



SAW Components

SAW Filter

WCDMA

Series/Type:	B5017
Ordering code:	B39171-B5017-U310
Date:	Dec 09, 2005
Version:	1



SAW Components

B5017

Low-Loss Filter for WCDMA

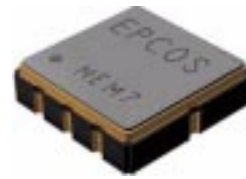
168.5 MHz

Data Sheet

SMD

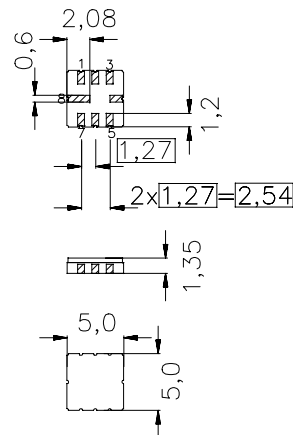
Application

- Low-loss IF filter for UMTS base stations
- 20 MHz usable bandwidth
- Ceramic SMD package



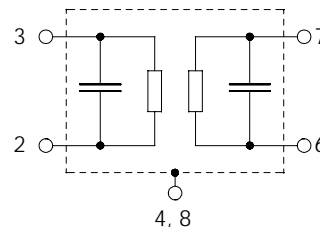
Features

- Package size 5.0 x 5.0 x 1.35 mm³
- Package code QCC8C
- RoHS compatible
- Approx. weight 0.1 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals



Pin configuration

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





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Characteristics

Operating temperature range: $T = -20\text{ °C} \dots +80\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ and matching circuit
 Terminating load impedance: $Z_L = 50\ \Omega$ and matching circuit

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	168.5	—	MHz
Minimum insertion attenuation	α_{\min}	—	8.3	9.5	dB
Pass bandwidth $\alpha_{\text{rel}} \leq 1.0\text{ dB}$	$B_{1.0\text{dB}}$	—	23	—	MHz
Amplitude ripple (p-p) $f_N \pm 10.0\text{ MHz}$	$\Delta\alpha$	—	0.6	1.0	dB
Group delay ripple (p-p) $f_N \pm 10.0\text{ MHz}$	$\Delta\tau$	—	40	80	ns
Mean value of absolute group delay $f_N \pm 10.0\text{ MHz}$	$\bar{\tau}$	398	408	418	ns
Relative attenuation (relative to α_{\min})	α_{rel}				
1.0 ... 100.0 MHz		40	50	—	dB
100.0 ... 149.0 MHz		33	40	—	dB
190.0 ... 250.0 MHz		33	36	—	dB
250.0 ... 310.0 MHz		40	60	—	dB
310.0 ... 410.0 MHz		50	60	—	dB
410.0 ... 1000.0 MHz		40	70	—	dB
Temperature coefficient of frequency	TC_f	—	-87	—	ppm/K



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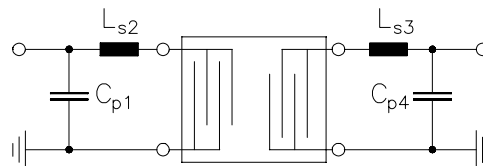
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Matching network to 50 Ω



$C_{p1} = 22 \text{ pF}$

$L_{s2} = 68 \text{ nH}$

$L_{s3} = 62 \text{ nH}$

$C_{p4} = 22 \text{ pF}$

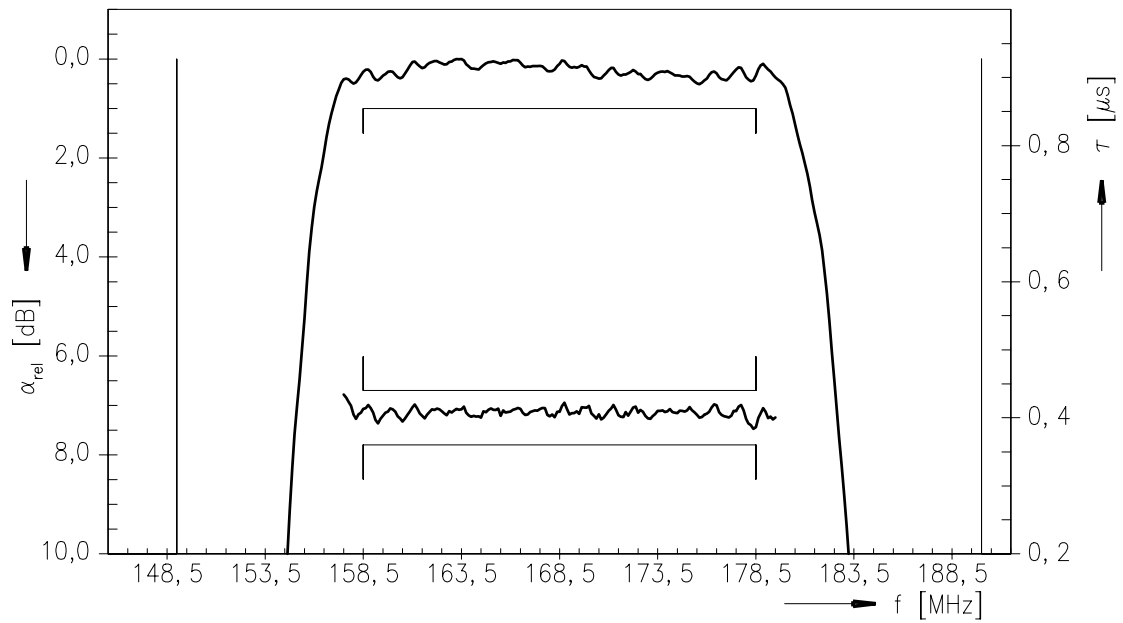
Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{sta}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	200 ¹⁾	V	machine model, 1 pulse
Input power	P _{IN}	5	dBm	
Input power	P _{IN}	20	dBm	for ≤ 100 hours

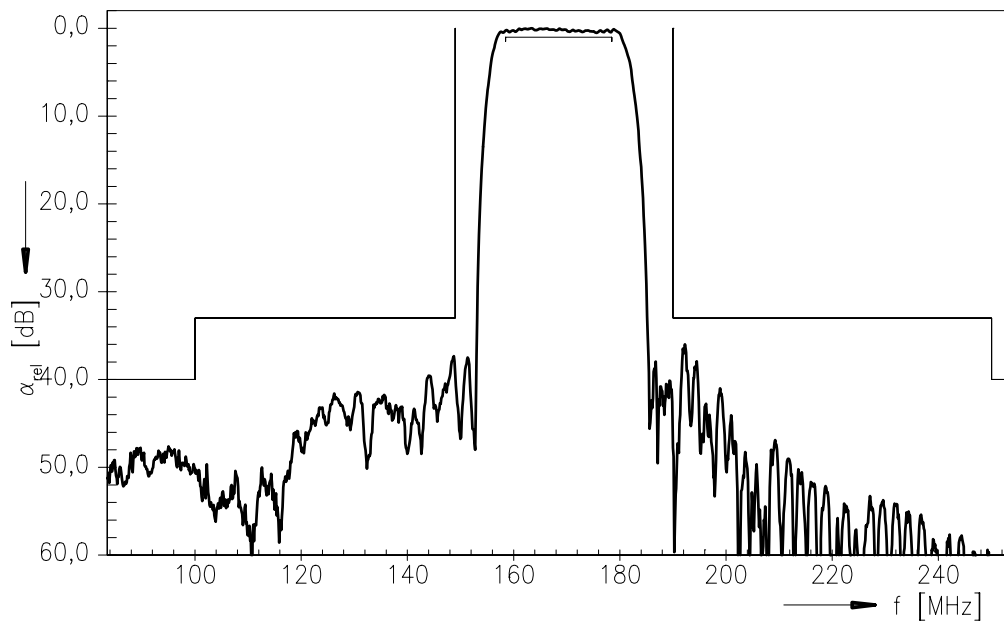
¹⁾ acc. to J-STD22A-0115A (machine model. 1 pulse +/-).



Transfer function



Transfer function (wideband)





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Type	B5017	
Ordering code	B39171-B5017-U310	
Marking and Package	C61157-A7-A56	
Packaging	F61074-V8169-Z000	
Date Codes	L_1126	
S-Parameters		
Soldering profile	S_6001	

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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