EPCOS

SAW Components

Preliminary Data LN32A

Preliminary Data

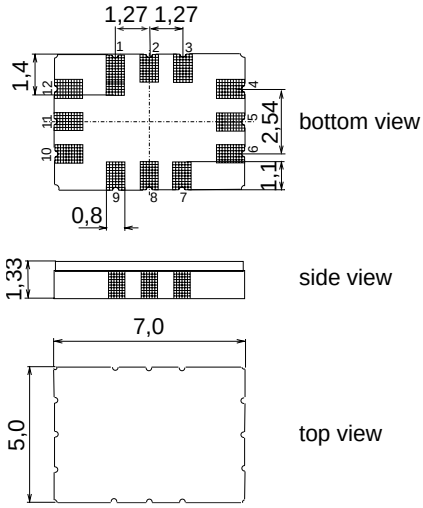
Ceramic package **QCC12E**

Features

- Low-loss IF filter for CDMA2000 base station, receive path
- 3,75 MHz usable bandwidth
- Balanced or unbalanced operation possible
- Temperature stable
- Hermetically sealed ceramic SMD package

Terminals

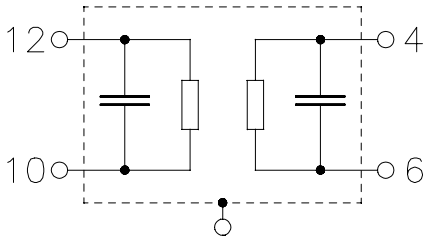
- Gold plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
LN32A			

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

Maximum ratings

Operable temperature range	T	–30 / +85	˚C	
Storage temperature range	T_{stg}	–30 / +85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

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Characteristics

Operating temperature range: T= -10 .. 80 ˚C
Terminating source impedance: Z_S= 50 Ω unbalanced and matching network
Terminating load impedance: Z_L= 50 Ω unbalanced and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	288,25	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	9,3	13,0	dB
Passband width $\alpha_{rel} \leq 1{,}0$ dB	$B_{1,0dB}$	3,8	4,0	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N + k*1,25 MHz ± 0,625 MHz		—	0,4	0,8	dB
f_N ± 1,875 MHz		—	0,5	1,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N ± 1,875 MHz		—	80	150	ns
Absolute group delay f_N ± 1,875 MHz	τ	—	1,0	2,0	µs
Phase Linearity (rms)	$\Delta\varphi$				
f_N ± 1,875 MHz		—	0,7	1,5	°
Average Error Vector Magnitude[1]	*EVM*				
f_N + k*1,25 MHz ± 0,625 MHz		—	1,5	4,0	%
Relative attenuation (relative to α_{min})	α_{rel}				
f_N ± 2,5 MHz ... f_N ± 3,3 MHz		13	16	—	dB
f_N ± 3,3 MHz ... f_N ± 9,825 MHz		20	28	—	dB
f_N ± 9,825 MHz ... f_N ± 39,3 MHz		28	43	—	dB
f_N ± 39,3 MHz ... f_N ± 50 MHz		40	50	—	dB
Input and Output return loss f_N ±1,875 MHz		10	13	—	dB
Temperature coefficient of frequency[2]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	35	—	˚C

[1] k = (-1,0,1)

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

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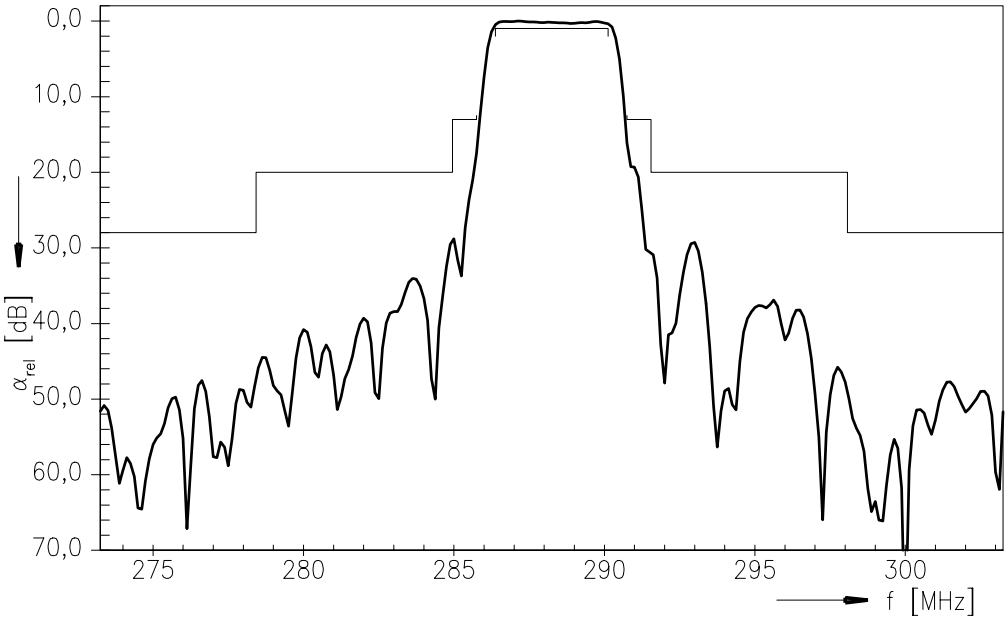
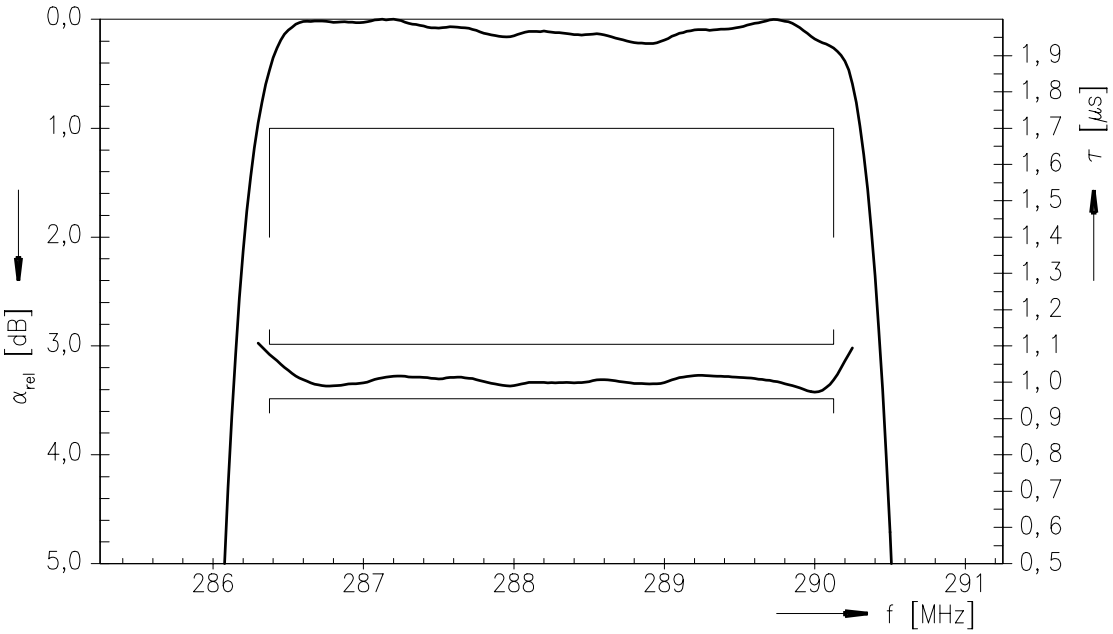
Normalized frequency response



Normalized frequency response (pass band)



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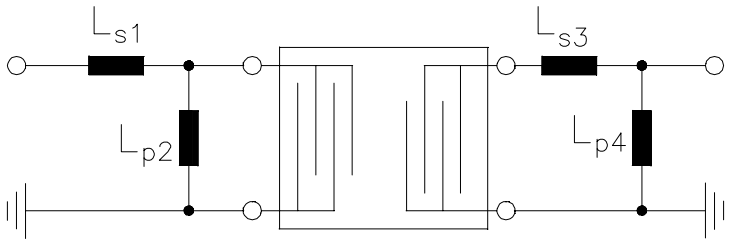
Matching network to 50Ω

(Element values depend upon PCB layout)



L_{s1} = 62 nH L_{s3} = 15 nH

L_{p2} = 22 nH L_{p4} = 8,2 nH

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