



SAW Components

Data Sheet B3874

Data Sheet

An abstract, grayscale graphic featuring a large, stylized, and slightly blurred "EPCOS" logo. The logo is set against a background of curved, overlapping bands and a faint world map, creating a sense of global connectivity and technology.



SAW Components

B3874

Low-Loss Filter

71,1 MHz

Data Sheet

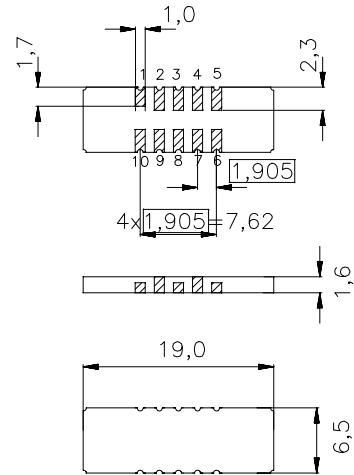
Features

- Low-loss IF filter for CDMA base station
- Temperature stable
- Ceramic SMD package
- Unbalanced or balanced operation

Terminals

- Gold plated

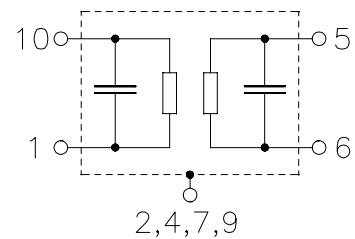
Ceramic package DCC18



Dimensions in mm, approx. weight 0,8 g

Pin configuration

- | | |
|------------|----------------------------------|
| 1 | Input or balanced input |
| 10 | Input ground or balanced input |
| 6 | Output or balanced output |
| 5 | Output ground or balanced output |
| 3, 8 | Ground |
| 2, 4, 7, 9 | Case ground |



Type	Ordering code	Marking and Package according to	Packing according to
B3874	B39710-B3874-U210	C61157-A7-A54	F61074-V8166-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T_{stg}	-40 / +85	°C	
DC voltage	V_{DC}	5	V	
Source power	P_s	10	dBm	



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Characteristics

Operating temperature range:

$T = 0 \text{ to } +85 \text{ }^{\circ}\text{C}$

Terminating source impedance:

$Z_S = 50 \text{ } \Omega$ and external matching network

Terminating load impedance:

$Z_L = 50 \text{ } \Omega$ and external matching network

			min.	typ.	max.	
Nominal frequency	f_N		—	71,1	—	MHz
Minimum insertion attenuation	α_N		—	9,0	11,0	dB
3,75 dB bandwidth						
$\alpha_{\text{rel}} \leq 3,75 \text{ dB}$	$B_{3,75\text{dB}}$		1,18	1,24	—	MHz
Amplitude ripple (p-p)	$f_N \pm 525 \text{ kHz}$	$\Delta\alpha$	—	0,5	1,0	dB
Phase Linearity (rms)	$f_N \pm 630 \text{ kHz}$	$\Delta\phi$	—	1,3	2,0	deg
Absolute group delay	$f_N \pm 630 \text{ kHz}$	τ	—	3,1	—	μs
Group delay ripple (p-p)	$f_N \pm 525 \text{ kHz}$	$\Delta\tau$	—	320	450	ns
Relative attenuation (relative to α_N)		α_{rel}				
31,0 MHz ... $f_N - 4900 \text{ kHz}$			45	60	—	dB
$f_N - 4900 \text{ kHz}$... $f_N - 900 \text{ kHz}$			26	29	—	dB
$f_N - 900 \text{ kHz}$... $f_N - 750 \text{ kHz}$			15	18	—	dB
$f_N + 750 \text{ kHz}$... $f_N + 900 \text{ kHz}$			15	17	—	dB
$f_N + 900 \text{ kHz}$... $f_N + 4900 \text{ kHz}$			26	29	—	dB
$f_N + 4900 \text{ kHz}$... 500 MHz			45	60	—	dB
Input Return loss	$f_N \pm 525 \text{ kHz}$		8	11	—	dB
Output Return loss	$f_N \pm 525 \text{ kHz}$		10	15	—	dB
3rd-order intercept point	$IP3$		35	—	—	dB
Temperature coefficient of frequency ¹⁾	TC_f		—	-0,036	—	ppm/K ²
Turnover temperature	T_0		—	35	—	$^{\circ}\text{C}$

¹⁾ Temperature dependance of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



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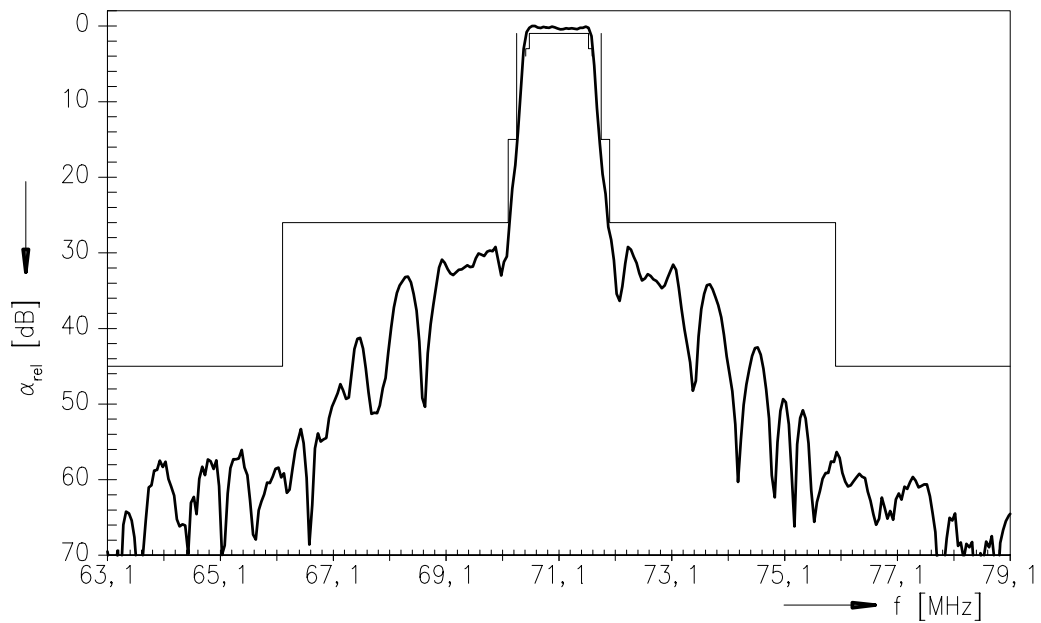
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Low-Loss Filter

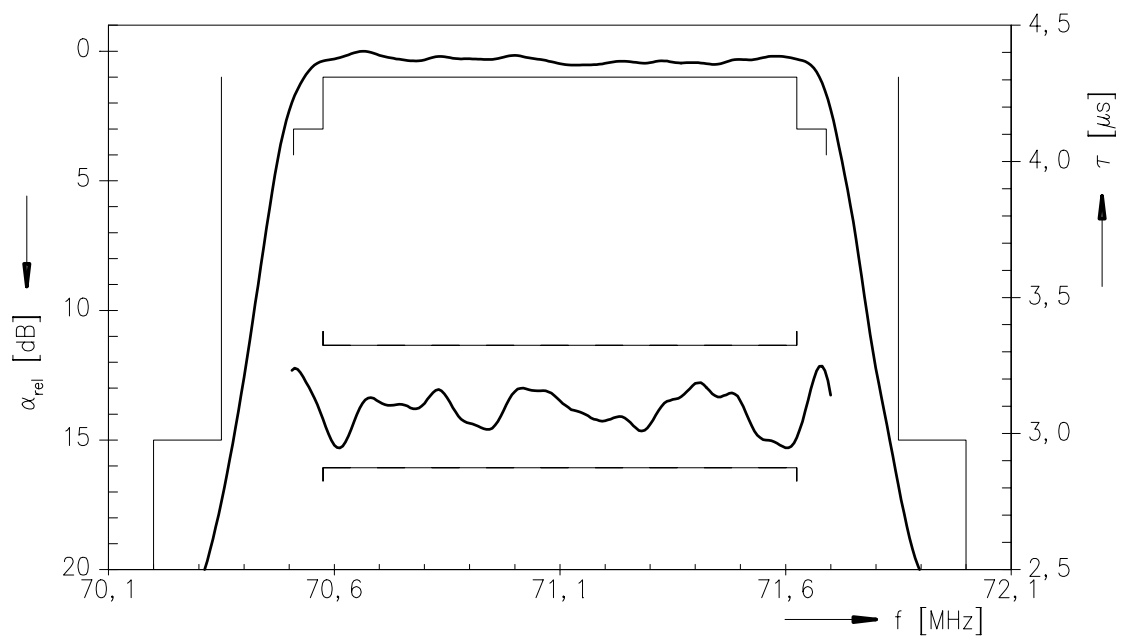
71,1 MHz

Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





SAW Components

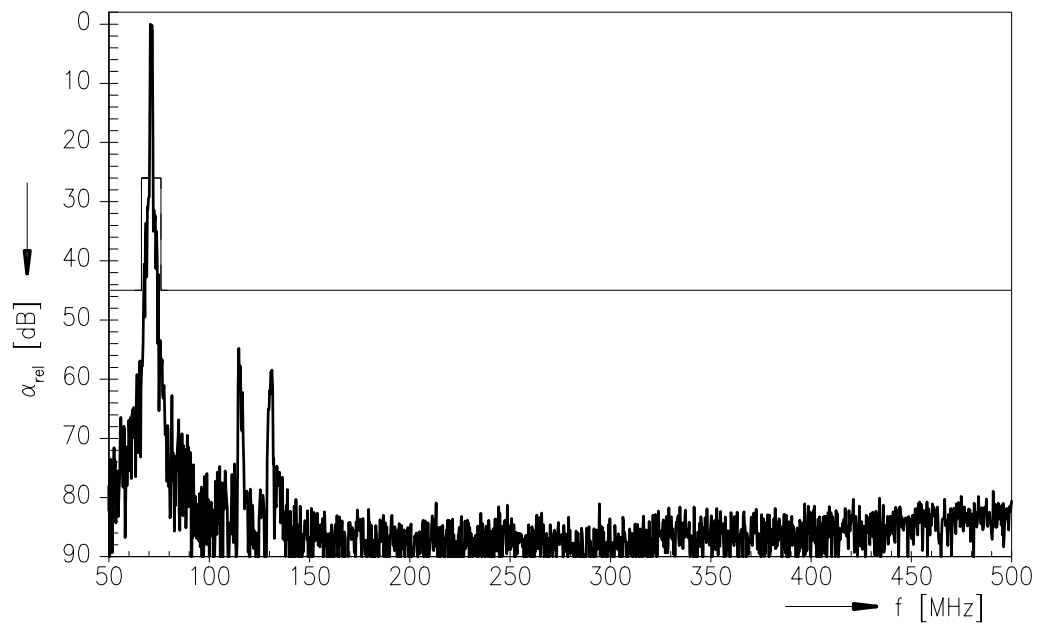
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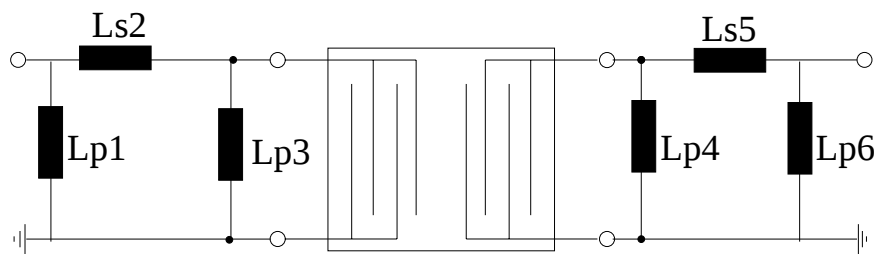
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Normalized frequency response (wide band)



**SAW Components****B3874****Low-Loss Filter****71,1 MHz****Data Sheet****Matching network to 50 Ω**

(Element values depend on PCB layout)



Lp1 = 150 nH

Ls2 = 390 nH

Lp3 = 330 nH

Lp4 = 470 nH

Ls5 = 620 nH

Lp6 = not used



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