



# SAW Components

Data Sheet B3839





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B3839

Low-Loss Filter

333,0 MHz

Data Sheet

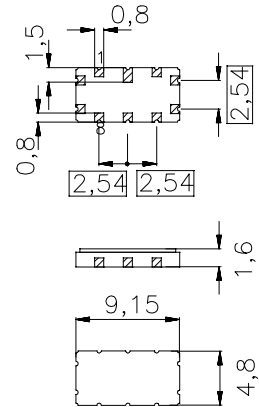
Ceramic package QCC10B

Features

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

Terminals

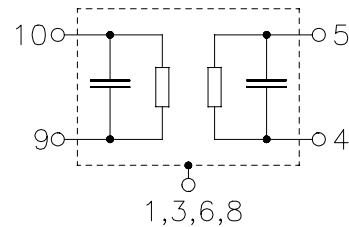
- Gold plated



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


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**Characteristics**

Operating temperature range:  $T_A = -40 \dots 85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$  and external matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$  and external matching network

		min.	typ.	max.		
<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	kHz
	$\alpha_{\text{rel}} \leq 20,0 \text{ dB}$	$B_{20\text{dB}}$	—	1840	2000	kHz
	$\alpha_{\text{rel}} \leq 30,0 \text{ dB}$	$B_{30\text{dB}}$	—	2080	2250	kHz
	$\alpha_{\text{rel}} \leq 40,0 \text{ dB}$	$B_{40\text{dB}}$	—	2250	2500	kHz
	$\alpha_{\text{rel}} \leq 50,0 \text{ dB}$	$B_{50\text{dB}}$	—	4500	—	kHz
	<b>Relative attenuation (relative to <math>\alpha_{\text{min}}</math>)</b>	$\alpha_{\text{rel}}$				
	$f_c - 50,0 \text{ MHz} \dots f_c - 3,0 \text{ MHz}$	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 <sup>1)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>	
<b>Turnover temperature</b>	$T_0$	—	15	—	$^\circ\text{C}$	

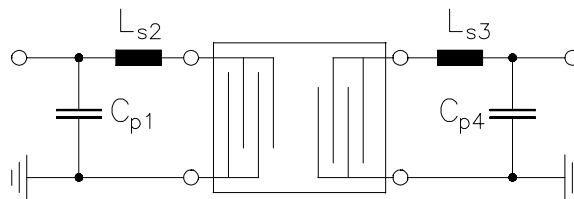
<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network

(Element values depend upon PCB layout)



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

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

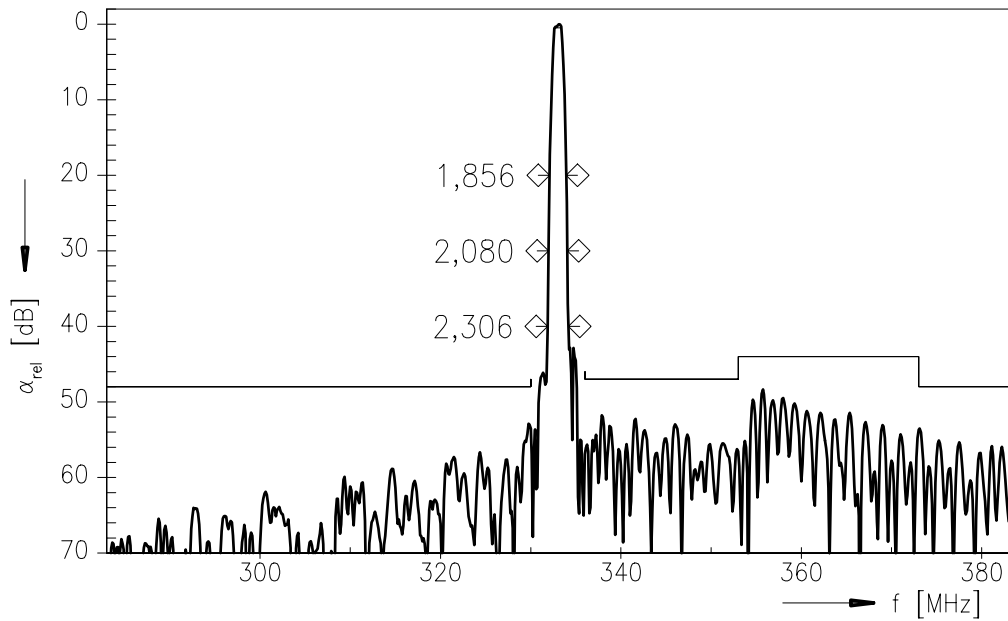
$$L_{s3} = 33 \text{ nH}$$

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

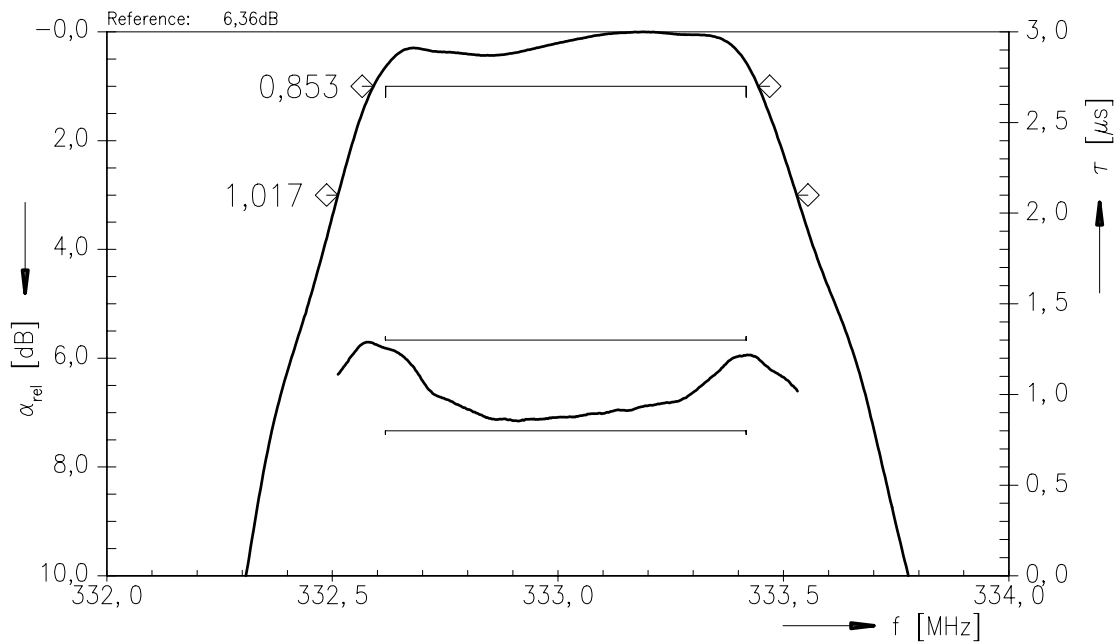


Data Sheet

Transfer function



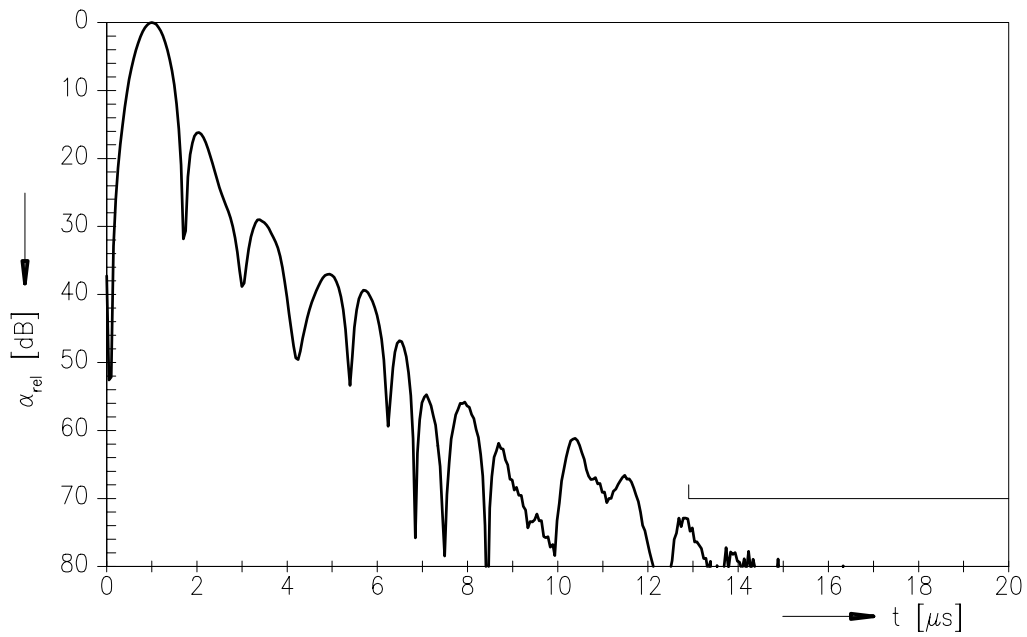
Transfer function (pass band)





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Impulse response





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