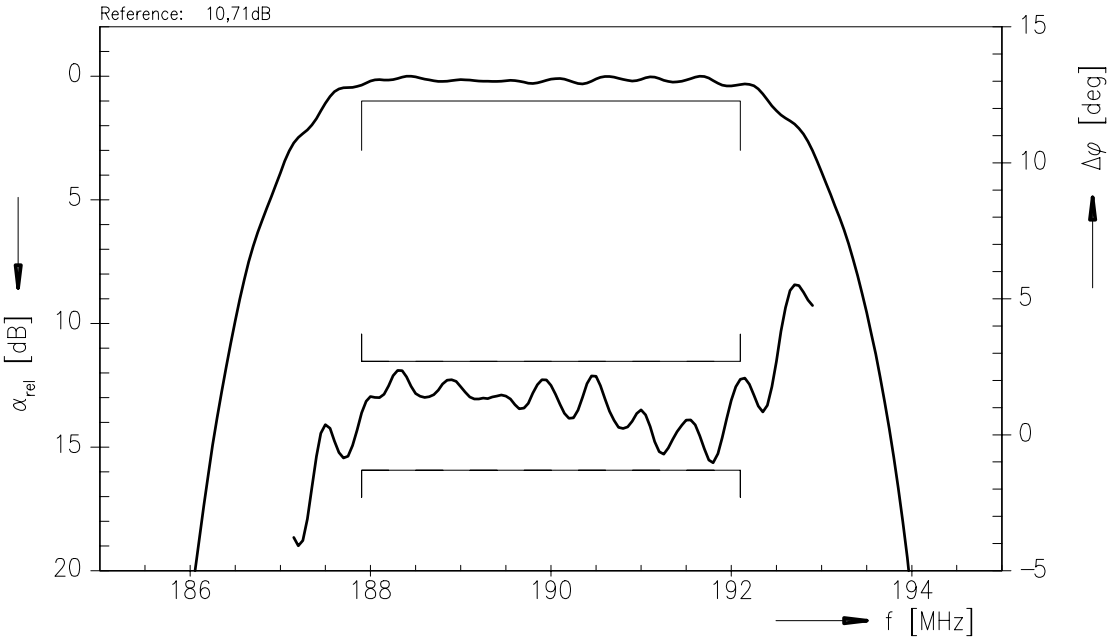
L_{s1} = 47 nH L_{p3} = 27 nH

L_{p2} = 39 nH L_{s4} = 0 nH

Transfer function



Transfer function (pass band)



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