



SAW Components

Data Sheet B3826





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B3826

Low-Loss Filter

570,00 MHz

Data Sheet

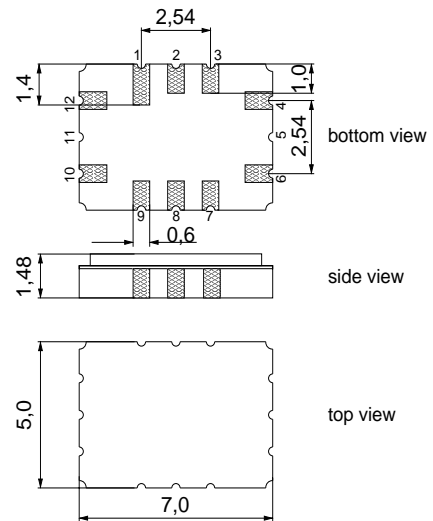
Ceramic package QCC12C

Features

- IF low-loss filter for base stations
- Channel selection in W-CDMA systems
- Balanced and unbalanced operation possible
- 3,84 MHz usable bandwidth
- Ceramic SMD package

Terminals

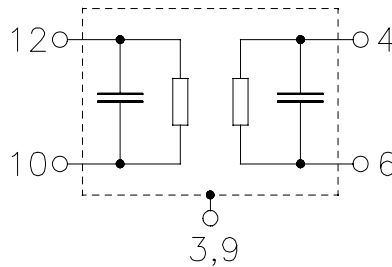
- Gold plated



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 |
| 1, 2, 7, 8 | to be grounded |
| 3, 9 | Case ground |



Type	Ordering code	Marking and Package according to	Packing according to
B3826	B39571-B3826-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	-40 / +85	°C
Storage temperature range	T_{stg}	-40 / +85	°C
DC voltage	V_{DC}	0	V
Source power	P_s	10	dBm



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Characteristics (unbalanced operation)

Operating temperature range: $T = -10 \dots 85 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 440 \text{ } \Omega \parallel 11 \text{ nH}$
 Terminating load impedance: $Z_L = 237 \text{ } \Omega \parallel 9 \text{ nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	570,0	—	MHz
Minimum insertion attenuation (including matching network ¹⁾)	α_{\min}	10,0	11,8	12,5	dB
Pass bandwidth	$B_{3,0\text{dB}}$				
$\alpha_{\text{rel}} \leq 3,0 \text{ dB}$		4,6	4,8	5,0	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 1,92 \text{ MHz}$		0,1	0,8	1,5	dB
Absolute Group delay	τ				
@ f_N		550	620	690	ns
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 1,92 \text{ MHz}$		50	150	300	ns
Adjacent channel selectivity	ACS	21	29	39	dB
Minimum relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 3,5 \text{ MHz} \dots f_N \pm 5,0 \text{ MHz}$		20	25	40	dB
$f_N - 5,0 \text{ MHz} \dots f_N - 8,0 \text{ MHz}$		45	47	55	dB
$f_N - 8,0 \text{ MHz} \dots f_N - 20,0 \text{ MHz}$		48	50	55	dB
$f_N + 5,0 \text{ MHz} \dots f_N + 7,0 \text{ MHz}$		45	50	55	dB
$f_N + 7,0 \text{ MHz} \dots f_N + 9,0 \text{ MHz}$		44	45	55	dB
$f_N + 9,0 \text{ MHz} \dots f_N + 10,0 \text{ MHz}$		46	47	55	dB
$f_N + 10,0 \text{ MHz} \dots f_N + 20,0 \text{ MHz}$		48	50	55	dB
Intermodulation	IM3				
$f_1 = 569 \text{ MHz}$, input power +1dBm $f_2 = 571 \text{ MHz}$, input power +1dBm					
@ $f_N + 3 \text{ MHz}$		-130	-105	-95	dBm
@ $f_N - 3 \text{ MHz}$		-130	-104	-94	dBm



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		min.	typ.	max.	
Impedance at f_N (without matching)					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	244 8	—	$\Omega \parallel \text{pF}$
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	119 12	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency²⁾	TC_f	—	- 0,036	—	ppm/K ²
Turnover temperature	T_0	—	30	—	°C

1) Matching inductor Q=40

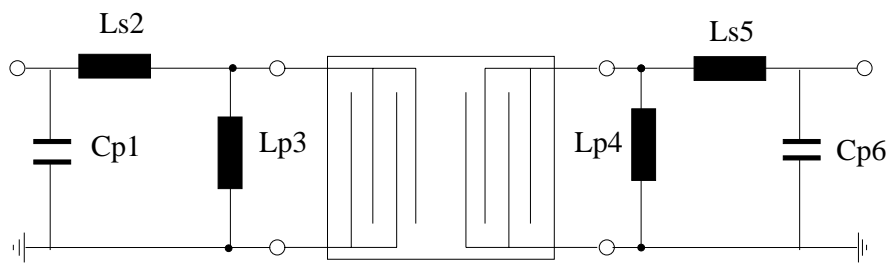
2) Temperature dependance of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network

(Element values depend upon PCB layout)



$$C_{p1} = 3,3 \text{ pF}$$

$$L_{s2} = 33 \text{ nH}$$

$$L_{p3} = 18 \text{ nH}$$

$$L_{p4} = 12 \text{ nH}$$

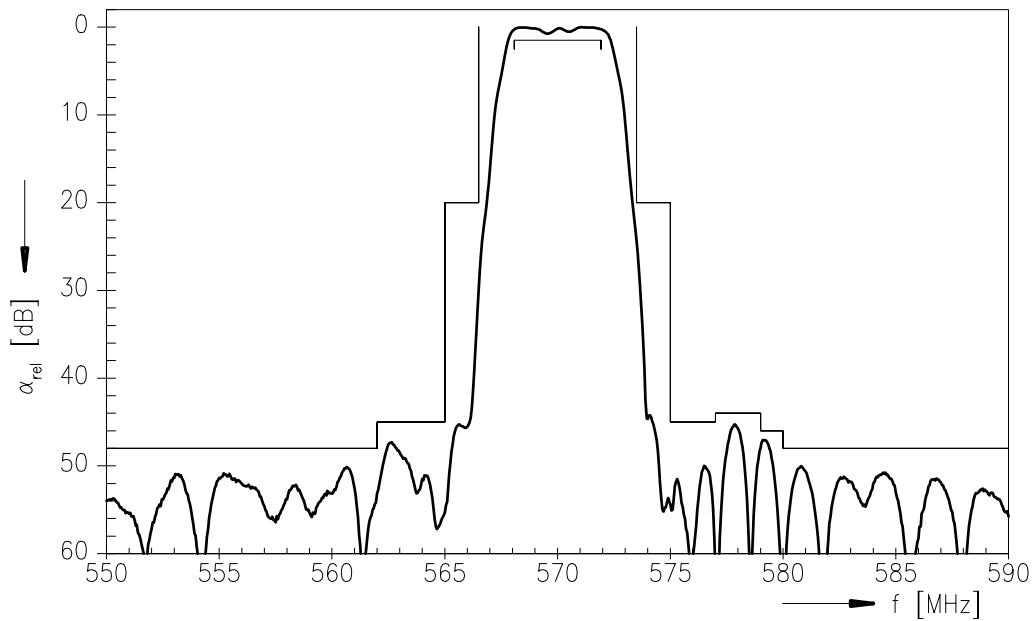
$$L_{s5} = 22 \text{ nH}$$

$$C_{p6} = 2,7 \text{ pF}$$

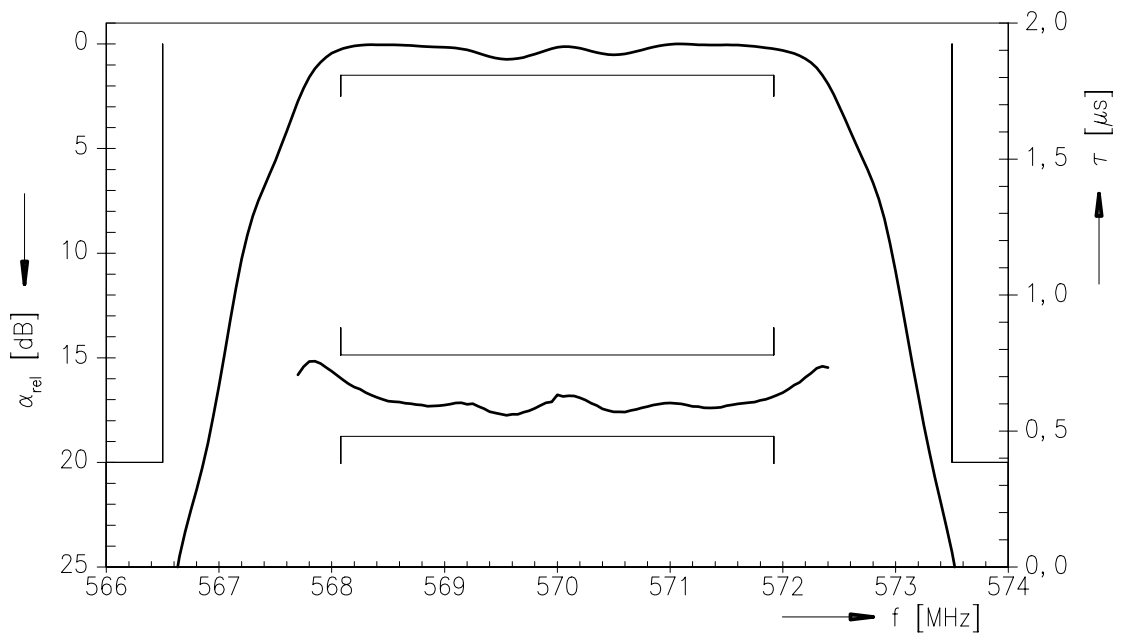


Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





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