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# SAW Components

Data Sheet B4841

Data Sheet

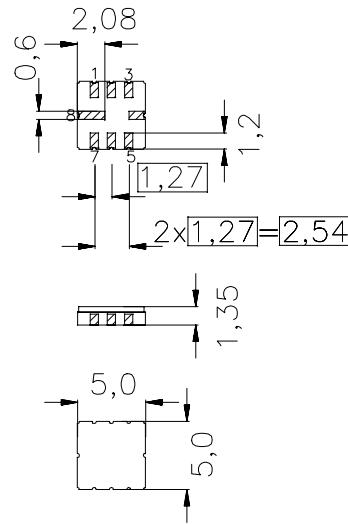


**SAW Components****B4841****Low-Loss Filter for Mobile Communication****440,00 MHz****Data Sheet****Features**

- IF low-loss filter for mobile telephone
- Channel selection in GSM, PCN, PCS systems
- Package for **Surface Mounted Technology (SMT)**
- Ceramic package
- Balanced and unbalanced operation possible
- High stopband attenuation

**Terminals**

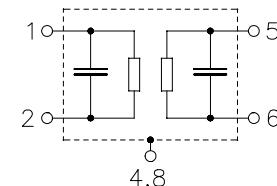
- Gold-plated Ni

**SMD ceramic package QCC8C**

Dimensions in mm, approx. weight 0,07 g

**Pin configuration**

2	Input or balanced input
1	Input-ground or balanced input
6	Output or balanced output
5	Output-ground or balanced output
3, 7	Not connected
4, 8	Case - Ground



Type	Ordering code	Marking and Package according to	Packing according to
B4841	B39441-B4841-U310	C61157-A7-A56	F61074-V8070-Z000

**Electrostatic Sensitive Device (ESD)****Maximum ratings**

Operable temperature range	$T$	-20/+ 70	°C	
Storage temperature range	$T_{stg}$	-30/+ 85	°C	
DC voltage	$V_{DC}$	3	V	
Source power	$P_s$	10	dBm	



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**Low-Loss Filter for Mobile Communication**

**440,00 MHz**

**Data Sheet**

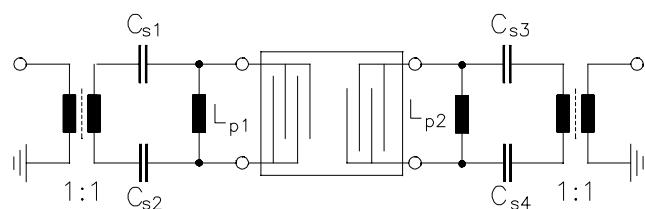


**Characteristics for balanced operation**

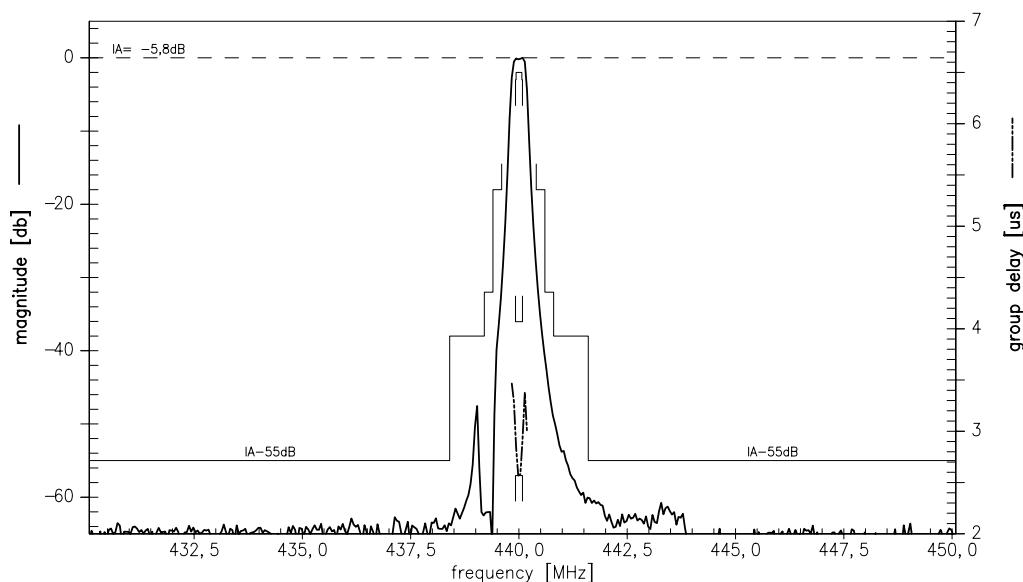
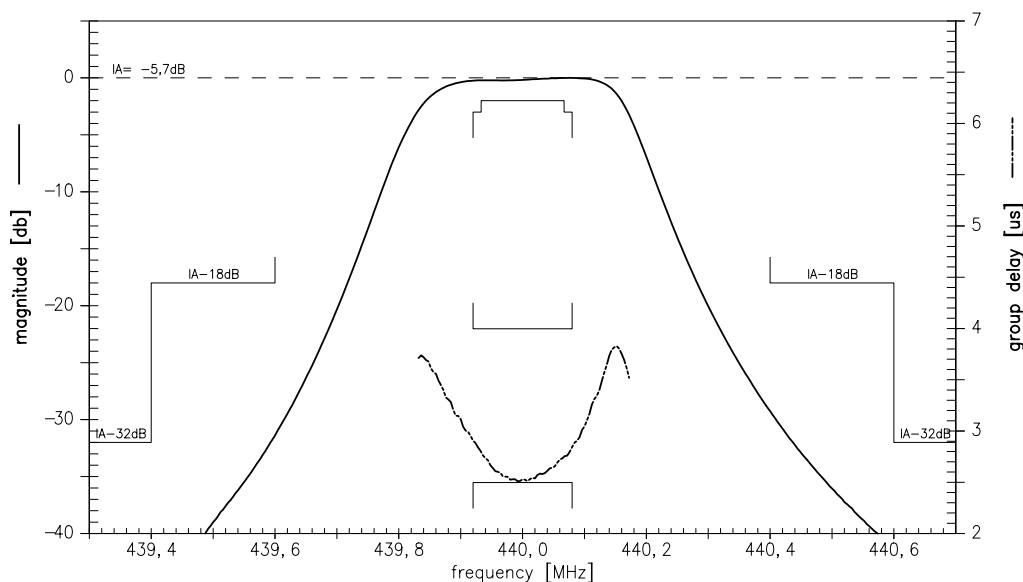
Operating temperature range:  $T = -20$  to  $70$  °C  
 Terminating source impedance:  $Z_S = 360 \Omega \parallel 1,5 \text{ pF}$   
 Terminating load impedance:  $Z_L = 340 \Omega \parallel 1,7 \text{ pF}$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	440,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$				
including losses in matching network		—	4,6	5,5	dB
including losses in matching network and balun		—	5,7	6,5	dB
<b>Amplitude ripple in passband (p-p)</b>	$\Delta\alpha$				
$f_N - 67,0$ kHz ... $f_N + 67,0$ kHz		—	0,4	2,0	dB
$f_N - 80,0$ kHz ... $f_N + 80,0$ kHz		—	0,5	3,0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
$f_N - 80,0$ kHz ... $f_N + 80,0$ kHz		—	0,6	1,5	μs
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N - 75,00$ MHz ... $f_N - 1,60$ MHz		55	62	—	dB
$f_N - 1,60$ MHz ... $f_N - 0,80$ MHz		38	46	—	dB
$f_N - 0,80$ MHz ... $f_N - 0,60$ MHz		32	55	—	dB
$f_N - 0,60$ MHz ... $f_N - 0,40$ MHz		18	33	—	dB
$f_N + 0,40$ MHz ... $f_N + 0,60$ MHz		18	28	—	dB
$f_N + 0,60$ MHz ... $f_N + 0,80$ MHz		32	40	—	dB
$f_N + 0,80$ MHz ... $f_N + 1,60$ MHz		38	47	—	dB
$f_N + 1,60$ MHz ... $f_N + 75,00$ MHz		55	60	—	dB
<b>Impedance within the passband</b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	360 $\parallel$ 1,5	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	340 $\parallel$ 1,7	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency</b> <sup>1)</sup>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	25	—	°C

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

**SAW Components****B4841****Low-Loss Filter for Mobile Communication****440,00 MHz****Data Sheet**Matching network to  $50 \Omega$ : (Element values depend on PCB layout)

$C_{s1}$	=	3,9 pF
$C_{s2}$	=	3,9 pF
$L_{p1}$	=	27 nH
$L_{p2}$	=	22 nH
$C_{s3}$	=	5,6 pF
$C_{s4}$	=	5,6 pF

**SAW Components****B4841****Low-Loss Filter for Mobile Communication****440,00 MHz****Data Sheet****Transfer function:****Transfer function (pass band):**



<b>SAW Components</b>	<b>B4841</b>
<b>Low-Loss Filter for Mobile Communication</b>	<b>440,00 MHz</b>
Data Sheet	The logo for Surface Mount Device (SMD), consisting of the letters "SMD" in a stylized, blocky font.

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