



SAW Components

Data Sheet B3867

Data Sheet

An abstract, grayscale graphic featuring a stylized, three-dimensional representation of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a globe or a stylized wave. The background is dark and textured, with light reflecting off the surfaces of the logo.



SAW Components

B3867

Low-Loss Filter

300,0 MHz

Data Sheet

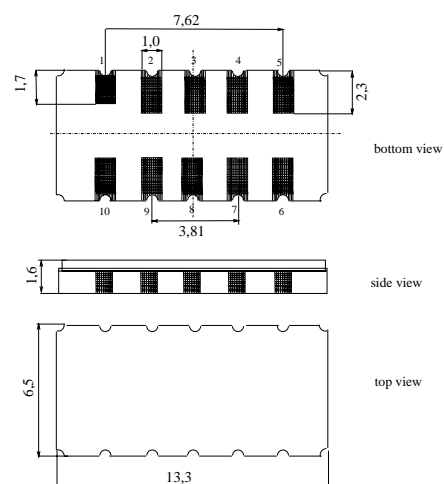
Ceramic package DCC12A

Features

- Low-loss IF filter for WLL
- Temperature stable
- High nearby selectivity
- Ceramic SMD package

Terminals

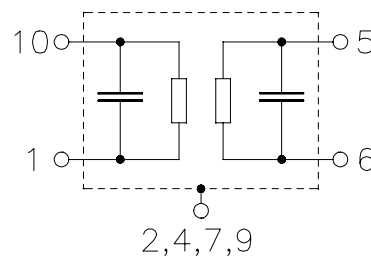
- Gold plated



Dimensions in mm, approx. weight 0,5 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 |
|-------|-------------------|----------------------------------|----------------------|
| B3867 | B39301-B3867-H510 | C61157-A7-A94 | F61074-V8163-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 | 0 | dBm |



| | |
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Characteristics

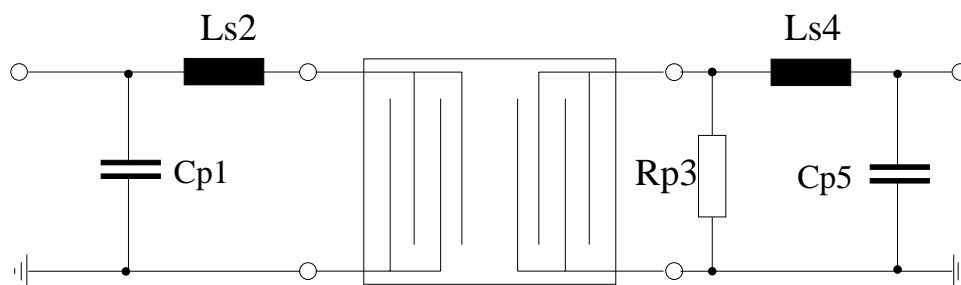
| | |
|-------------------------------|--|
| Operating temperature: | $T_A = -30 \dots +70 \text{ }^\circ\text{C}$ |
| Terminating source impedance: | $Z_S = 50 \text{ }\Omega$ and matching network |
| Terminating load impedance: | $Z_L = 50 \text{ }\Omega$ and matching network |

| | | min. | typ. | max. | |
|---|-----------------------|---------|---------|---------|--------------------|
| Center frequency (center between 3dB points) | f_C | 299,910 | 300,015 | 300,090 | MHz |
| Minimum insertion attenuation (including matching network) | α_{\min} | — | 18,0 | 19,0 | dB |
| Passband width¹⁾ | | | | | |
| $\alpha_{\text{rel}} \leq 3 \text{ dB}$ | $B_{3,0\text{dB}}$ | 3,3 | 3,35 | — | MHz |
| $\alpha_{\text{rel}} \leq 40 \text{ dB}$ | $B_{40\text{dB}}$ | — | 4,75 | 4,8 | MHz |
| Absolute group delay (at f_C) | τ | — | 1,75 | 1,8 | μs |
| Amplitude ripple (p-p) $f_C \pm 1,2 \text{ MHz}$ | $\Delta\alpha$ | — | 0,8 | 1,1 | dB |
| Group delay ripple (p-p) $f_C \pm 1,6 \text{ MHz}$ | $\Delta\tau$ | — | 125 | 200 | ns |
| Phase ripple (p-p) $f_C \pm 1,6 \text{ MHz}$ | $\Delta\varphi$ | — | 5 | 10 | $^\circ$ |
| Return loss (Input and Output) $f_C \pm 1,6 \text{ MHz}$ | | 10 | 12 | — | dB |
| Triple Transit Suppression | | 37 | 38 | — | dB |
| Relative attenuation (relative to α_{\min})²⁾ $f_C \pm 6 \text{ MHz} \dots f_C \pm 40 \text{ MHz}$ | α_{rel} | 45 | 50 | — | dB |
| Temperature coefficient of frequency³⁾ | TC_f | — | -0,036 | — | ppm/K ² |
| Turnover temperature | T_0 | — | 20 | — | $^\circ\text{C}$ |

1) all bandwidths are centered at f_C

2) apart from two peaks at or around $f_C + 21 \text{ MHz}$ with typically 45 dB attenuation

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

**SAW Components****B3867****Low-Loss Filter****300,0 MHz****Data Sheet****Matching network** (Element values depend upon PCB layout):

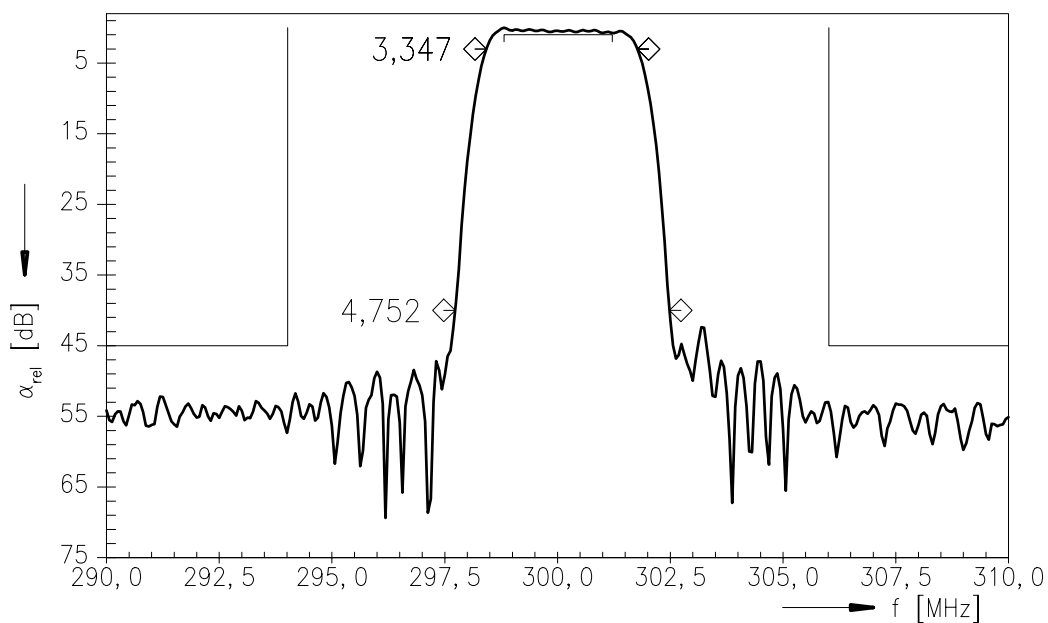
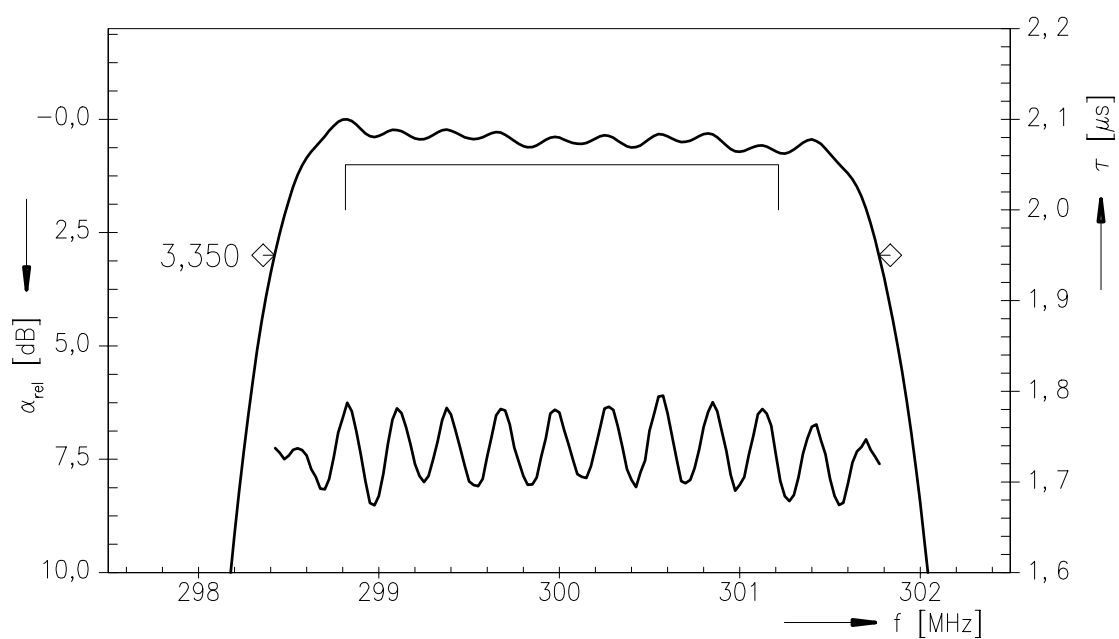
$$C_{p1} = 22 \text{ pF}$$

$$L_{s2} = 33 \text{ nH}$$

$$R_{p3} = 150 \text{ Ohm}$$

$$L_{s4} = 18 \text{ nH}$$

$$C_{p5} = 22 \text{ pF}$$

Data Sheet
Transfer function

Transfer function (pass band)




| | |
|------------------------|------------------|
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