



IF Filters for Basestations

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39401B5002U310		2006-12-01	2007-02-28	2007-05-31

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.



SAW Components

Data Sheet B5002





SAW Components

B5002

Low-Loss Filter

398,0 MHz

Data Sheet

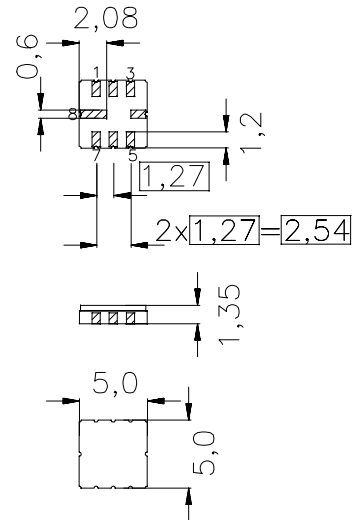
Features

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

Terminals

- Gold plated

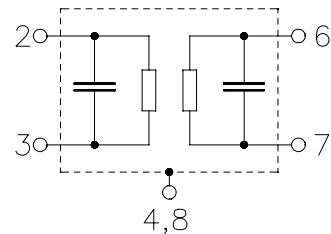
Ceramic package **QCC8C**



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:

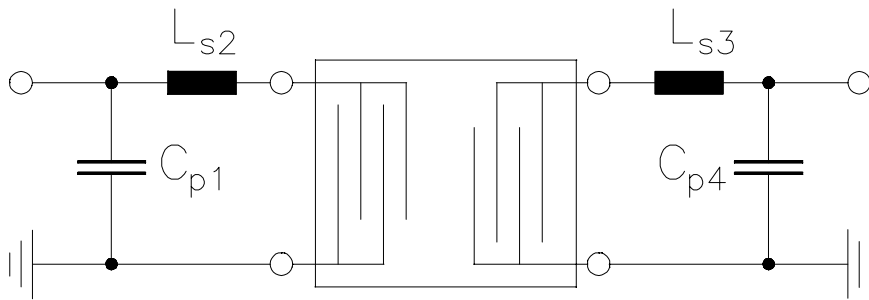
 $Z_L = 50 \text{ } \Omega$ unbalanced and matching network

		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)	$\Delta\alpha$	—	0,2	0,5	dB
	$f_N - 1,92 \text{ MHz} \dots f_N + 1,92 \text{ MHz}$				
	$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$	—	0,4	1,0	dB
Deviation from linear phase (rms)	$\Delta\varphi$	—	0,1	0,5	$^\circ$
	$f_N - 1,92 \text{ MHz} \dots f_N + 1,92 \text{ MHz}$				
	$f_N - 7,50 \text{ MHz} \dots f_N + 7,50 \text{ MHz}$	—	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



Data Sheet

Matching network to 50 Ω



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

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

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

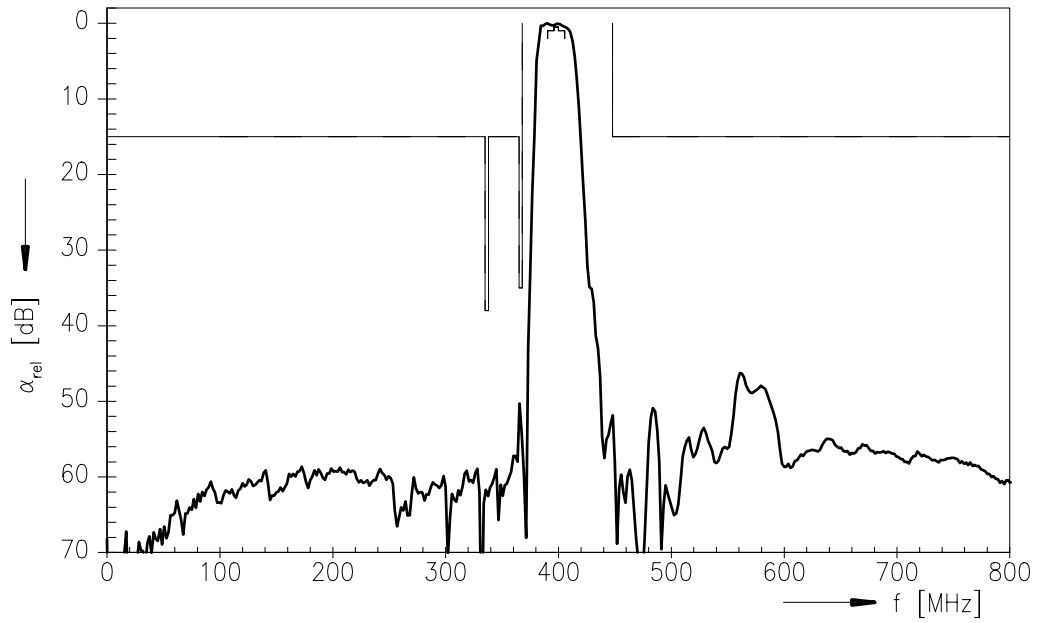
$$C_{p4} = 2,2 \text{ pF}$$

Element values depend upon board layout

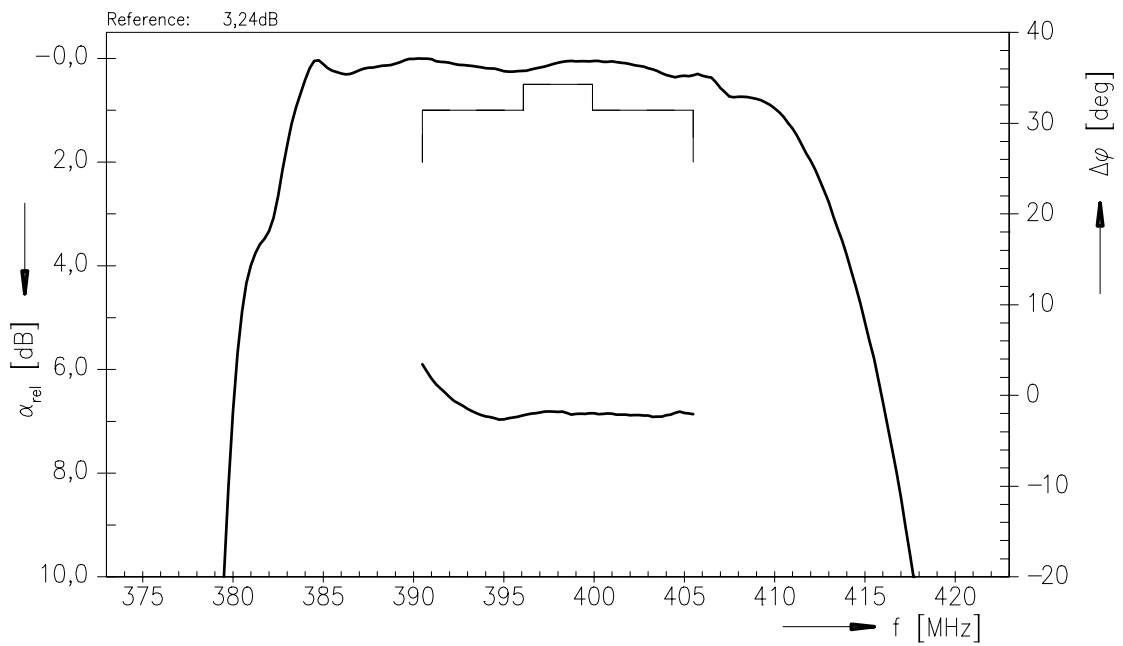


Data Sheet

Transfer function



Transfer function (pass band)





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Low-Loss Filter

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