



SAW Components

Data Sheet B3697





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Low-Loss Filter

190,00 MHz

Data Sheet

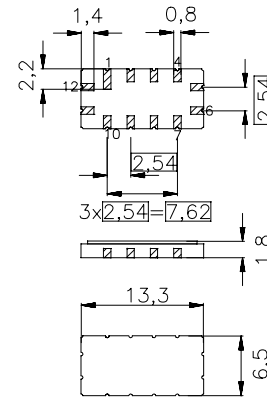
Ceramic package QCC12

Features

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

Terminals

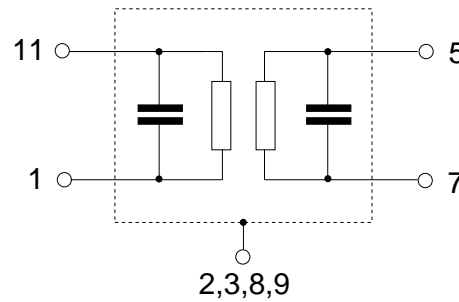
- Gold plated



Dimensions in mm, appr. weight 0,44 g

Pin configuration

- | | |
|--------------|----------------|
| 11 | Input |
| 1 | Input ground |
| 5 | Output |
| 7 | Output ground |
| 2, 3, 8, 9 | Case ground |
| 4, 6, 10, 12 | 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 Sensitive Device (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



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Characteristics

Operating temperature: $T_A = -10 \dots +85 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$ and matching network
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$ and matching network

Group delay aperture: 50 kHz

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



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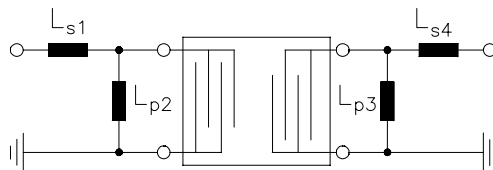
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Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N + 5,0 \text{ MHz} \dots f_N + 6,5 \text{ MHz}$	38	41	—	dB	
$f_N - 5,0 \text{ MHz} \dots f_N - 6,5 \text{ MHz}$	40	43	—	dB	
$f_N \pm 6,5 \text{ MHz} \dots f_N \pm 14,0 \text{ MHz}$	45	48	—	dB	
$f_N \pm 14,0 \text{ MHz} \dots f_N \pm 60,0 \text{ MHz}$	50	55	—	dB	
$f_N \pm 10,0 \text{ MHz}$	50	55	—	dB	
$f_N + 20,0 \text{ MHz}$	55	60	—	dB	
$f_N - 20,0 \text{ MHz}$	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)



$L_{s1} = 47 \text{ nH}$

$L_{p3} = 27 \text{ nH}$

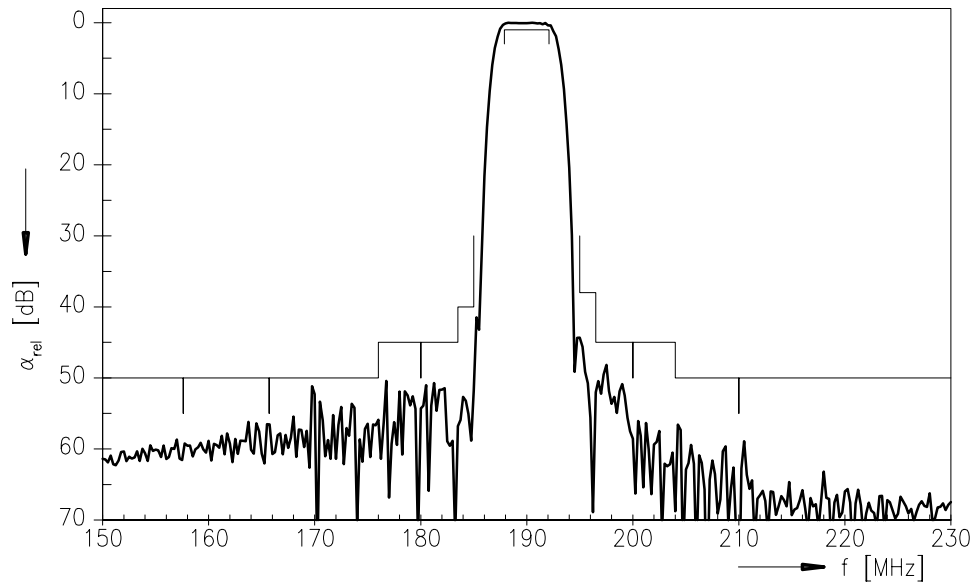
$L_{p2} = 39 \text{ nH}$

$L_{s4} = 0 \text{ nH}$

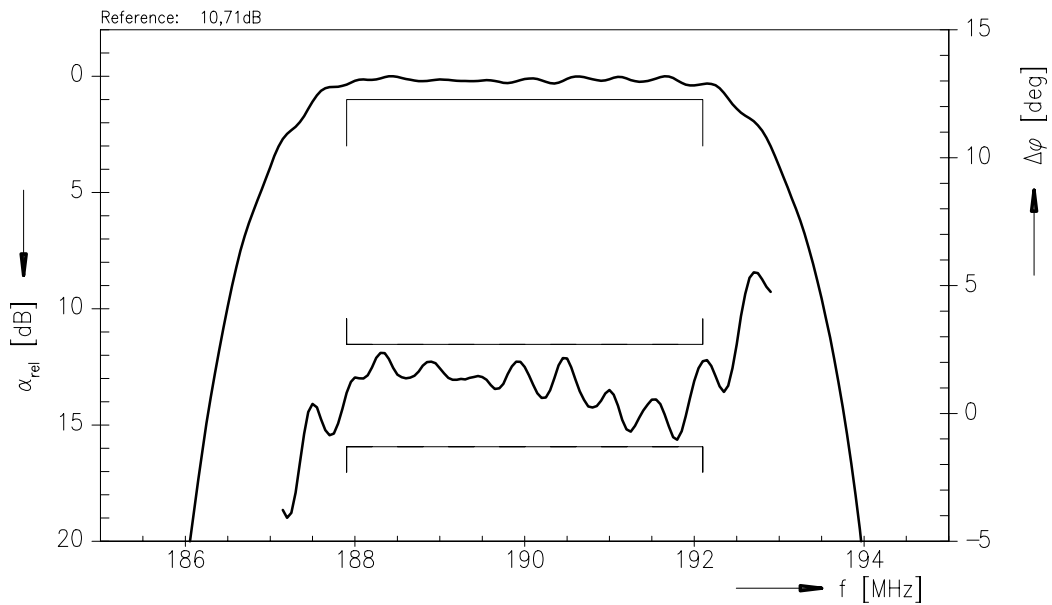


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Transfer function



Transfer function (pass band)





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