



SAW Components

Data Sheet B4843





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Low-Loss Filter for Mobile Communication

360,00 MHz

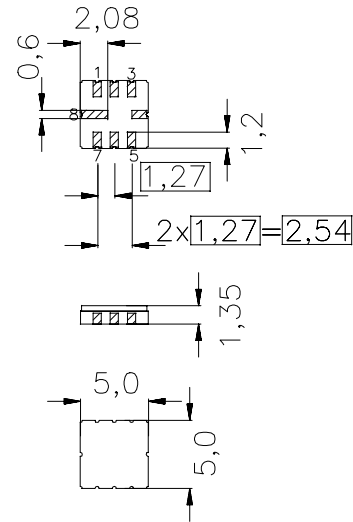
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SMD ceramic package QCC8C

Features

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



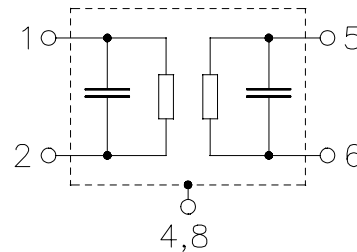
Dimensions in mm, approx. weight 0,10 g

Terminals

- Gold-plated Ni

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 Sensitive Device (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



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Characteristics

Ambient temperature: $T = -20^{\circ}\text{C}$ to $+75^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 780\ \Omega \parallel -1,9\ \text{pF}$
 Terminating load impedance: $Z_L = 780\ \Omega \parallel -1,9\ \text{pF}$

		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)	$\Delta\alpha$				
$f_N - 67,5\text{ kHz} \dots f_N + 67,5\text{ kHz}$		—	0,5	2,0	dB
$f_N - 80,0\text{ kHz} \dots f_N + 80,0\text{ kHz}$		—	0,5	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N - 67,5\text{ kHz} \dots f_N + 67,5\text{ kHz}$		—	0,50	1,5	μs
$f_N - 80,0\text{ kHz} \dots f_N + 80,0\text{ kHz}$		—	0,65	2,0	μs
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 300\text{ kHz} \dots f_N \pm 400\text{ kHz}$		8	16	—	dB
$f_N \pm 400\text{ kHz} \dots f_N \pm 600\text{ kHz}$		21	25	—	dB
$f_N \pm 600\text{ kHz} \dots f_N \pm 800\text{ kHz}$		35	38	—	dB
$f_N \pm 800\text{ kHz} \dots f_N \pm 1,6\text{ MHz}$		40	46	—	dB
$f_N \pm 1,6\text{ MHz} \dots f_N \pm 3,0\text{ MHz}$		48*)	54	—	dB
$f_N \pm 3,0\text{ MHz} \dots f_N \pm 4,0\text{ MHz}$		50	55	—	dB
$f_N \pm 4,0\text{ MHz} \dots f_N \pm 15\text{ MHz}$		50	65	—	dB
Impedance within the pass band					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	$780 \parallel 1,9$	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$780 \parallel 1,9$	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency ¹⁾	TC_f	—	-0,028	—	ppm/K ²
Turnover temperature	T_0	—	25	—	$^{\circ}\text{C}$

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.



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$f_N - 80,0 \text{ kHz} \dots f_N + 80,0 \text{ kHz}$		—	0,5	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N - 67,5 \text{ kHz} \dots f_N + 67,5 \text{ kHz}$		—	0,50	1,5	μs
$f_N - 80,0 \text{ kHz} \dots f_N + 80,0 \text{ kHz}$		—	0,65	2,0	μs
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 300 \text{ kHz} \dots f_N \pm 400 \text{ kHz}$		11	18	—	dB
$f_N \pm 400 \text{ kHz} \dots f_N \pm 600 \text{ kHz}$		22	27	—	dB
$f_N \pm 600 \text{ kHz} \dots f_N \pm 800 \text{ kHz}$		36	39	—	dB
$f_N \pm 800 \text{ kHz} \dots f_N \pm 1,6 \text{ MHz}$		40	46	—	dB
$f_N \pm 1,6 \text{ MHz} \dots f_N \pm 3,0 \text{ MHz}$		48*)	54	—	dB
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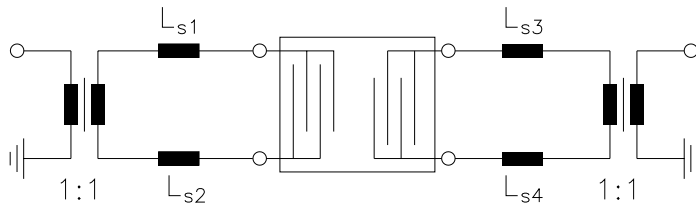
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Test matching network to 50 Ω (element values depend on PCB layout):

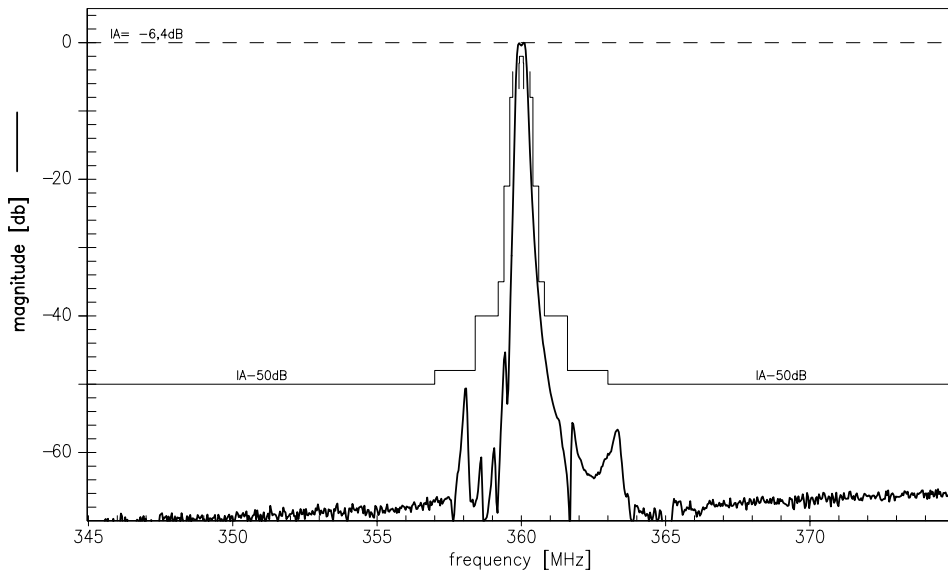
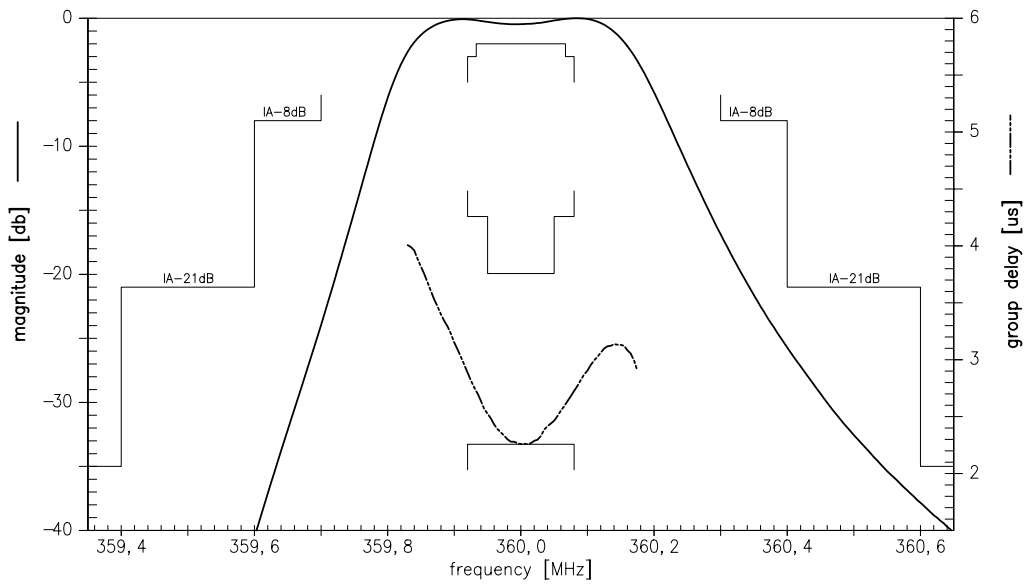


$$L_{s1} = L_{s2} = 25,5 \text{ nH}$$

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



Transfer function (normalized plot):





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