EPCOS

SAW Components

Data Sheet B4843

Data Sheet

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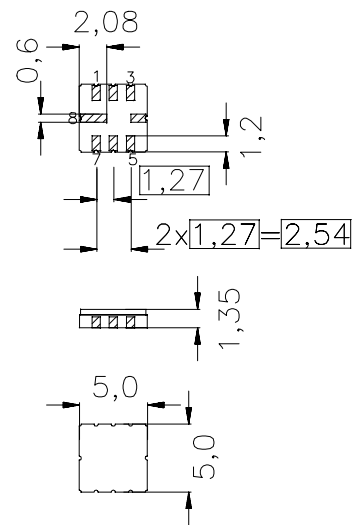| SAW Components	B4843
Low-Loss Filter for Mobile Communication	**360,00 MHz**

Data Sheet

SMD ceramic package **QCC8C**

Features

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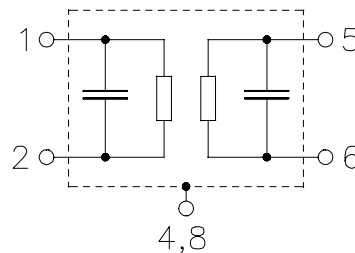■ Ceramic SMD package
■ Very small size

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	

SAW Components				B4843
Low-Loss Filter for Mobile Communication				**360,00 MHz**

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.

SAW Components				**B4843**
Low-Loss Filter for Mobile Communication				**360,00 MHz**

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} || C_{IN}		—	780 || 1,9	—	Ω || pF
Output: Z_{OUT} = R_{OUT} || C_{OUT}		—	780 || 1,9	—	Ω || pF
Temperature coefficient of frequency [1]	TC_f	—	-0,028	—	ppm/K^2
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.
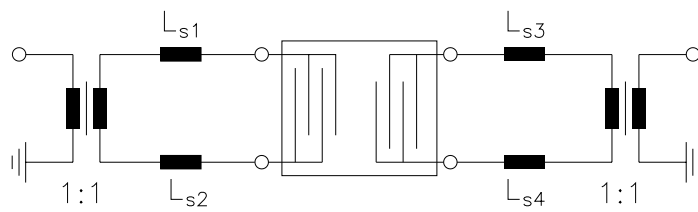
Test matching network to 50 Ω (element values depend on PCB layout):

L_{s1} $= L_{s2}$ $= 25,5$ nH

L_{s3} $= L_{s4}$ $= 25,5$ nH

Transfer function (normalized plot):
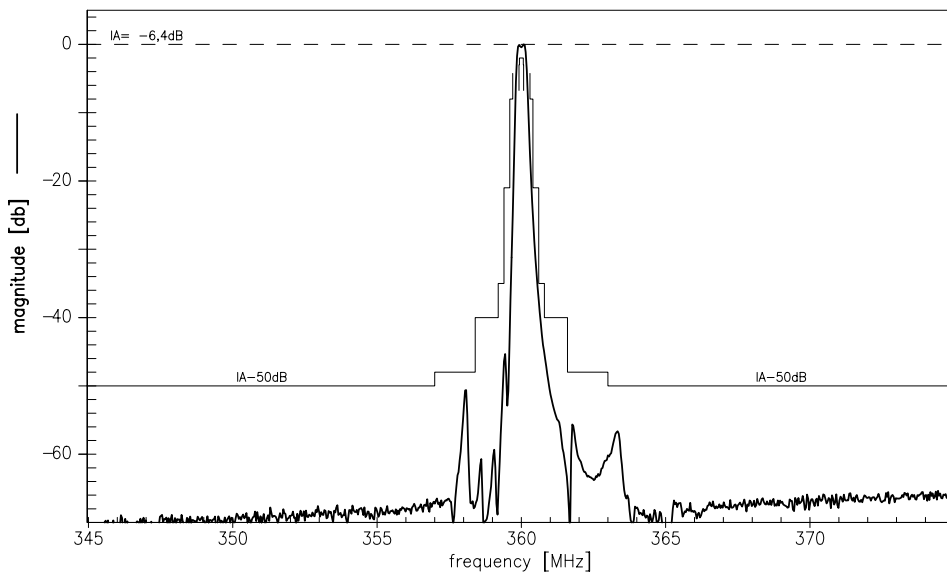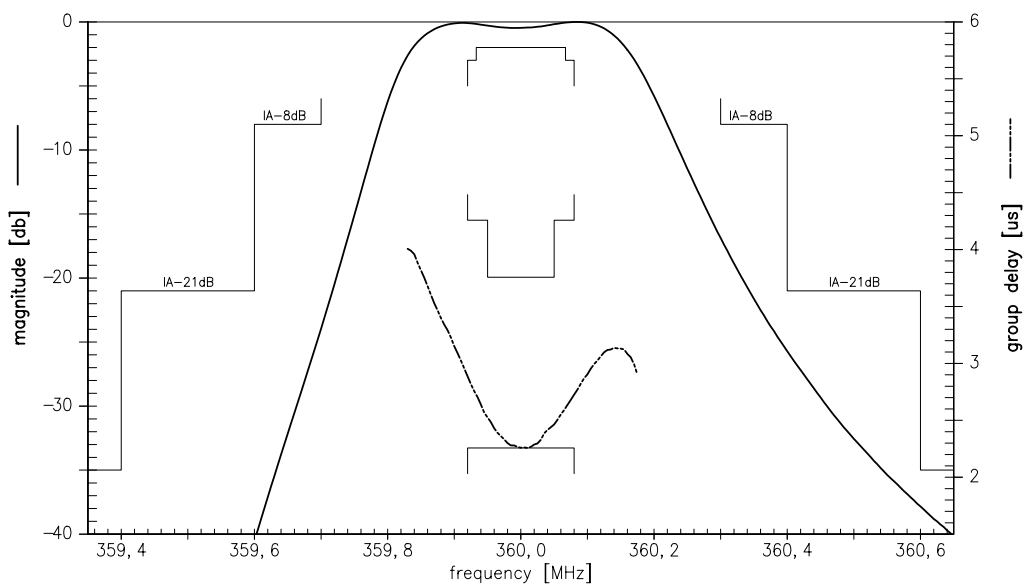
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This brochure replaces the previous edition.

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