



SAW Components

Data Sheet B3640





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B3640

Low-Loss Filter

238,0 MHz

Data Sheet

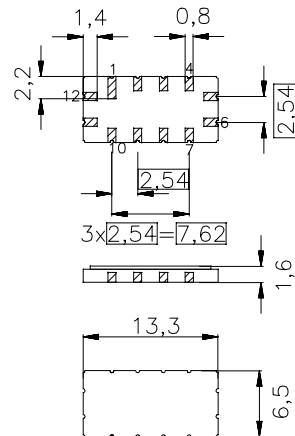
Ceramic package QCC12

Features

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

Terminals

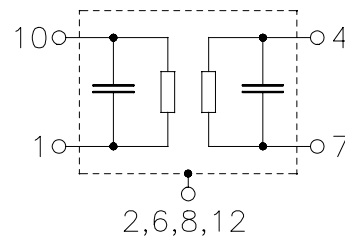
- Gold plated



Dim. in mm, approx. 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: $Z_S = 200 \text{ } \Omega$ and matching network.
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$ and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	238,0	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min}	7	8,5	9,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_N \pm 100 \text{ kHz}$	—	0,3	1,1	dB
	$f_N \pm 300 \text{ kHz}$	—	1,9	3,0	dB
Absolute group delay	τ	—	1,5	3	μs
Group delay variation	$\Delta\tau$				
	$f_N \pm 100 \text{ kHz}$	—	50	150	ns
	$f_N \pm 300 \text{ kHz}$	—	90	250	ns
Relative attenuation (relative to α_{\min})	α_{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
Temperature coefficient of frequency ¹⁾	TC_f	—	-0,036	—	ppm/K ²
Turnover temperature	T_0	—	30	—	$^\circ\text{C}$

¹⁾ Temperature dependence of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



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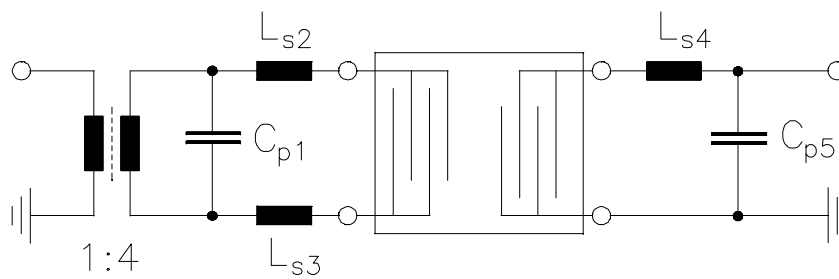
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Matching network (element values depend on pcb layout)



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



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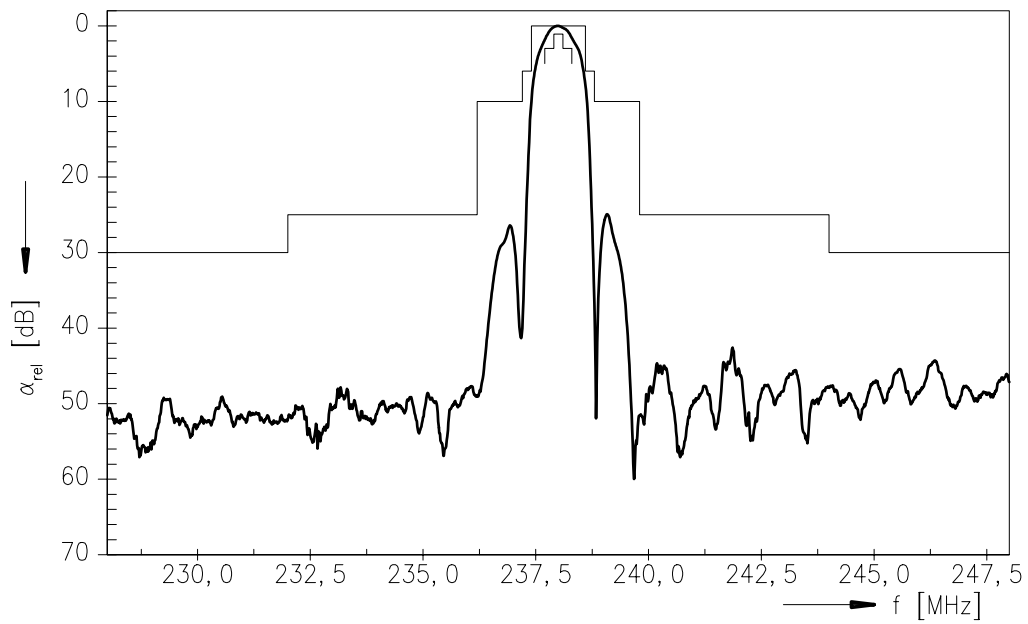
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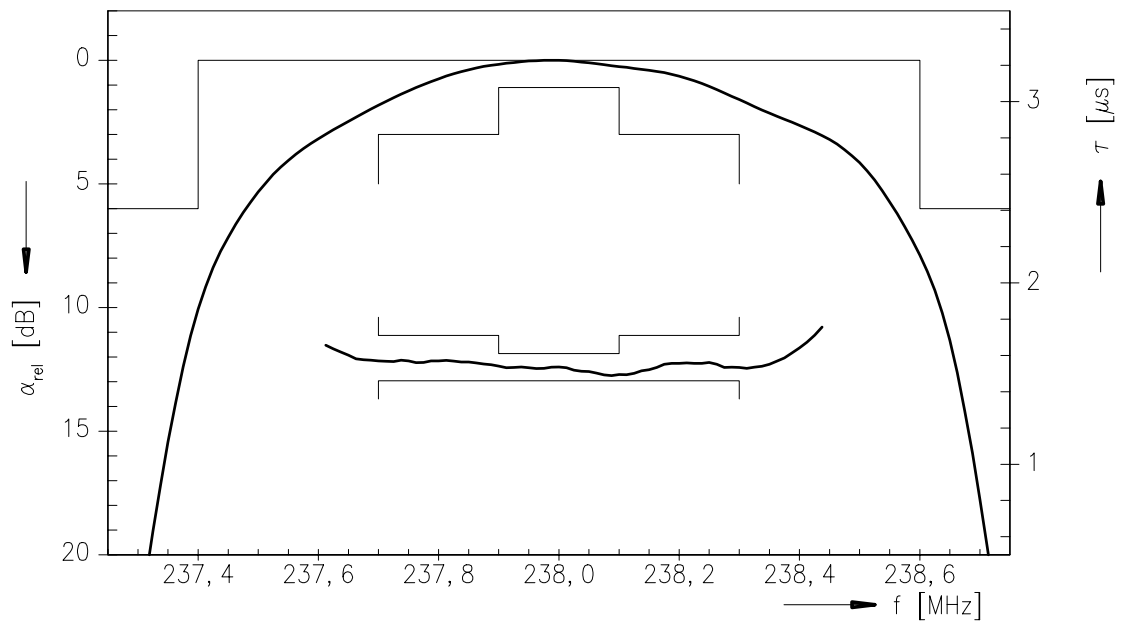
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Normalized frequency response



Normalized frequency response (pass band)





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