SAW Components

Data Sheet B3690

EPCOS AG is a TDK Group Company.

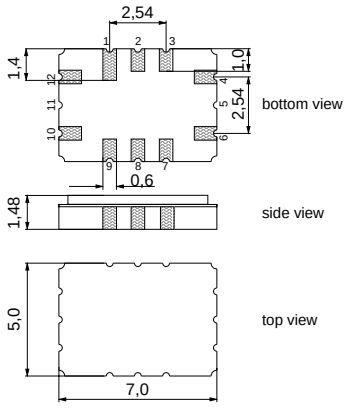
Ceramic package **QCC12C**

Features

- Low-loss IF filter
- Temperature stable
- Ceramic SMD package
- Balanced and unbalanced operation possible

Terminals

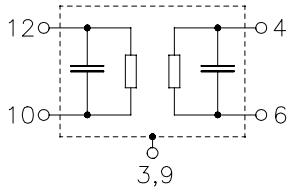
- Gold plated



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
3, 9	Case ground
1, 2, 7, 8	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3690	B39611-B3690-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	–25 / +105	˚C	
Storage temperature range	T_{stg}	–25 / +105	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

Data Sheet

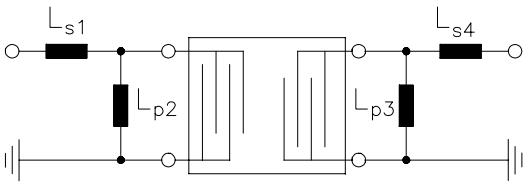
Characteristics

Operating temperature range: T = -25˚C to +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.	
Center frequency	f_C	609,25	610,00	610,75	MHz
Minimum insertion attenuation (including loss in matching elements)	α_{min}	—	9,5	11,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_C - 750 kHz ... f_C + 750 kHz		—	0,9	1,2	dB
Passband width					
$\alpha_{rel} \leq 1{,}0$ dB	$B_{1,0dB}$	—	1,55	—	MHz
$\alpha_{rel} \leq 3{,}0$ dB	$B_{3,0dB}$	2,6	2,7	—	MHz
$\alpha_{rel} \leq 35{,}0$ dB	B_{35dB}	—	6,3	8,0	MHz
Relative attenuation (relative to α_{min})	α_{rel}				
5,0 MHz ... 570,0 MHz		45	51	—	dB
570,0 MHz ... 606,0 MHz		35	44	—	dB
614,0 MHz ... 650,0 MHz		35	38	—	dB
650,0 MHz ... 862,0 MHz		45	52	—	dB
Impedance at f_C					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	300 ‖ 5,3	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	410 ‖ 4,6	—	Ω || pF
Temperature coefficient of frequency [1]	TC_f	—	– 0,036	—	ppm/K²
Frequency inversion point	T_0	—	25	—	˚C

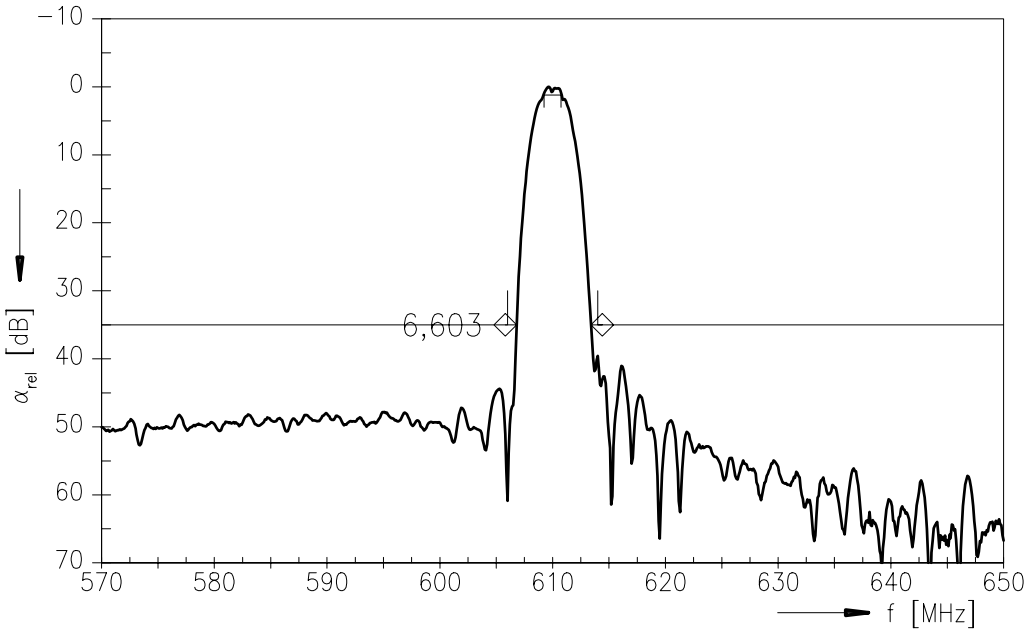
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

Matching network to 50 Ω (Element values depend on PCB layout):

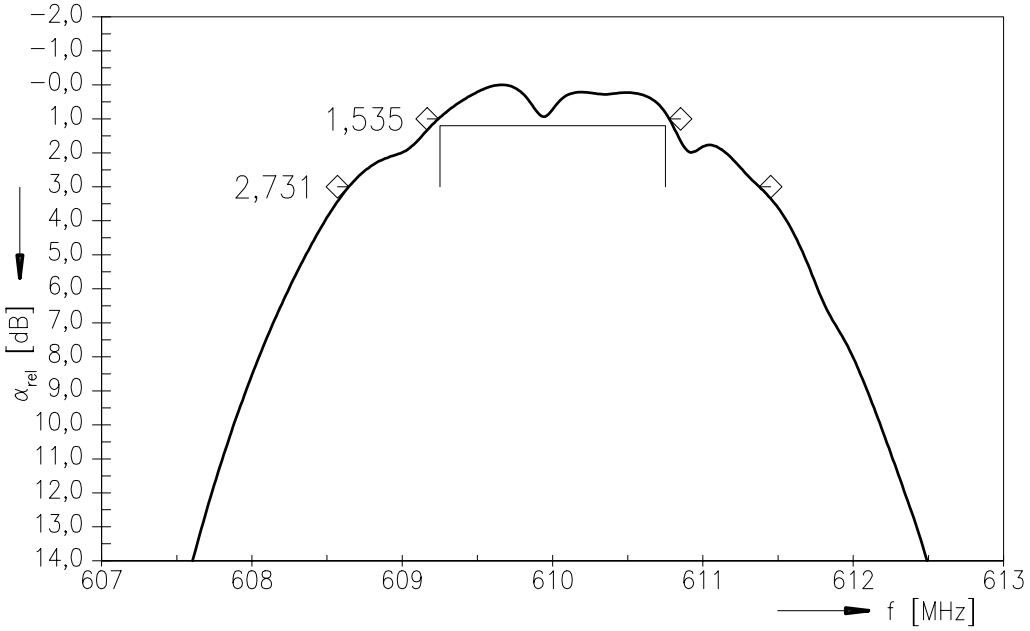


L_{s1} = 30 nH
L_{p2} = 16 nH
L_{p3} = 16 nH
L_{s4} = 34 nH

Transfer function:



Transfer function (pass band):



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