SAW Components

Data Sheet B3665

EPCOS

SAW Components	B3665

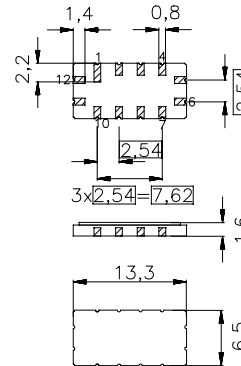| Low-Loss Filter	380,00 MHz

Data Sheet

Ceramic package **QCC12**

Features

■ IF filter for WCDMA
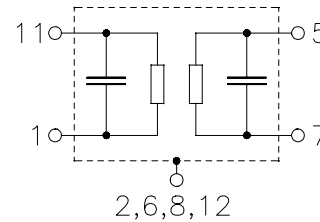■ Low insertion loss
■ Ceramic SMD package
■ Temperature stable

Terminals

■ Gold plated

Dimensions in mm, appr. weight 0,4 g

Pin configuration

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

Type	Ordering code	Marking and Package according to	Packing according to
B3665	B39381-B3665-Z510	C61157-A7-A55	F61074-V8026-Z000

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

Maximum ratings

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

2   Jan 08, 2001

EPCOS

Data Sheet

Characteristics

Operating temperature: T_A = -10 ... +85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network
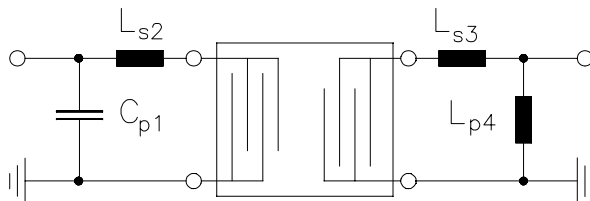Group delay aperture: 50 kHz

		min.	typ.	max.	
Nominal frequency	f_N	—	380,00	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	15,0	16,0	17,0	dB
Passband width					
$\alpha_{rel} \leq 1$ dB	B_{1dB}	4,2	4,5	—	MHz
$\alpha_{rel} \leq 3$ dB	B_{3dB}	5,0	5,2	—	MHz
$\alpha_{rel} \leq 10$ dB	B_{10dB}	—	6,3	6,5	MHz
$\alpha_{rel} \leq 30$ dB	B_{30dB}	—	7,8	8,0	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 2,05$ MHz		—	0,6	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
$f_N \pm 2,05$ MHz		—	2,5	4	˚
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 2,05$ MHz		—	50	100	ns
Absolute group delay mean value within $f_N \pm 2,05$ MHz at 25 ˚C [1]	τ	938	943	948	ns
Relative attenuation (relative to α_{min})	α_{rel}				
346 MHz ... 350 MHz		50	60	—	dB
362 MHz ... 366 MHz		55	60	—	dB
$f_N \pm 3,5$ MHz ... $f_N \pm 4,5$ MHz		10	15	—	dB
$f_N \pm 4,5$ MHz ... $f_N \pm 5,5$ MHz		30	35	—	dB
$f_N \pm 5,5$ MHz ... $f_N \pm 50,00$ MHz		40	45	—	dB
Temperature coefficient of frequency[2]	TC_f	—	– 0,036	—	ppm/K^2
Turnover temperature	T_0	—	25	—	˚C

1) At other temperatures the variation from filter to filter is also restricted to +/- 5 ns.

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

3 Jan 08, 2001

Data Sheet

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

C_{p1} = 27 pF L_{s3} = 10 nH

L_{s2} = 33 nH L_{p4} = 22 nH

4 Jan 08, 2001

Data Sheet

Transfer function
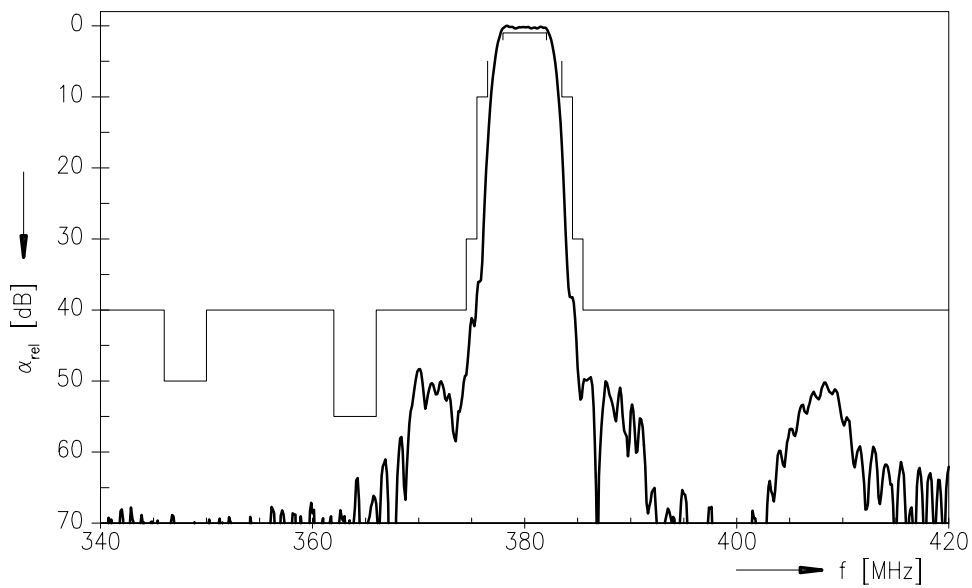
Transfer function (pass band)

5   Jan 08, 2001

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SAW Components	B3665
Low-Loss Filter	**380,00 MHz**

Data Sheet

6 Jan 08, 2001