



SAW filters for infrastructure systems

Series/Type: B3865

The following products presented in this data sheet are being withdrawn.

| Ordering Code | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B39241B3865H510 | | 2012-01-13 | 2012-12-31 | 2013-03-30 |

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

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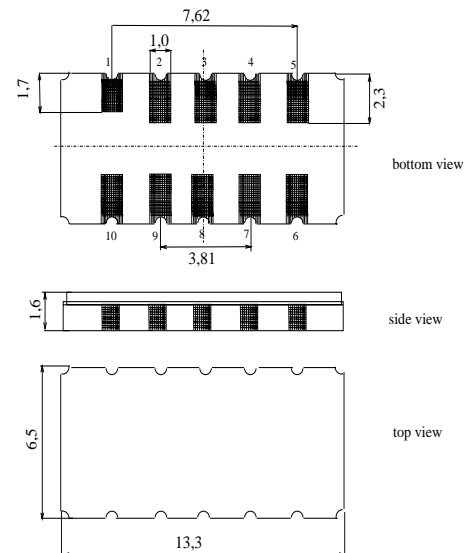
EPCOS AG is a TDK Group Company.

Data Sheet
Features

- High performance IF bandpass filter
- Temperature stable
- Hermetically sealed ceramic package

Terminals

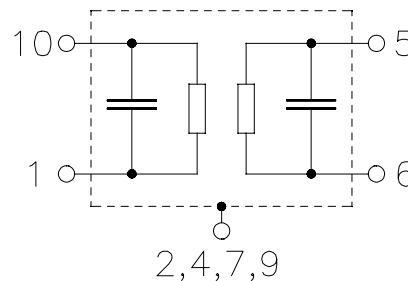
- Gold plated

Ceramic package DCC12A


Dimensions in mm, approx. weight 0,44 g

Pin configuration

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



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B3865 | B39241-B3865-H510 | C61157-A7-A94 | F61074-V8163-Z000 |

Electrostatic Sensitive Device (ESD)
Maximum ratings

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

SAW Components
B3865
Low-Loss Filter
240,0 MHz
Data Sheet
Characteristics

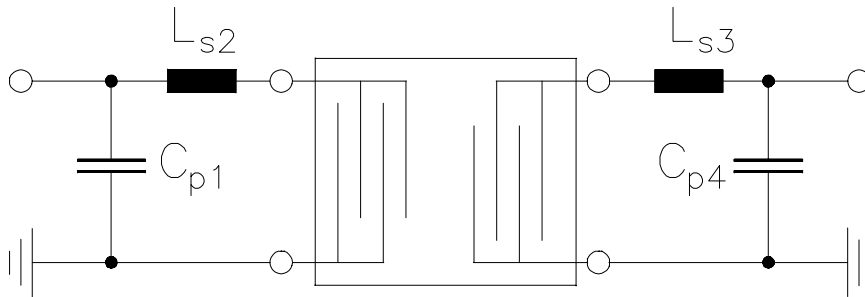
| | |
|-------------------------------|--|
| Operating temperature range: | $T = -10 \dots 85^\circ\text{C}$ |
| Terminating source impedance: | $Z_S = 50 \Omega$ and matching network |
| Terminating load impedance: | $Z_S = 50 \Omega$ and matching network |

| | | min. | typ. | max. | |
|--|--|------|------------|------------|--------------------|
| Nominal frequency | f_N | — | 240,0 | — | MHz |
| Minimum insertion attenuation (including matching network) | α_{\min} | 12,0 | 14,0 | 16,0 | dB |
| Passband width | $\alpha_{\text{rel}} \leq 1 \text{ dB}$ $B_{1\text{dB}}$ | 3,6 | 4,0 | — | MHz |
| Amplitude ripple (p-p) | $\Delta\alpha$ $f_N \pm 1,8 \text{ MHz}$ | — | 0,8 | 1,1 | dB |
| Absolute group delay (at f_N) | τ | — | 1,07 | 2,5 | μs |
| Group delay ripple (p-p) | $\Delta\tau$ $f_N \pm 1,7 \text{ MHz}$ $f_N \pm 1,8 \text{ MHz}$ | — | 150 150 | 200 300 | ns ns |
| Deviation of linear phase (p-p) | $\Delta\phi$ $f_N \pm 1,8 \text{ MHz}$ | — | 4 | 6 | $^\circ$ |
| Relative attenuation (relative to α_{\min}) | α_{rel} | | | | |
| $f_N \pm 2,13 \text{ MHz} \dots f_N \pm 2,5 \text{ MHz}$ | | 5 | 8 | — | dB |
| $f_N \pm 2,5 \text{ MHz} \dots f_N \pm 2,93 \text{ MHz}$ | | 13 | 16 | — | dB |
| $f_N \pm 2,93 \text{ MHz} \dots f_N \pm 3,3 \text{ MHz}$ | | 24 | 27 | — | dB |
| $f_N - 5,0 \text{ MHz} \dots f_N - 3,3 \text{ MHz}$ | | 35 | 38 | — | dB |
| $f_N - 70 \text{ MHz} \dots f_N - 5,0 \text{ MHz}$ | | 40 | 43 | — | dB |
| $f_N + 3,3 \text{ MHz} \dots f_N + 3,7 \text{ MHz}$ | | 32 | 35 | — | dB |
| $f_N + 3,7 \text{ MHz} \dots f_N + 5,0 \text{ MHz}$ | | 35 | 38 | — | dB |
| $f_N + 5,0 \text{ MHz} \dots f_N + 5,4 \text{ MHz}$ | | 38 | 40 | — | dB |
| $f_N + 5,4 \text{ MHz} \dots f_N + 70 \text{ MHz}$ | | 40 | 43 | — | dB |
| Input and output return loss | | 12 | 15 | — | dB |
| Temperature coefficient of frequency ¹⁾ | TC_f | — | -0,036 | — | ppm/K ² |
| Turnover temperature | T_0 | — | 40 | — | $^\circ\text{C}$ |

¹⁾ 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 to 50 Ω

(Element values depend upon PCB layout)



$$C_{p1} = 38,6 \text{ pF}$$

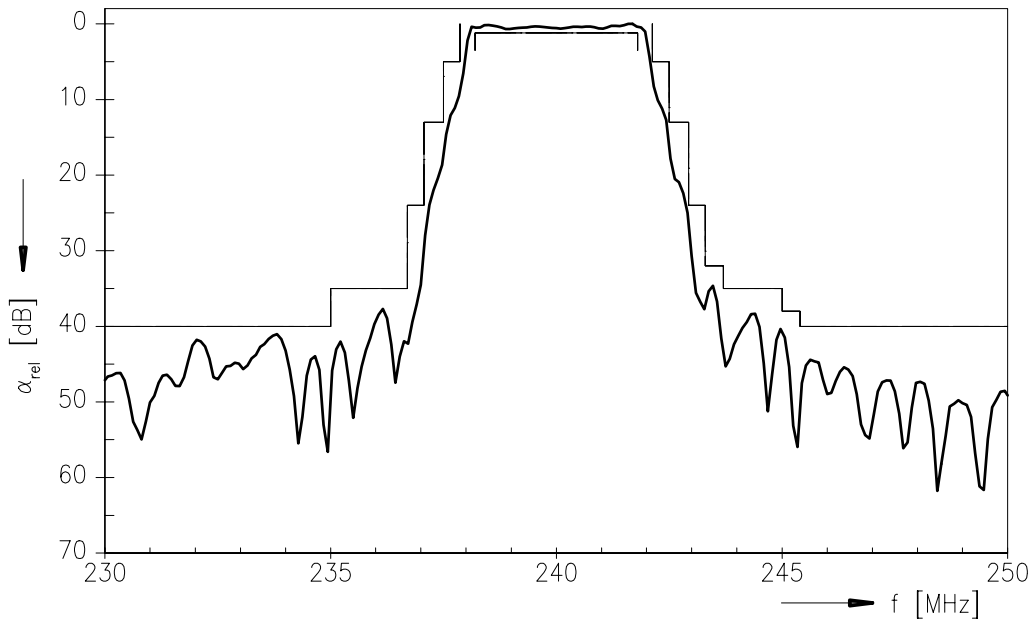
$$L_{s2} = 42 \text{ nH}$$

$$L_{s3} = 39 \text{ nH}$$

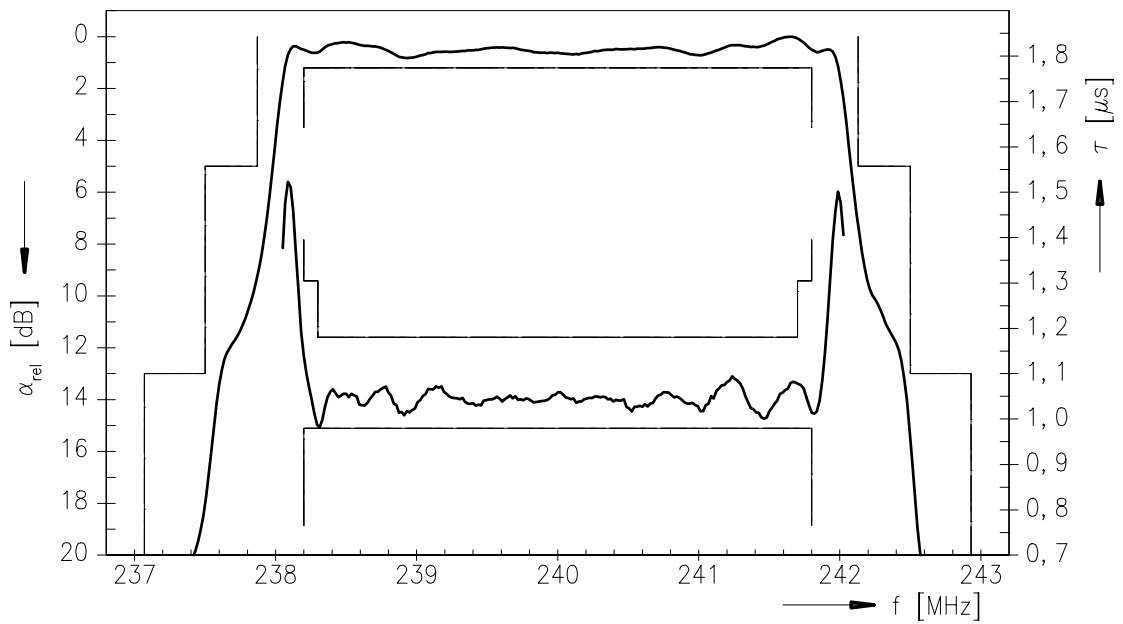
$$C_{p4} = 36,9 \text{ pF}$$

Data Sheet

Normalized frequency response



Normalized frequency response (pass band)



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