



SAW Components

Data Sheet B3685





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B3685

Low-Loss Filter

90,00 MHz

Data Sheet

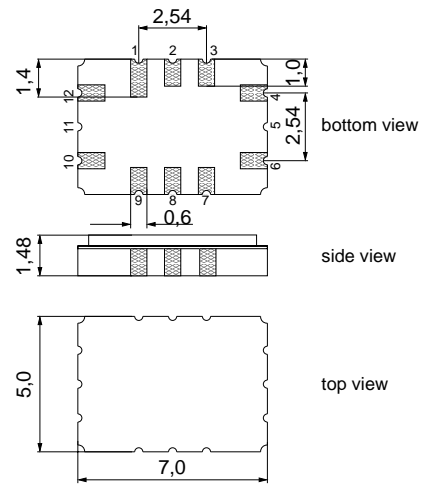
Ceramic package QCC12C

Features

- Low-loss IF filter for GSM base station
- Tx path
- Ceramic SMD package

Terminals

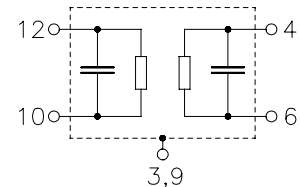
- Gold plated



Dimensions in mm, appr. weight 0,20 g

Pin configuration

- | | |
|------------|-----------------|
| 12, 10 | Balanced Input |
| 4, 6 | Balanced Output |
| 1, 2, 7, 8 | Ground |
| 3, 9 | Case ground |



Type	Ordering code	Marking and Package according to	Packing according to
B3685	B39900-B3685-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	-20 / +70	°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

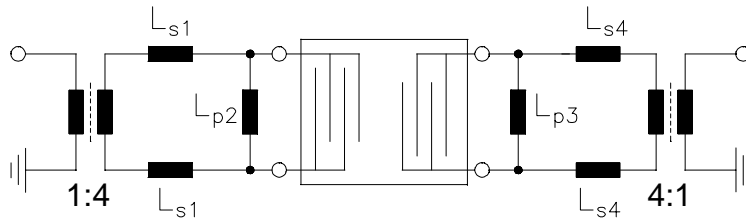
Operating temperature range: $T = 0 - 70 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 200 \text{ } \Omega$ balanced and matching network
 Terminating load impedance: $Z_L = 200 \text{ } \Omega$ balanced and matching network

			min.	typ.	max.	
Nominal frequency	f_N		—	90,0	—	MHz
Insertion attenuation at f_N (including matching network)	α_N		4,0	5,3	6,0	dB
Passband width	$\alpha_{\text{rel}} \leq 0,5 \text{ dB}$	$B_{0,5\text{dB}}$	200	850	—	kHz
Amplitude ripple (p-p)	$f_N \pm 100 \text{ kHz}$	$\Delta\alpha$	—	0,15	0,5	dB
Absolute group delay (at f_N)		τ	720	760	800	ns
Group delay ripple (p-p)	$f_N \pm 100 \text{ kHz}$	$\Delta\tau$	—	30	100	ns
Average Error Vector Magnitude (rms)		EVM	—	0,4	1,0	%
Relative attenuation (relative to α_N)		α_{rel}				
	$f_N \pm 1,8 \text{ MHz} \dots f_N \pm 6,0 \text{ MHz}$		10	18	—	dB
	$f_N \pm 6,0 \text{ MHz} \dots f_N \pm 20,0 \text{ MHz}$		30	44	—	dB
Input and Output VSWR	$f_N \pm 100 \text{ kHz}$		—	1,3:1	2,0:1	
Impedance at f_N (without matching)						
	Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	335 \parallel 23,8	—	$\Omega \parallel \text{pF}$
	Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	335 \parallel 23,8	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency	TC_f		—	- 18	—	ppm/K



Data Sheet

Matching network to 200 Ω (element values depend on pcb layout)



$$L_{s1} = 180 \text{ nH}$$

$$L_{p2} = 180 \text{ nH}$$

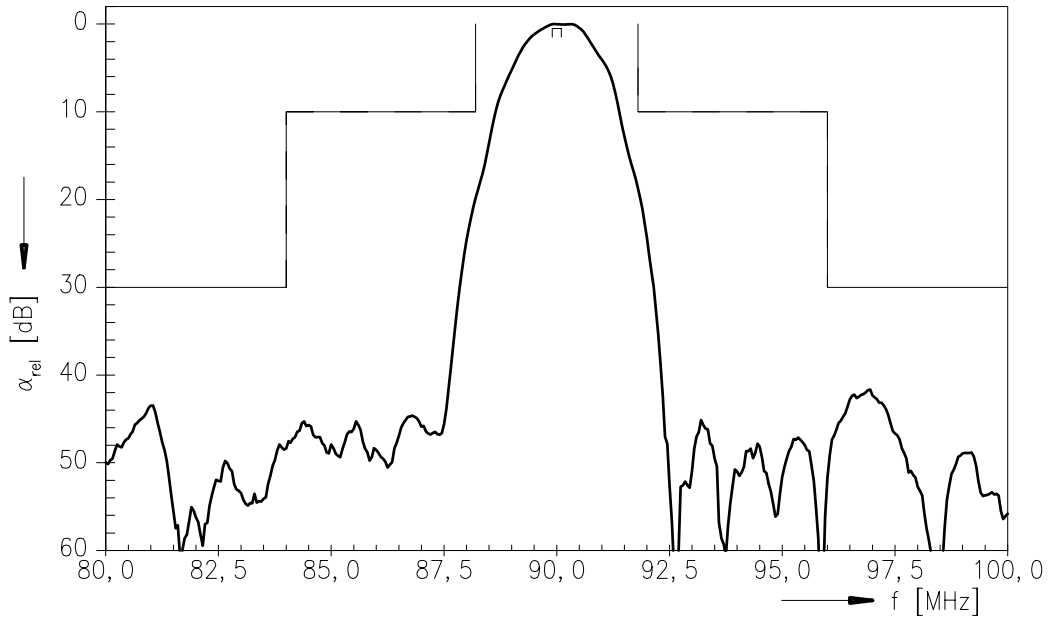
$$L_{p3} = 180 \text{ nH}$$

$$L_{s4} = 180 \text{ nH}$$

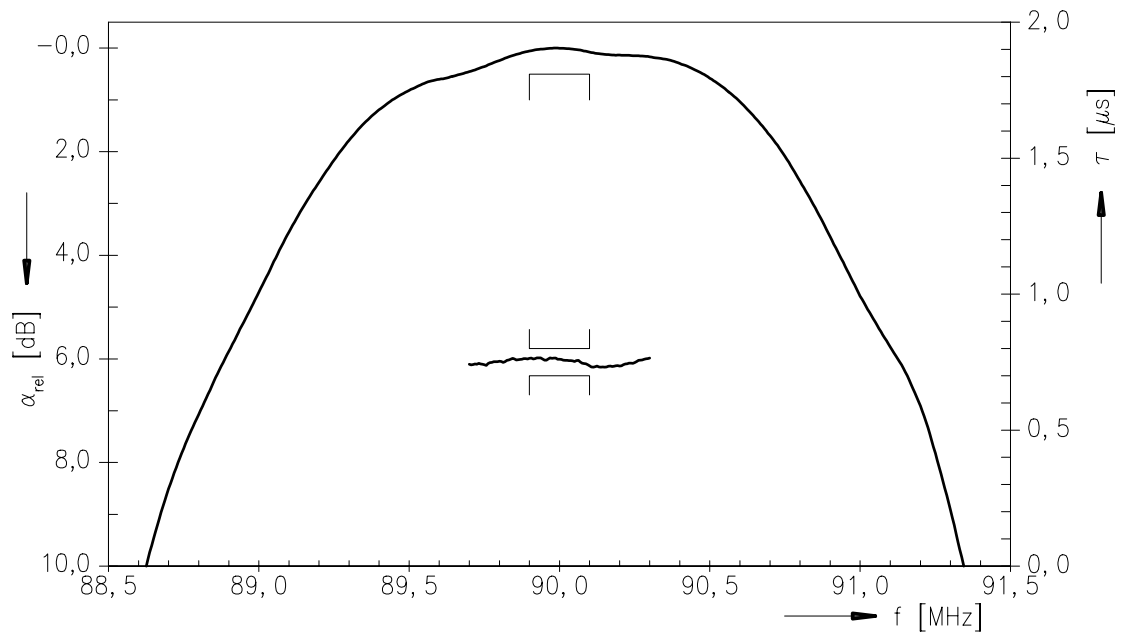


Data Sheet

Transfer function



Transfer function (pass band)





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