EPCOS

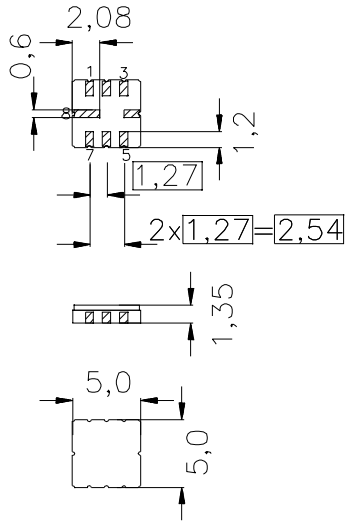
SAW Components

Data Sheet B4843

SMD ceramic package **QCC8C**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM, PCN systems
- Ceramic SMD package
- Very small size



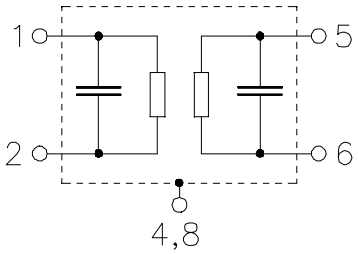
Terminals

- Gold-plated Ni

Dimensions in mm, approx. weight 0,10 g

Pin configuration

1	Input or input ground
2	Input or balanced input
5	Output or output ground
6	Output or balanced output
4,8	Case ground
3,7	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B4843	B39361-B4843-U310	C61157-A7-A56	F61074-V8070-Z000

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

Maximum ratings

Operable temperature range	T	– 20 / +75	˚C	
Storage temperature range	T_{stg}	– 35 / +85	˚C	
DC voltage	V_{DC}	3	V	
Source power	P_s	10	dBm	

Data Sheet SMD

Characteristics

Ambient temperature: T = -20˚C to +75˚C
Terminating source impedance: Z_S = 780 Ω || -1,9 pF
Terminating load impedance: Z_L = 780 Ω || -1,9 pF

		min.	typ.	max.	
Nominal frequency (center frequency between 3 dB points)	f_N	—	360,00	—	MHz
Minimum insertion attenuation					
including loss in matching network	α_{min}	5,0	5,6	6,4	dB
excluding loss in matching elements	α_{min}	4,3	4,9	5,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N -67,5kHz .. f_N+67,5 kHz		—	0,5	2,0	dB
f_N -80,0 kHz .. f_N+80,0 kHz		—	0,5	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N -67,5 kHz .. f_N+67,5 kHz		—	0,50	1,5	µs
f_N -80,0 kHz .. f_N+80,0 kHz		—	0,65	2,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm 300$ kHz ... $f_N \pm 400$ kHz		8	16	—	dB
$f_N \pm 400$ kHz ... $f_N \pm 600$ kHz		21	25	—	dB
$f_N \pm 600$ kHz ... $f_N \pm 800$ kHz		35	38	—	dB
$f_N \pm 800$ kHz ... $f_N \pm 1,6$ MHz		40	46	—	dB
$f_N \pm 1,6$ MHz ... $f_N \pm 3,0$ MHz		48*)	54	—	dB
$f_N \pm 3,0$ MHz ... $f_N \pm 4,0$ MHz		50	55	—	dB
$f_N \pm 4,0$ MHz ... $f_N \pm 15$ MHz		50	65	—	dB
Impedance within the pass band					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	780 || 1,9	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	780 || 1,9	—	Ω || pF
Temperature coefficient of frequency 1)	TC_f	—	-0,028	—	ppm/K²
Turnover temperature	T_0	—	25	—	˚C

1) Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

*) In the frequency range from 357,8 MHz to 358,2 MHz there exists one spurious response with a maximum 3 dB - bandwidth of 150 kHz. The minimum attenuation α_{rel} of this spurious response is more than 46 dB.

Data Sheet SMD

Characteristics

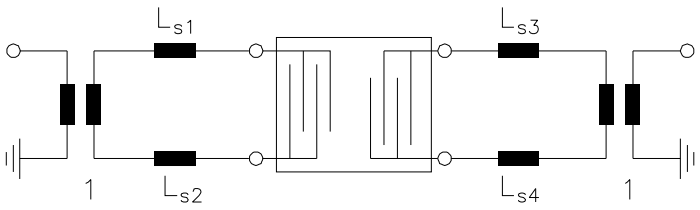
Ambient temperature: T = 25˚C
Terminating source impedance: Z_S = 780 Ω || -1,9 pF
Terminating load impedance: Z_L = 780 Ω || -1,9 pF

		min.	typ.	max.	
Nominal frequency (center frequency between 3 dB points)	f_N	—	360,01	—	MHz
Minimum insertion attenuation					
including loss in matching network	α_{min}	5,0	5,6	6,4	dB
excluding loss in matching elements	α_{min}	4,3	4,9	5,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N -67,5kHz .. f_N+67,5 kHz		—	0,5	2,0	dB
f_N -80,0 kHz .. f_N+80,0 kHz		—	0,5	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N -67,5 kHz .. f_N+67,5 kHz		—	0,50	1,5	µs
f_N -80,0 kHz .. f_N+80,0 kHz		—	0,65	2,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm 300$ kHz ... $f_N \pm 400$ kHz		11	18	—	dB
$f_N \pm 400$ kHz ... $f_N \pm 600$ kHz		22	27	—	dB
$f_N \pm 600$ kHz ... $f_N \pm 800$ kHz		36	39	—	dB
$f_N \pm 800$ kHz ... $f_N \pm 1,6$ MHz		40	46	—	dB
$f_N \pm 1,6$ MHz ... $f_N \pm 3,0$ MHz		48*)	54	—	dB
$f_N \pm 3,0$ MHz ... $f_N \pm 4,0$ MHz		50	55	—	dB
$f_N \pm 4,0$ MHz ... $f_N \pm 15$ MHz		50	65	—	dB
Impedance within the pass band					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	780 || 1,9	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	780 || 1,9	—	Ω || pF
Temperature coefficient of frequency 1)	TC_f	—	-0,028	—	ppm/K²
Turnover temperature	T_0	—	25	—	˚C

1) Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

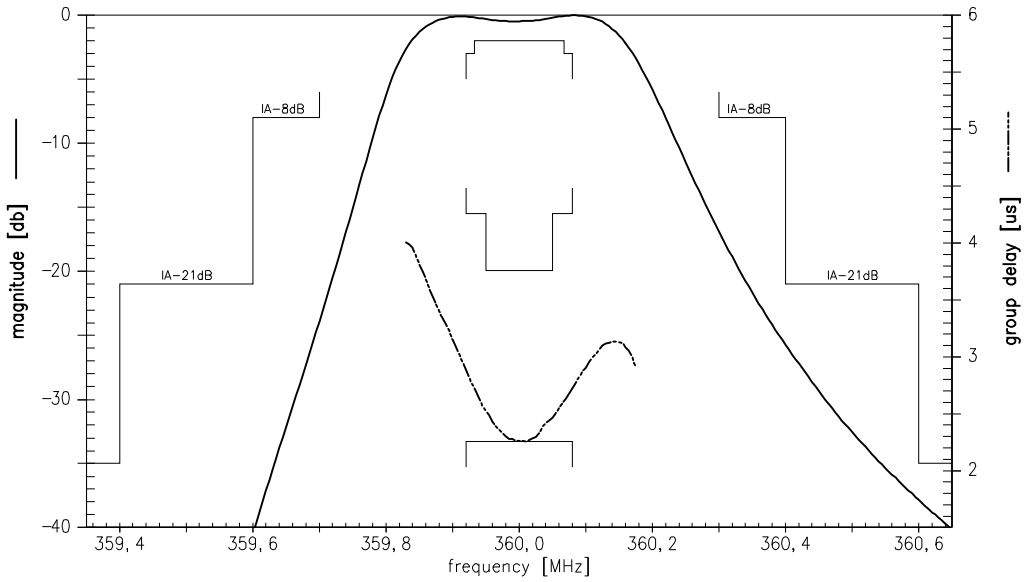
*) In the frequency range from 357,8 MHz to 358,2 MHz there exists one spurious response with a maximum 3 dB - bandwidth of 150 kHz. The minimum attenuation α_{rel} of this spurious response is more than 46 dB.

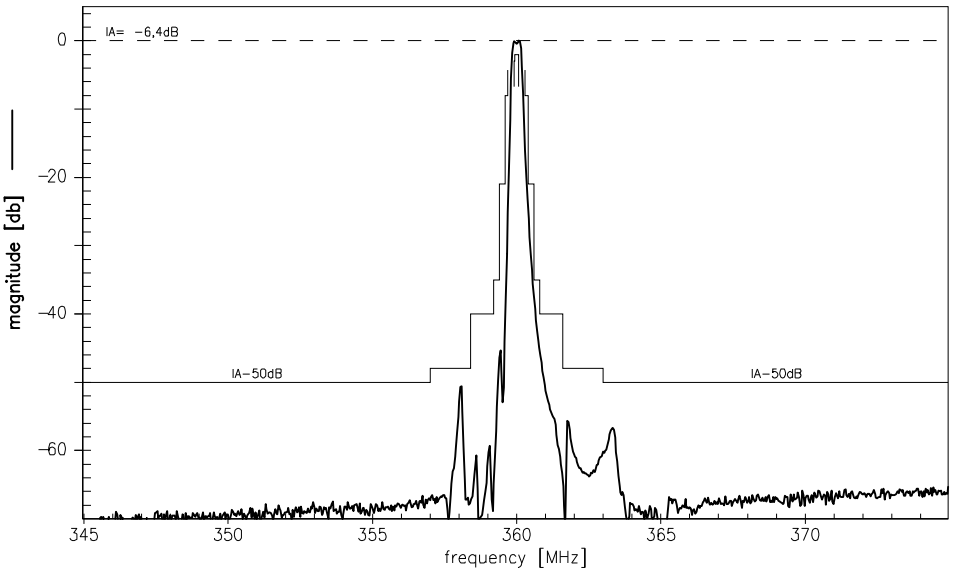
Test matching network to 50 Ω (element values depend on PCB layout):



L_{s1} = L_{s2} = 25,5 nH
L_{s3} = L_{s4} = 25,5 nH

Transfer function (normalized plot):





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++49 89 636 09, FAX (0 89) 636-2 26 89

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