



SAW Components

Data Sheet B4916

Data Sheet

A large, stylized, and somewhat abstract graphic of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a stylized globe or a series of overlapping planes. The graphic is in grayscale and has a soft, glowing effect.



SAW Components

B4916

Low-Loss Filter for Mobile Communication

135,0 MHz

Data Sheet



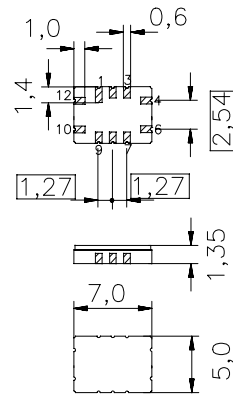
Ceramic package QCC12B

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM systems
- Hermetically sealed ceramic SMD package
- Balanced and unbalanced operation possible
- No coupling coil required

Terminals

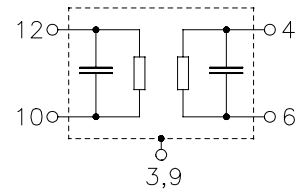
- Gold-plated Ni



Dimensions in mm, approx. weight 0,2 g

Pin configuration

10	Input
12	Input ground or balanced input
4	Output
6	Output ground or balanced output
3, 9	Case ground
1, 2, 7, 8	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B4916	B39141-B4916-Z910	C61157-A7-A52	F61074-V8038-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30/+ 85	°C
Storage temperature range	T_{stg}	- 40/+ 85	°C
DC voltage	V_{DC}	0	V
Source power	P_s	10	dBm



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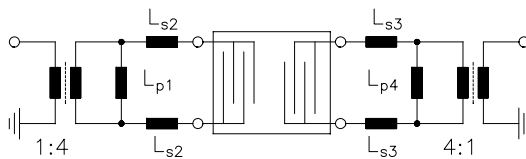
Characteristics

Operating temperature range:	$T = -10\text{ °C} \dots +70\text{ °C}$
Terminating source impedance:	$Z_S = 800\ \Omega \parallel 135\text{ nH}$
Terminating load impedance:	$Z_L = 1400\ \Omega \parallel 170\text{ nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	135,00	—	MHz
Minimum insertion attenuation (excluding losses in matching circuit)	α_{\min}		4,8	6,0	dB
Amplitude ripple (p-p) $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\alpha$	—	0,4	1,0	dB
Group delay ripple (p-p) $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\tau$	—	0,3	1,0	μs
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N - 30,00\text{ MHz} \dots f_N - 7,00\text{ MHz}$		40	49	—	dB
$f_N - 7,00\text{ MHz} \dots f_N - 3,00\text{ MHz}$		35	39	—	dB
$f_N - 3,00\text{ MHz} \dots f_N - 0,80\text{ MHz}$		30	32	—	dB
$f_N - 0,80\text{ MHz} \dots f_N - 0,60\text{ MHz}$		20	28	—	dB
$f_N - 0,60\text{ MHz} \dots f_N - 0,40\text{ MHz}$		15	17	—	dB
$f_N - 0,40\text{ MHz} \dots f_N - 0,25\text{ MHz}$		3	5	—	dB
$f_N + 0,25\text{ MHz} \dots f_N + 0,40\text{ MHz}$		3	5	—	dB
$f_N + 0,40\text{ MHz} \dots f_N + 0,60\text{ MHz}$		15	17	—	dB
$f_N + 0,60\text{ MHz} \dots f_N + 0,80\text{ MHz}$		20	28	—	dB
$f_N + 0,80\text{ MHz} \dots f_N + 3,00\text{ MHz}$		30	32	—	dB
$f_N + 3,00\text{ MHz} \dots f_N + 7,00\text{ MHz}$		35	38	—	dB
$f_N + 7,00\text{ MHz} \dots f_N + 30,00\text{ MHz}$		40	43	—	dB
Impedance at f_N					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	$800 \parallel 10,3$	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$1400 \parallel 8,2$	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency ¹⁾	TC_f	—	- 0,042	—	ppm/K ²
Frequency inversion point	T_0	—	25	—	°C

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

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



L_{p1}	= 82 nH
L_{s2}	= 27 nH
L_{s3}	= 43 nH
L_{p4}	= 82 nH



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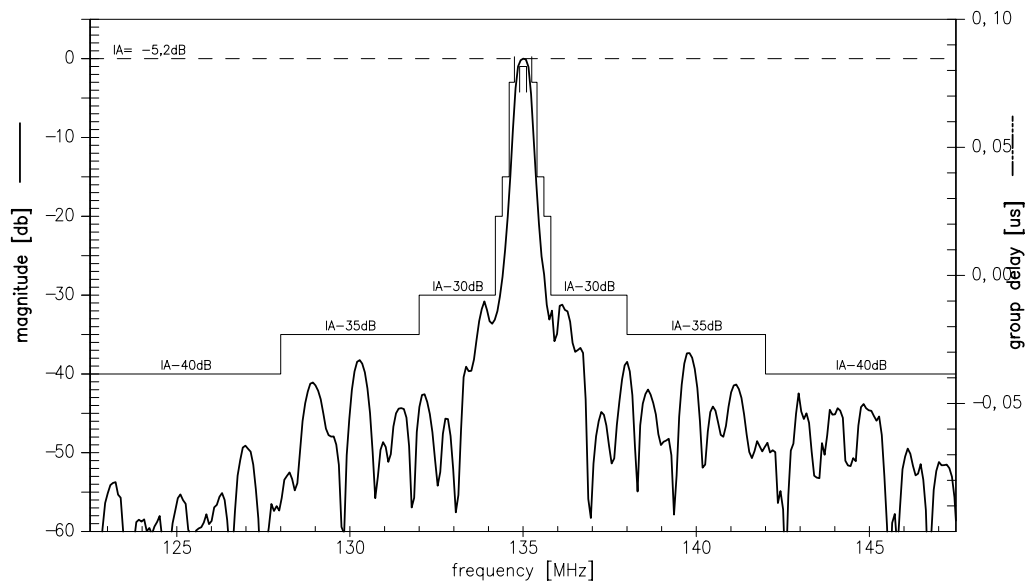
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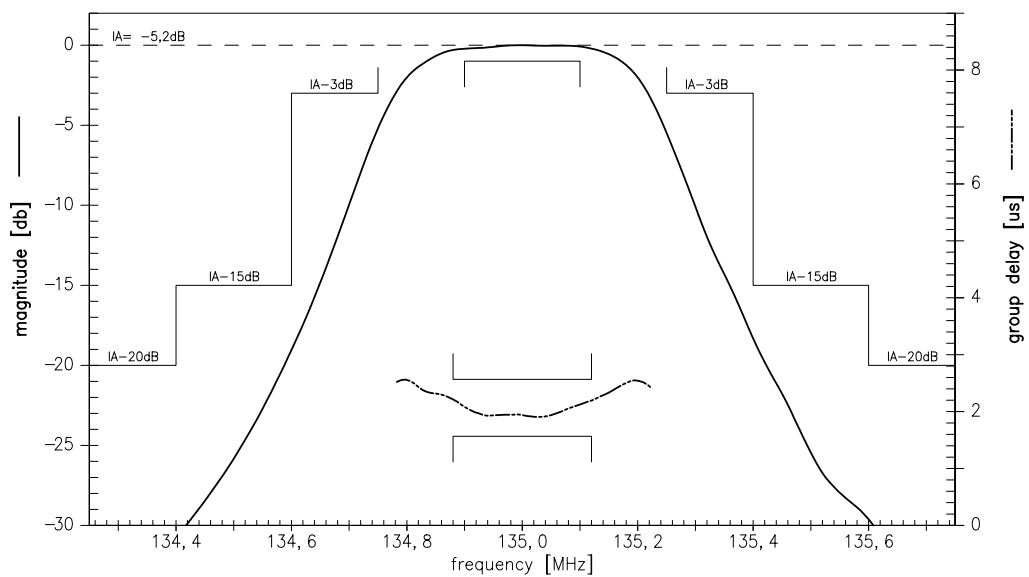
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Transfer function:



Transfer function (pass band):





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