Siemens Matsushita Components

SAW Components
Low-Loss Filter for Mobile Communication

B4909
238,55 MHz

Data Sheet

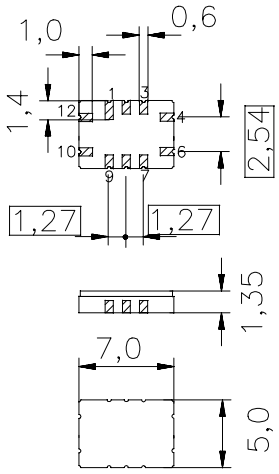
Ceramic package **QCC12B**

Features

- IF filter for mobile telephone
- Channel selection in CDMA-systems
- Ceramic SMD package
- Low insertion attenuation
- High rejection

Terminals

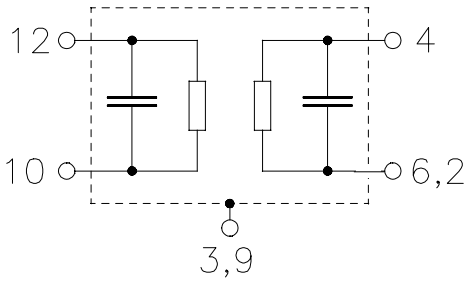
- Gold-plated Ni



Dimensions in mm, approx. weight 0,2g

Pin configuration

10	Input
12	Input ground
4	Output
6,2	Output ground
1, 7, 8	to be grounded
3, 9	Case ground



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

Type	**Ordering code**	**Marking and Package according to**	**Packing according to**
B4909	B39241-B4909-Z910	C61157-A7-A38	F61064-V8026-Z000

Maximum ratings

Operable temperature range	T	– 40/+ 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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OFW EM AA
Jan. 15, 1999

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Characteristics

Operating temperature: T = -40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 310Ω || 32 nH
Terminating load impedance: Z_L = 400Ω || 42 nH

		min.	typ.	max.	
Nominal frequency	f_N	—	238,55	—	MHz
Insertion attenuation at f_N (including loss in matching network)	α_{fN}	—	6,5	8,5	dB
Amplitude ripple (p-p,after gating[1)])	$\Delta\alpha$				
f_N–0,30 ... f_N+0,30 MHz		—	0,4	1,2	dB
Phase linearity (after gating[1)]) (rms deviation)					
f_N–0,63 ... f_N+0,63 MHz		—	1,5	3,0	°
Relative attenuation (relative to α_{fN})	α_{rel}				
f_N–0,63 ... f_N+0,63 MHz		—	2,8	5,0	dB
f_N–200,0 ... f_N–30,0 MHz		60,0	70,0	—	dB
f_N–30,0 ... f_N–4,05 MHz		45,0	52,0	—	dB
f_N–4,05 ... f_N–2,05 MHz		40,0	48,0	—	dB
f_N–2,05 ... f_N–1,25 MHz		34,0	48,0	—	dB
f_N–1,25 MHz		—	48,0	—	dB
f_N+1,25 MHz		—	45,0	—	dB
f_N+1,25 ... f_N+2,05 MHz		34,0	45,0	—	dB
f_N+2,05 ... f_N+4,05 MHz		40,0	50,0	—	dB
f_N+4,05 ... f_N+60,0 MHz		45,0	50,0	—	dB
f_N+60,0 ... f_N+200,0 MHz		60,0	65,0	—	dB
Reflected wave signal suppression		30,0	34,0	—	dB
Temperature coefficient of frequency [2)]	TC_f	—	–0,036	—	ppm/K^2
Frequency inversion point	T_0	—	20	—	˚C

[1)] Removal of trailing end of time domain response for which all of signal is more than 30dB below main pulse

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

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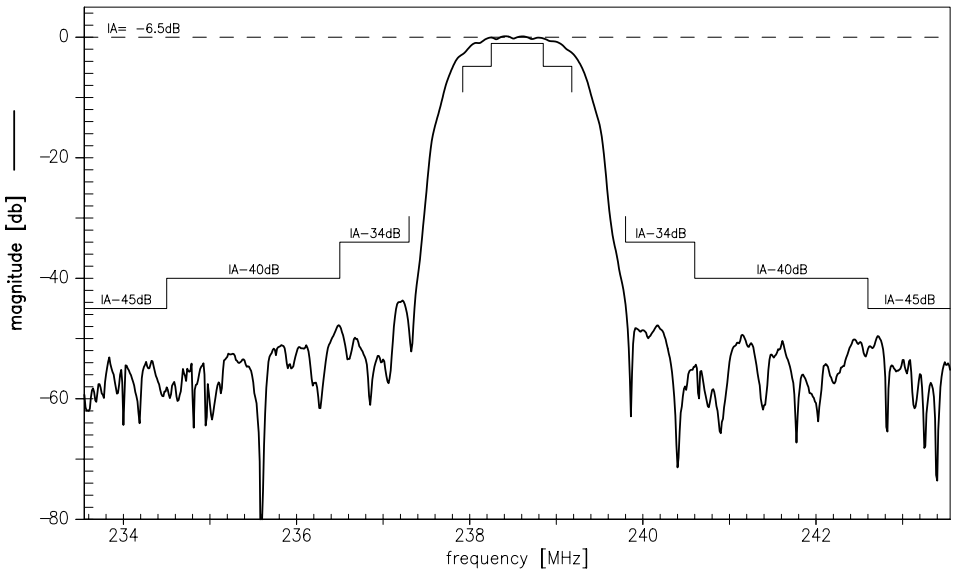
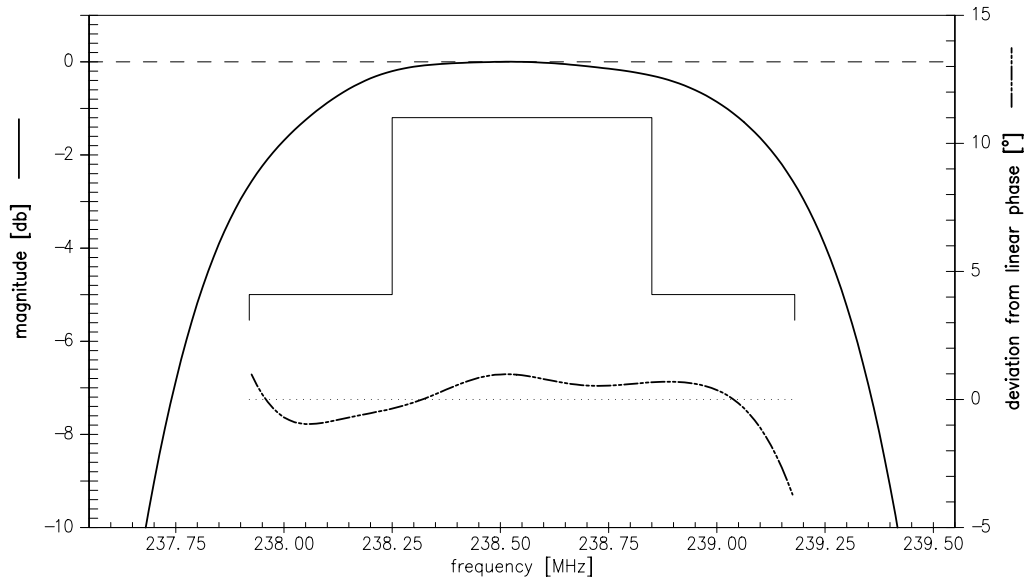
Transfer function:



Transfer function (pass band, after gating[1)]):



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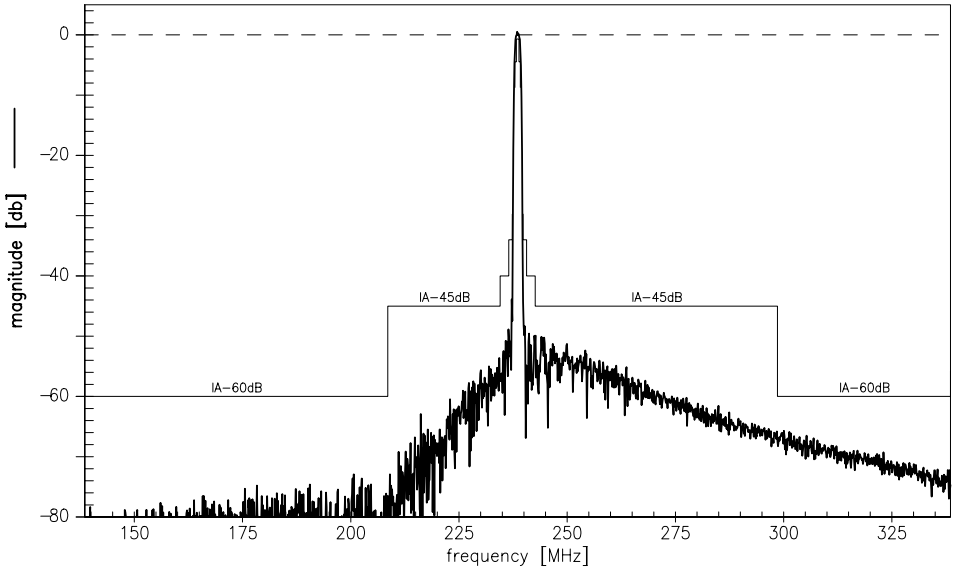
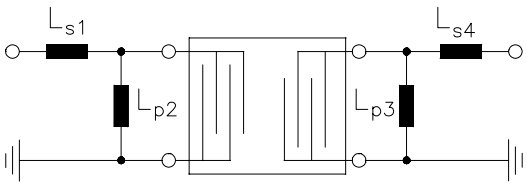
Transfer function (wideband):



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



L_{s1} = 68nH
L_{p2} = 39nH
L_{p3} = 47nH
L_{s4} = 82nH