EPCOS

SAW Components

Data Sheet B3696

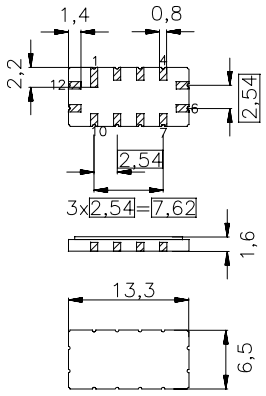
Ceramic package **QCC12**

Features

- Low-loss IF filter for basestation
- Clean-up filter
- Hermetically sealed ceramic SMD package
- usable bandwidth 200 kHz

Terminals

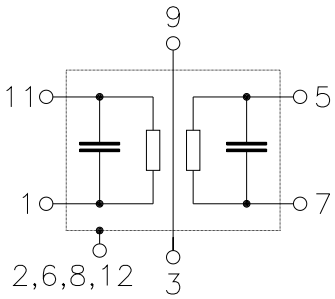
- Gold-plated



Dimensions in mm, appr. weight 0,4 g

Pin configuration

11	Input
5	Output
1	Input ground
7	Output ground
2, 6, 8, 12	Case ground
3, 9	to be grounded
4, 10	not connected



Type	Ordering code	Marking and Package according to	Packing according to
B3696	B39231-B3696-Z510	C61157-A7-A55	F61074-V8026-Z000

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

Maximum ratings

Operable temperature range	T_A	-45 / +85	˚C	
Storage temperature range	T_{stg}	-45 / +85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

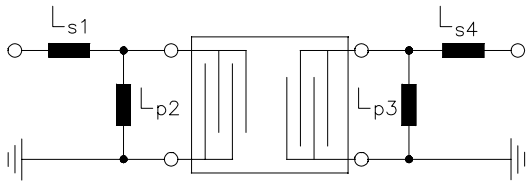
Characteristics

Operating temperature: T = -45 ... +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	—	227,00	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	6,1	8,0	dB
Passband width					
$\alpha_{rel} \leq$ 1 dB	B_{1dB}	0,2	0,46	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	0,79	—	MHz
$\alpha_{rel} \leq$ 20 dB	B_{20dB}	—	1,68	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm$ 100 kHz		—	0,5	1,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm$ 100 kHz		—	150	300	ns
Relative attenuation (relative to α_{min})	α_{rel}				
f_N – 20,0 MHz ... f_N – 6,0 MHz		40	55	—	dB
f_N – 6,0 MHz ... f_N – 1,2 MHz		20	40	—	dB
f_N – 1,2 MHz ... f_N – 0,6 MHz		3	9	—	dB
f_N + 0,6 MHz ... f_N + 1,2 MHz		3	7	—	dB
f_N + 1,2 MHz ... f_N + 6,0 MHz		20	40	—	dB
f_N + 6,0 MHz ... f_N + 10,0 MHz		40	53	—	dB
f_N + 10,0 MHz ... f_N + 20,0 MHz		37	42	—	dB
Temperature coefficient of frequency [1]	TC_f	—	– 0.036	—	ppm/K²
Turnover temperature	T_0	—	30	—	°C

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

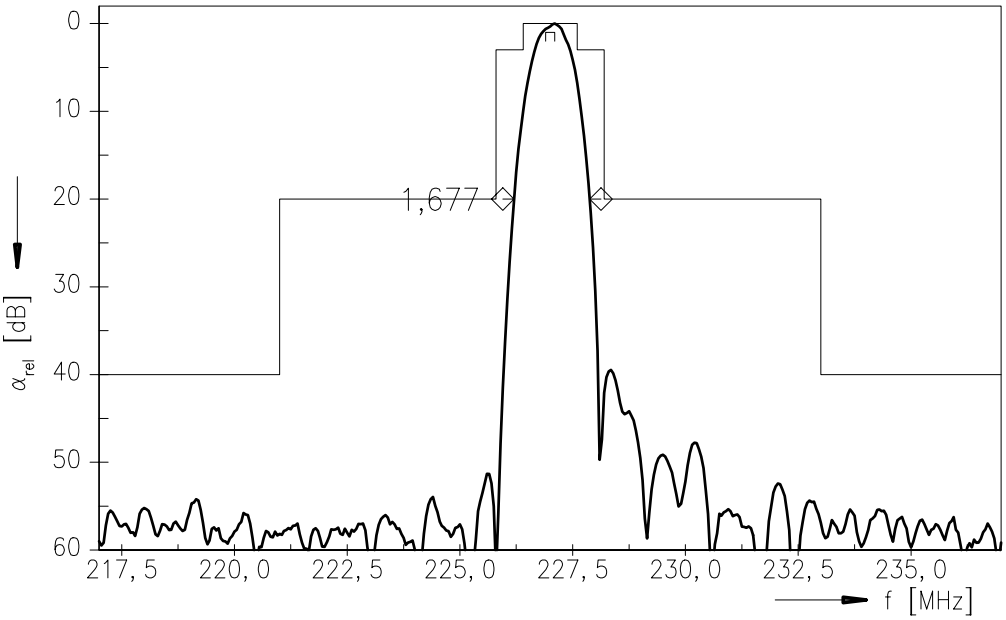
Matching network to 50 Ω (element values depend on pcb layout)



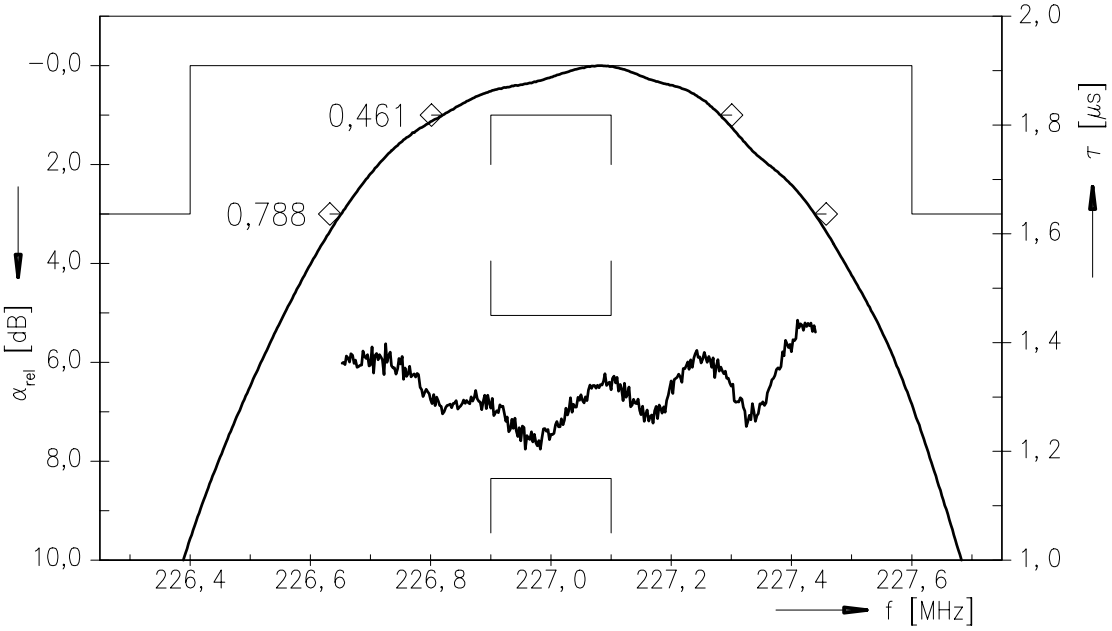
L_{s1} = 68 nH L_{p3} = 68 nH

L_{p2} = 68 nH L_{s4} = 56 nH

Transfer function



Transfer function (pass band)



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