



SAW Components

Data Sheet B4916

Data Sheet

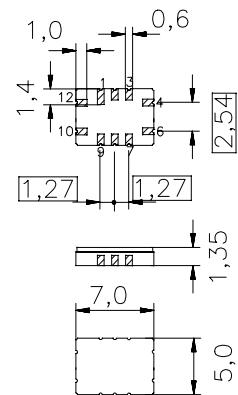


Features

- 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

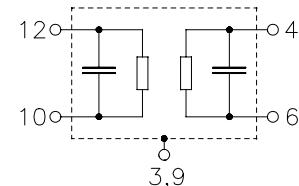
- Gold-plated Ni



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	

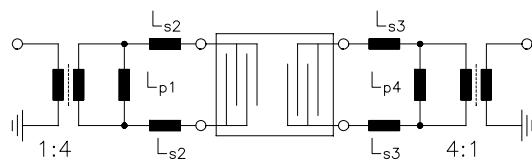
Characteristics

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

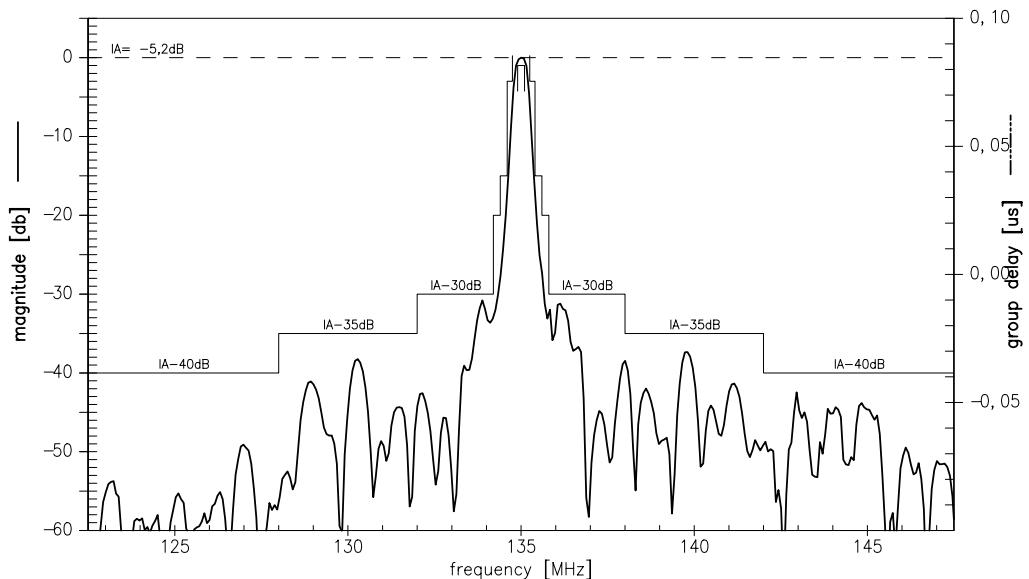
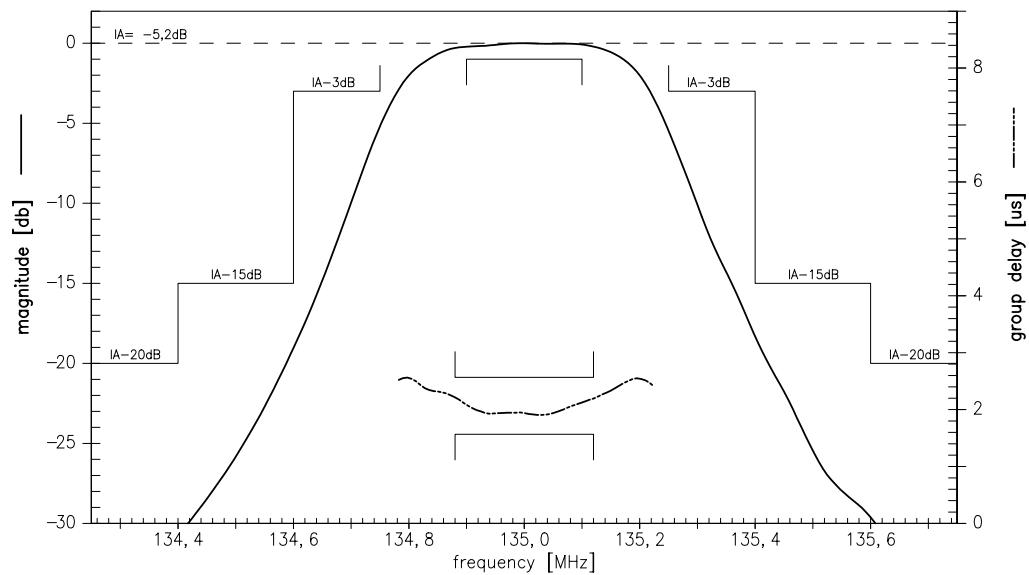
		min.	typ.	max.	
Nominal frequency	f_N	—	135,00	—	MHz
Minimum insertion attenuation (excluding losses in matching circuit)	α_{\min}		4,8	6,0	dB
Amplitude ripple (p-p) $f_N - 100,0 \text{ kHz} \dots f_N + 100,0 \text{ kHz}$	$\Delta\alpha$	—	0,4	1,0	dB
Group delay ripple (p-p) $f_N - 100,0 \text{ kHz} \dots f_N + 100,0 \text{ kHz}$	$\Delta\tau$	—	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	—	$^{\circ}\text{C}$

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):



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

Transfer function:

Transfer function (pass band):




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B4916

Low-Loss Filter for Mobile Communication

135,0 MHz

Data Sheet



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