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# SAW Components

Data Sheet B3839

Data Sheet

EP



## SAW Components

B3839

### Low-Loss Filter

333,0 MHz

#### Data Sheet

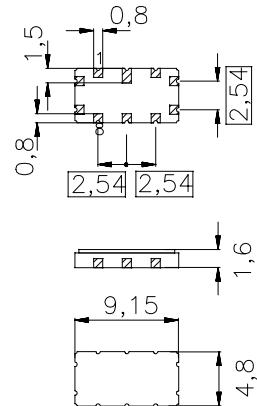
Ceramic package QCC10B

#### Features

- Low-loss IF-filter for WLL
- Usable bandwidth 0,8 MHz
- Temperature stable
- Ceramic SMD package

#### Terminals

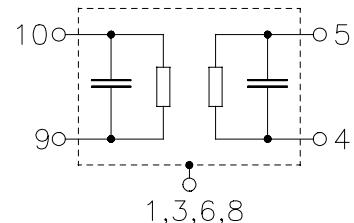
- Gold plated



Dimensions in mm, approx. weight 0,2 g

#### Pin configuration

10	Input
9	Input ground
5	Output
4	Output ground
2, 7	Ground
1, 3, 6, 8	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B3839	B39331-B3839-Z710	C61157-A7-A49	F61074-V8035-Z000

Electrostatic Sensitive Device (ESD)

#### Maximum ratings

Operable temperature range	$T_A$	-40 / +85	°C	
Storage temperature range	$T_{stg}$	-40 / +85	°C	
DC voltage	$V_{DC}$	0	V	
Source power	$P_s$	10	dBm	

**SAW Components****B3839****Low-Loss Filter****333,0 MHz****Data Sheet****Characteristics**

Operating temperature range:

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

Terminating source impedance:

 $Z_S = 50 \Omega$  and external matching network

Terminating load impedance:

 $Z_L = 50 \Omega$  and external matching network

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_c$				
	$\alpha_{\text{rel}} = 3,0 \text{ dB}$	332,88	333,0	333,12	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\text{min}}$	—	6,5	8	dB
<b>Passband width</b>					
	$\alpha_{\text{rel}} \leq 3,0 \text{ dB}$	$B_{3,0\text{dB}}$	900	1010	1045
	$\alpha_{\text{rel}} \leq 20,0 \text{ dB}$	$B_{20\text{dB}}$	—	1840	2000
	$\alpha_{\text{rel}} \leq 30,0 \text{ dB}$	$B_{30\text{dB}}$	—	2080	2250
	$\alpha_{\text{rel}} \leq 40,0 \text{ dB}$	$B_{40\text{dB}}$	—	2250	2500
	$\alpha_{\text{rel}} \leq 50,0 \text{ dB}$	$B_{50\text{dB}}$	—	4500	—
<b>Relative attenuation</b> (relative to $\alpha_{\text{min}}$ )	$\alpha_{\text{rel}}$				
	$f_c - 50,0 \text{ MHz} \dots f_c - 3,0 \text{ MHz}$	48	50	—	dB
	$f_c + 3,0 \text{ MHz} \dots f_c + 20,0 \text{ MHz}$	47	50	—	dB
	$f_c + 20,0 \text{ MHz} \dots f_c + 40,0 \text{ MHz}$	44	48	—	dB
	$f_c + 40,0 \text{ MHz} \dots f_c + 50,0 \text{ MHz}$	48	50	—	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_c \pm 0,4 \text{ MHz}$	—	0,5	1,0	dB
<b>Absolute group delay (at <math>f_c</math>)</b>	$\tau$	—	0,9	—	$\mu\text{s}$
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	$f_c \pm 0,4 \text{ MHz}$	—	430	500	ns
<b>Reflected Wave Signal Suppression</b>					
	12 $\mu\text{s}$ ... 20 $\mu\text{s}$ after main pulse	70	80	—	dB
<b>Temperature coefficient of frequency</b> <sup>1)</sup>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	15	—	$^\circ\text{C}$

<sup>1)</sup> 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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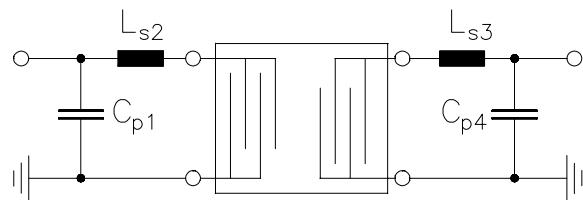
**Low-Loss Filter**

**333,0 MHz**

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**Matching network**

(Element values depend upon PCB layout)



$C_{p1} = 18 \text{ pF}$

$L_{s2} = 22 \text{ nH}$

$L_{s3} = 33 \text{ nH}$

$C_{p4} = 15 \text{ pF}$



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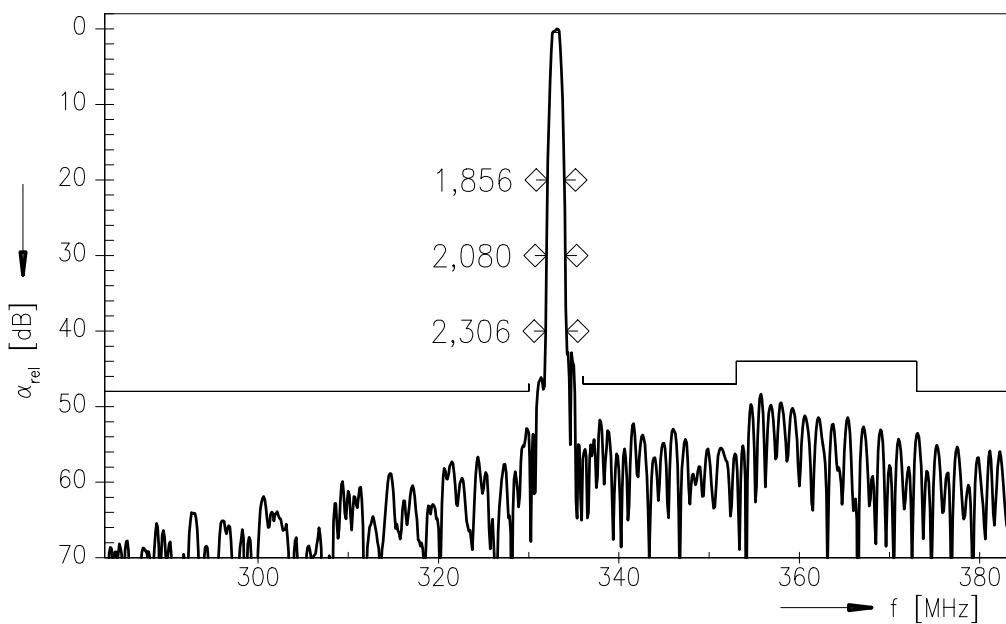
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**Low-Loss Filter**

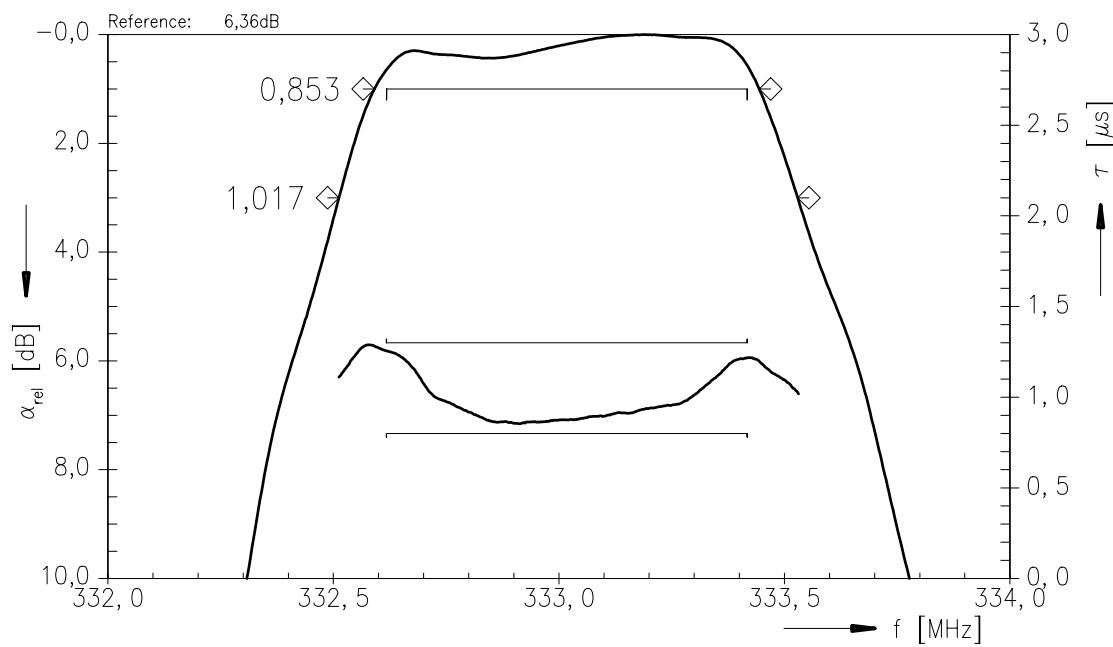
**333,0 MHz**

**Data Sheet**

**Transfer function**



**Transfer function (pass band)**





**SAW Components**

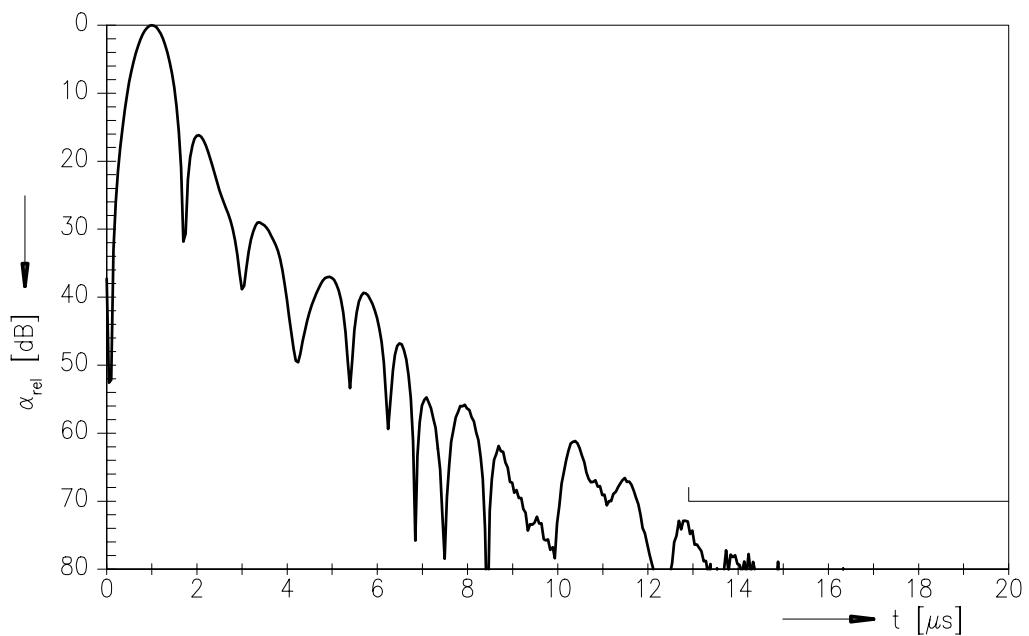
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**Impulse response**





<b>SAW Components</b>	<b>B3839</b>
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