



Siemens Matsushita Components

SAW Components Low Loss Filter

B4818
246,00 MHz

Data Sheet

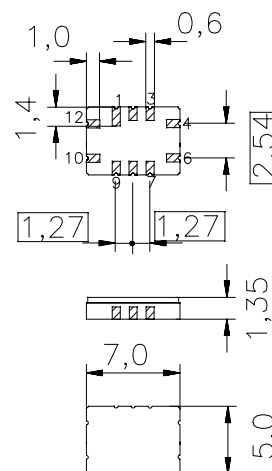
Ceramic package **QCC12B**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM, PCN, PCS systems
- Ceramic SMD package
- Balanced and unbalanced operation possible
- Flat group delay response
- High stopband attenuation

Terminals

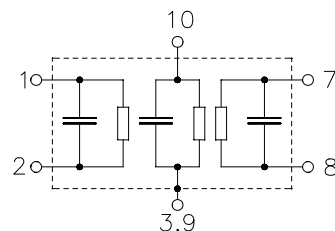
- Gold-plated Ni



Dimensions in mm, approx. weight 0,2 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4818	B39251-B4818-Z910	C61157-A7-A52	F61074-V8038-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 20/+ 70	°C
Storage temperature range	T_{stg}	- 25/+ 85	°C
DC voltage	V_{DC}	0	V
Source power	P_s	10	dBm



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Operating temperature: $T = 25\text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 650\text{ }\Omega \parallel -2,6\text{ pF}$
Terminating load impedance: $Z_L = 650\text{ }\Omega \parallel -2,6\text{ pF}$

		min.	typ.	max.	
Nominal frequency	f_N	—	246,00	—	MHz
Minimum insertion attenuation	$\alpha_{\min}$				
excluding losses in matching circuit		2,0	3,0	4,0	dB
including losses in matching circuit		3,0	4,0	5,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N - 85,0\text{ kHz} \dots f_N + 93,0\text{ kHz}$		—	0,2	1,5	dB
$f_N - 120,0\text{ kHz} \dots f_N + 120,0\text{ kHz}$		—	0,7	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N - 70,0\text{ kHz} \dots f_N + 70,0\text{ kHz}$		—	0,4	1,2	μs
$f_N - 120,0\text{ kHz} \dots f_N + 120,0\text{ kHz}$		—	0,9	2,0	μs
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
$f_N - 100,00\text{ MHz} \dots f_N - 1,60\text{ MHz}$		55	69	—	dB
$f_N - 1,60\text{ MHz} \dots f_N - 0,60\text{ MHz}$		42	46	—	dB
$f_N - 0,60\text{ MHz} \dots f_N - 0,40\text{ MHz}$		25	50	—	dB
$f_N - 0,40\text{ MHz} \dots f_N - 0,33\text{ MHz}$		18	29	—	dB
$f_N - 0,33\text{ MHz} \dots f_N - 0,30\text{ MHz}$		10	20	—	dB
$f_N + 0,30\text{ MHz} \dots f_N + 0,33\text{ MHz}$		10	20	—	dB
$f_N + 0,33\text{ MHz} \dots f_N + 0,40\text{ MHz}$		18	26	—	dB
$f_N + 0,40\text{ MHz} \dots f_N + 0,60\text{ MHz}$		25	30	—	dB
$f_N + 0,60\text{ MHz} \dots f_N + 0,80\text{ MHz}$		38	43	—	dB
$f_N + 0,80\text{ MHz} \dots f_N + 3,00\text{ MHz}$		42	44	—	dB
$f_N + 3,00\text{ MHz} \dots f_N + 100,00\text{ MHz}$		55	68	—	dB
Impedance at f_N					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	$650 \parallel 2,6$	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$650 \parallel 2,6$	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency¹⁾	TC_f	—	- 0,036	—	ppm/K ²
Turnover temperature	T_0	—	20	—	$^{\circ}\text{C}$

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



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		min.	typ.	max.	
Nominal frequency	f_N	—	246,00	—	MHz
Minimum insertion attenuation	$\alpha_{\min}$				
excluding losses in matching circuit		2,0	3,0	4,0	dB
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Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N - 85,0\text{ kHz} \dots f_N + 70,0\text{ kHz}$		—	0,2	1,5	dB
$f_N - 100,0\text{ kHz} \dots f_N + 95,0\text{ kHz}$		—	0,7	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N - 70,0\text{ kHz} \dots f_N + 70,0\text{ kHz}$		—	0,4	1,2	μs
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$f_N - 0,60\text{ MHz} \dots f_N - 0,40\text{ MHz}$		25	50	—	dB
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Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$650 \parallel 2,6$	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency¹⁾	TC_f	—	- 0,036	—	ppm/ K^2
Turnover temperature	T_0	—	20	—	$^{\circ}\text{C}$

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



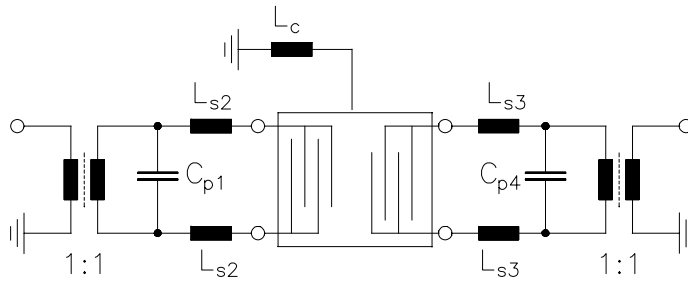
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Test matching network to 50 Ω (element values depend on PCB layout):



C_{p1}	=	3,3	pF
L_{s2}	=	65	nH
L_{s3}	=	65	nH
C_{p4}	=	3,3	pF
L_c	=	82	nH



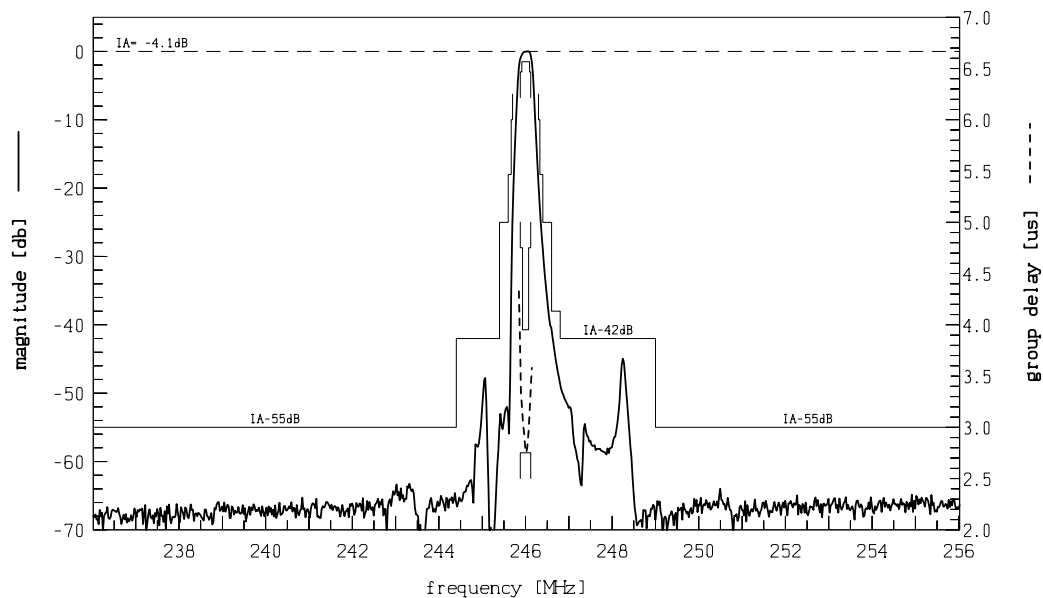
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Transfer function:



Transfer function (pass band):

