



# SAW Components

Data Sheet B3640





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B3640

Low-Loss Filter

238,0 MHz

Data Sheet

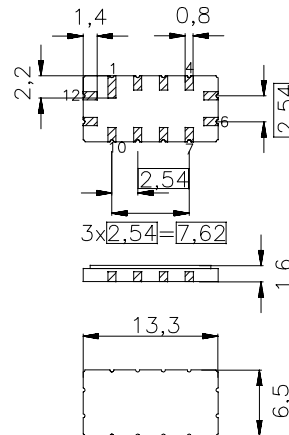
Ceramic package QCC12

Features

- Low-loss IF filter for DCS base station
- Tx path
- Temperature stable
- Ceramic SMD package

Terminals

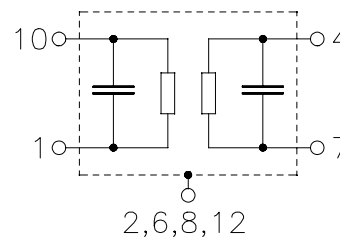
- Gold plated



Dim. in mm, aprox. weight 0,4 g

Pin configuration

- |             |                  |
|-------------|------------------|
| 1, 10       | Input (balanced) |
| 7           | Output           |
| 4           | Output ground    |
| 3, 9        | To be grounded   |
| 2, 6, 8, 12 | Case ground      |
| 5, 11       | Not connected    |



Type	Ordering code	Marking and Package according to	Packing according to
B3640	B39231-B3640-Z510	C61157-A7-A55	F61074-V8026-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T$	- 20/+ 75	°C	
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	10	V	
Source power	$P_s$	10	dBm	


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**Characteristics**

Operating temperature range:

$$T_A = -5 - 75 \text{ }^\circ\text{C}$$

Terminating source impedance:

$$Z_S = 200 \text{ } \Omega \text{ and matching network.}$$

Terminating load impedance:

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

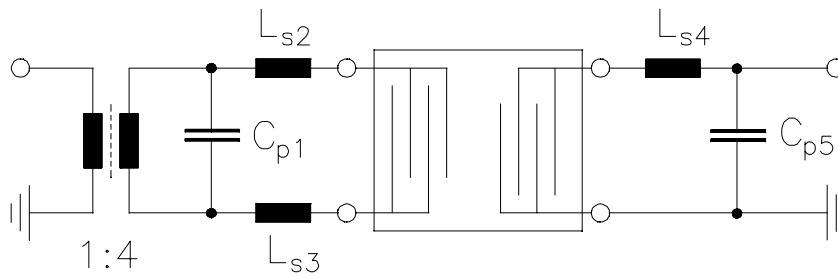
		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	238,0	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	7	8,5	9,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 100 \text{ kHz}$	—	0,3	1,1	dB
	$f_N \pm 300 \text{ kHz}$	—	1,9	3,0	dB
<b>Absolute group delay</b>	$\tau$	—	1,5	3	$\mu\text{s}$
<b>Group delay variation</b>	$\Delta\tau$				
	$f_N \pm 100 \text{ kHz}$	—	50	150	ns
	$f_N \pm 300 \text{ kHz}$	—	90	250	ns
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
	$f_N \pm 0,6 \text{ MHz} \dots f_N \pm 0,8 \text{ MHz}$	5	8	—	dB
	$f_N \pm 0,8 \text{ MHz} \dots f_N \pm 1,8 \text{ MHz}$	10	25	—	dB
	$f_N \pm 1,8 \text{ MHz} \dots f_N \pm 6,0 \text{ MHz}$	25	45	—	dB
	$f_N \pm 6,0 \text{ MHz} \dots f_N \pm 20 \text{ MHz}$	30	41	—	dB
	$f_N \pm 20 \text{ MHz} \dots f_N \pm 120 \text{ MHz}$	40	42	—	dB
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	30	—	$^\circ\text{C}$

<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 on pcb layout)

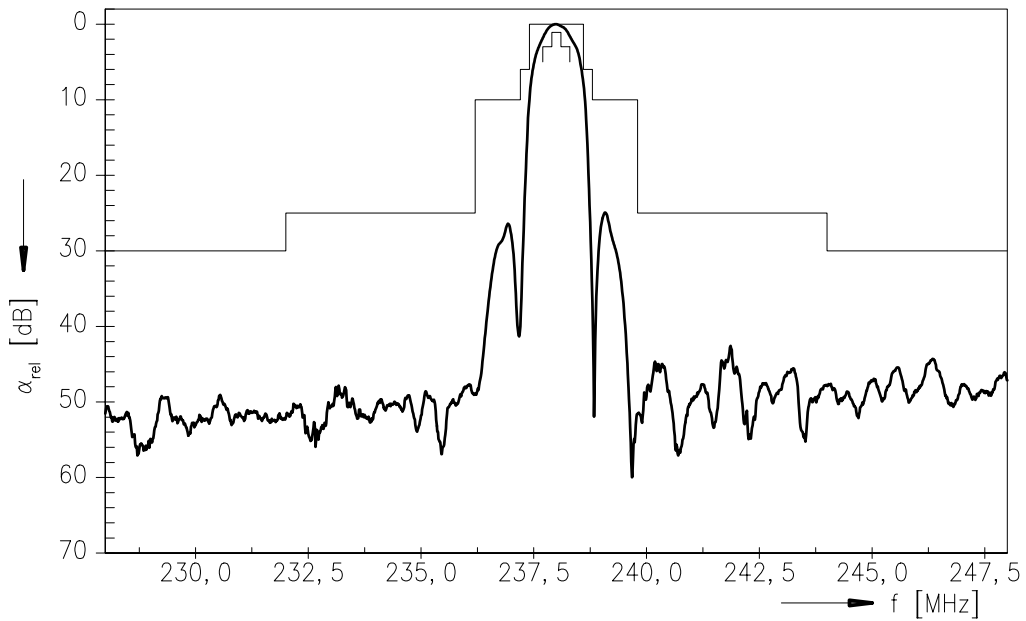


- Cp1 = 10 pF
- Ls2 = 22 nH
- Ls3 = 27 nH
- Ls4 = 33 nH
- Cp5 = 22 pF

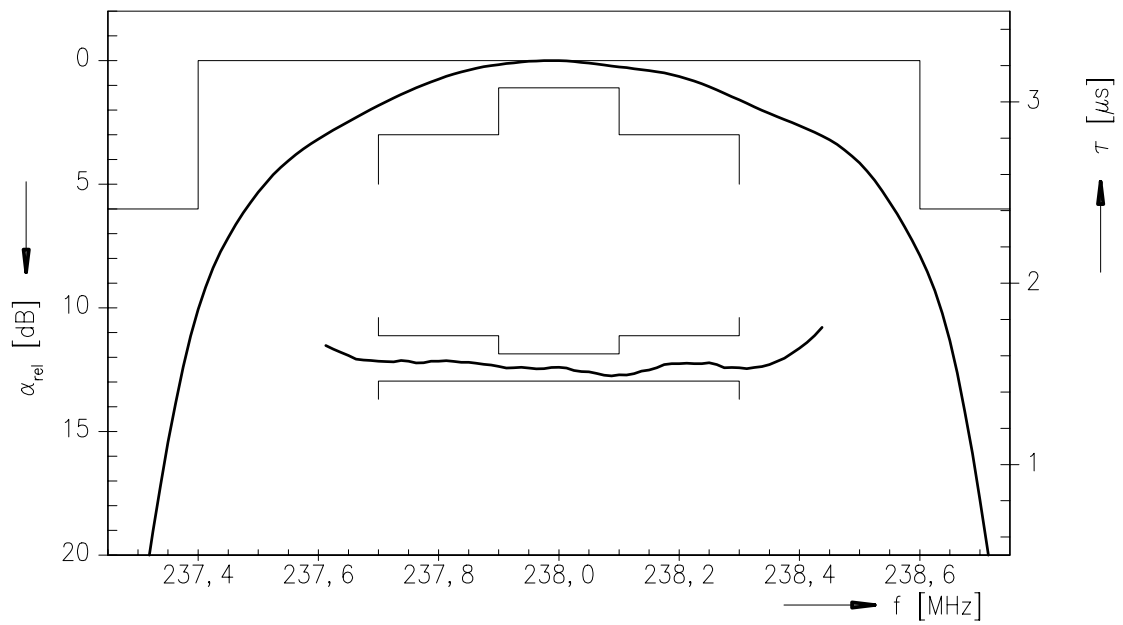


Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





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