



SAW Components

Data Sheet B5002

Data Sheet

An abstract, grayscale graphic featuring a stylized, three-dimensional representation 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 globe or a stylized wave. The background is dark and textured, with light reflecting off the surfaces of the logo.



SAW Components

B5002

Low-Loss Filter

398,0 MHz

Data Sheet

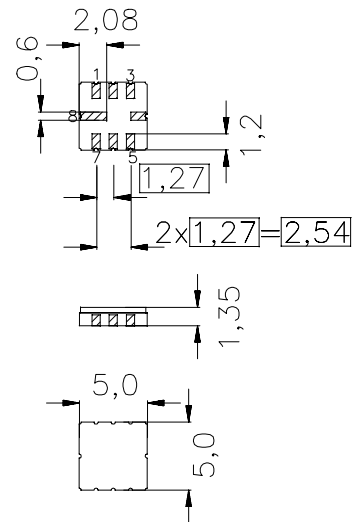
Features

- Low-loss IF filter for W-CDMA base station, Tx
- 20 MHz usable bandwidth
- Very low passband ripple
- Ceramic SMD package

Terminals

- Gold plated

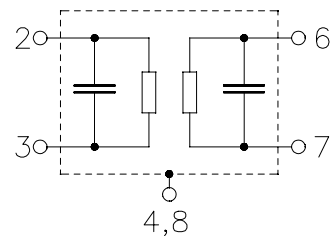
Ceramic package QCC8C



Dim. in mm, approx. weight 0,1 g

Pin configuration

2	Input
3	Input ground
6	Output
7	Output ground
1, 5	To be grounded
4, 8	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B5002	B39401-B5002-U310	C61157-A7-A56	F61074-V8169-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:

$T = -40 \dots +85 \text{ }^{\circ}\text{C}$

Terminating source impedance:

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

Terminating load impedance:

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

		min.	typ.	max.	
Nominal frequency	f_N	—	398,0	—	MHz
Minimum insertion attenuation	α_{\min}	—	3,3	4,0	dB
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$					
Maximum insertion attenuation (in passband)	α_{\max}	—	3,8	5,0	dB
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$					
Pass bandwidth					
$\alpha_{\text{rel}} \leq 1,0 \text{ dB}$	$B_{1,0\text{dB}}$	20	26	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N - 1,92 \text{ MHz} \dots f_N + 1,92 \text{ MHz}$		—	0,2	0,5	dB
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$		—	0,4	1,0	dB
Deviation from linear phase (rms)	$\Delta\varphi$				
$f_N - 1,92 \text{ MHz} \dots f_N + 1,92 \text{ MHz}$		—	0,1	0,5	$^{\circ}$
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$		—	1,0	3,0	$^{\circ}$
Relative attenuation (relative to α_{\min})	α_{rel}				
100 MHz ... 335 MHz		15	60	—	dB
335 MHz ... 338 MHz		38	60	—	dB
338 MHz ... 365 MHz		15	60	—	dB
365 MHz ... 368 MHz		35	45	—	dB
448 MHz ... 3 GHz		15	45	—	dB
Input return loss (in passband)					
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$		6	8	—	dB
Output return loss (in passband)					
$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$		8	10	—	dB
Temperature coefficient of frequency	TC_f	—	- 70	—	ppm/K



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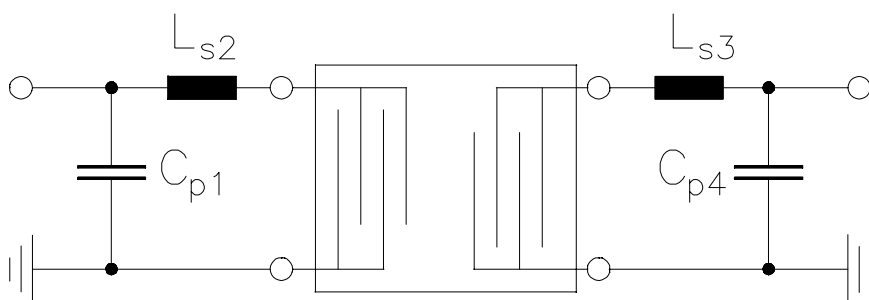
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Matching network to 50 Ω



$$C_{p1} = 3,3 \text{ pF}$$

$$L_{s2} = 10 \text{ nH}$$

$$L_{s3} = 12 \text{ nH}$$

$$C_{p4} = 2,2 \text{ pF}$$

Element values depend upon board layout



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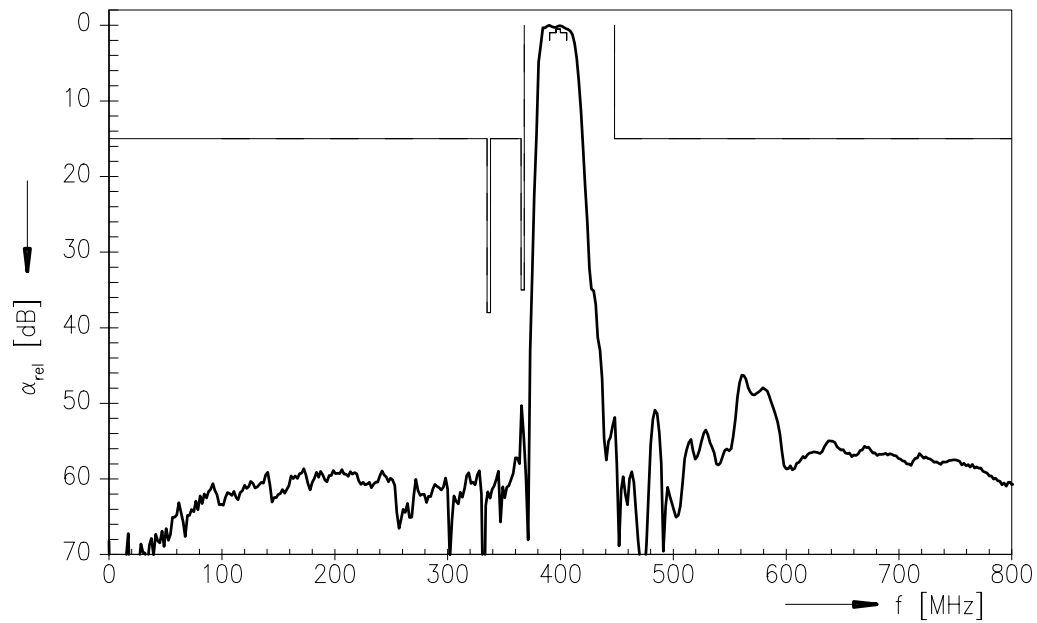
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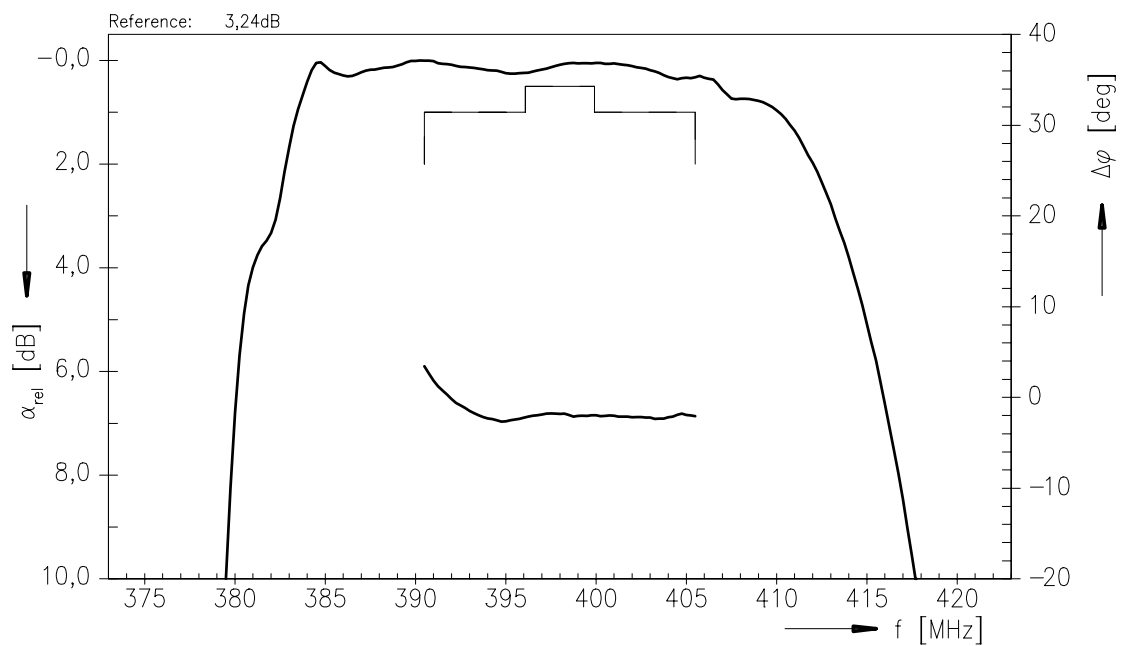
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Transfer function



Transfer function (pass band)





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