



# SAW Components

Data Sheet B3831

Data Sheet

EPCOS



## SAW Components

**B3831**

## Low-Loss Filter

**150,0 MHz**

### Data Sheet

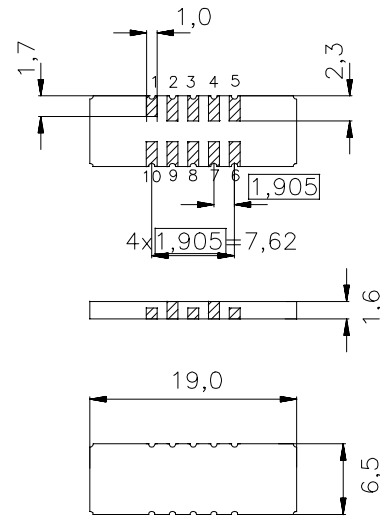
#### Features

- Low-loss IF filter for CDMA base station
- Temperature stable
- Ceramic SMD package
- Unbalanced or balanced operation

#### Terminals

- Gold plated

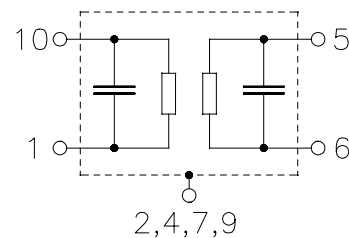
#### Ceramic package DCC18



Dimensions in mm, approx. weight 0,8 g

#### Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B3831	B39151-B3831-U210	C61157-A7-A54	F61074-V8081-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



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#### Characteristics

Operating temperature range:  $T = -40$  to  $+85$  °C  
Terminating source impedance:  $Z_S = 1000 \Omega \parallel 87\text{nH}$   
Terminating load impedance:  $Z_L = 1000 \Omega \parallel 73\text{nH}$

			min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$		—	150	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$		—	16,5	18	dB
<b>1dB bandwidth</b>						
	$\alpha_{\text{rel}} \leq 1,0$ dB	$B_{1,0\text{dB}}$	1,29	1,45	—	MHz
<b>Amplitude ripple (p-p)</b>	$f_N \pm 615$ kHz	$\Delta\alpha$	—	0,5	1,0	dB
<b>Phase linearity (p-p)</b>	$f_N \pm 615$ kHz	$\Delta\phi$	—	3,7	5,0	deg
<b>Relative attenuation</b> (relative to $\alpha_{\min}$ )		$\alpha_{\text{rel}}$				
	$f_N \pm 2,25$ MHz ... $f_N \pm 40,0$ MHz		30	42	—	dB
<b>VSWR</b>	$f_N \pm 615$ kHz		—	1,4:1	1,6:1	
<b>Temperature coefficient of frequency</b> <sup>1)</sup>	$TC_f$		—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$		—	35	—	°C

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



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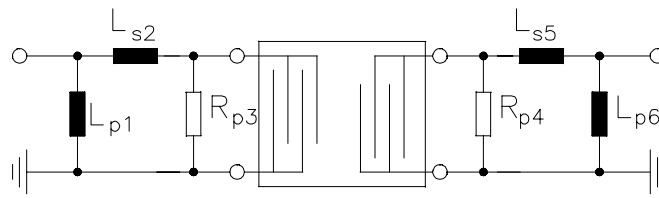
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Matching network to 50  $\Omega$

(Element values depend on PCB layout)



$L_{p1} = 27\text{nH}$

$R_{p4} = 820\Omega$

$L_{s2} = 56\text{nH}$

$L_{s5} = 56\text{nH}$

$R_{p3} = 1000\Omega$

$L_{p6} = 33\text{nH}$



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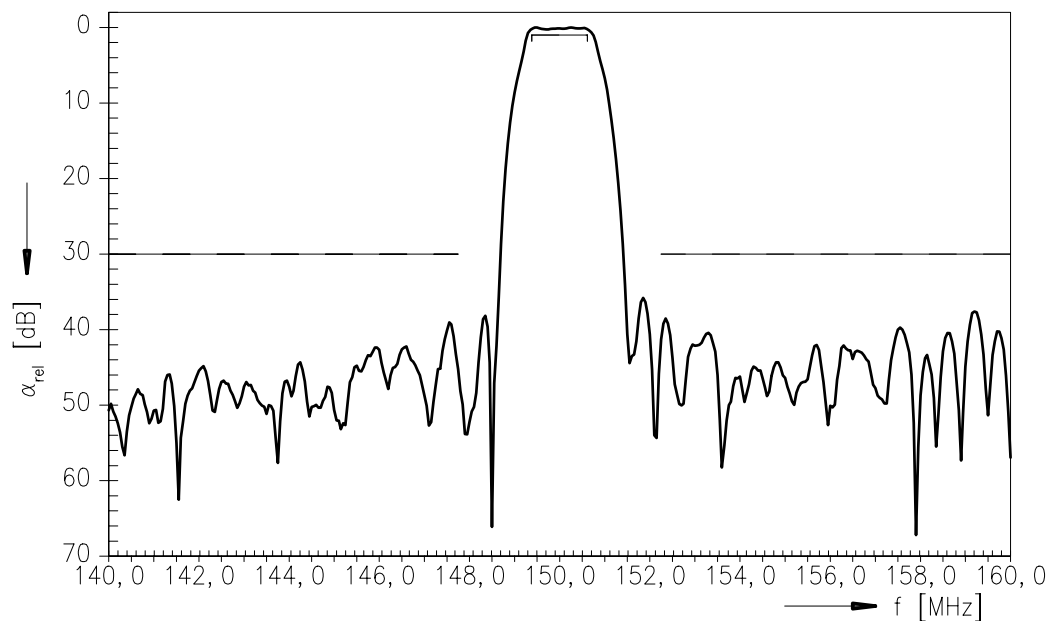
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Low-Loss Filter

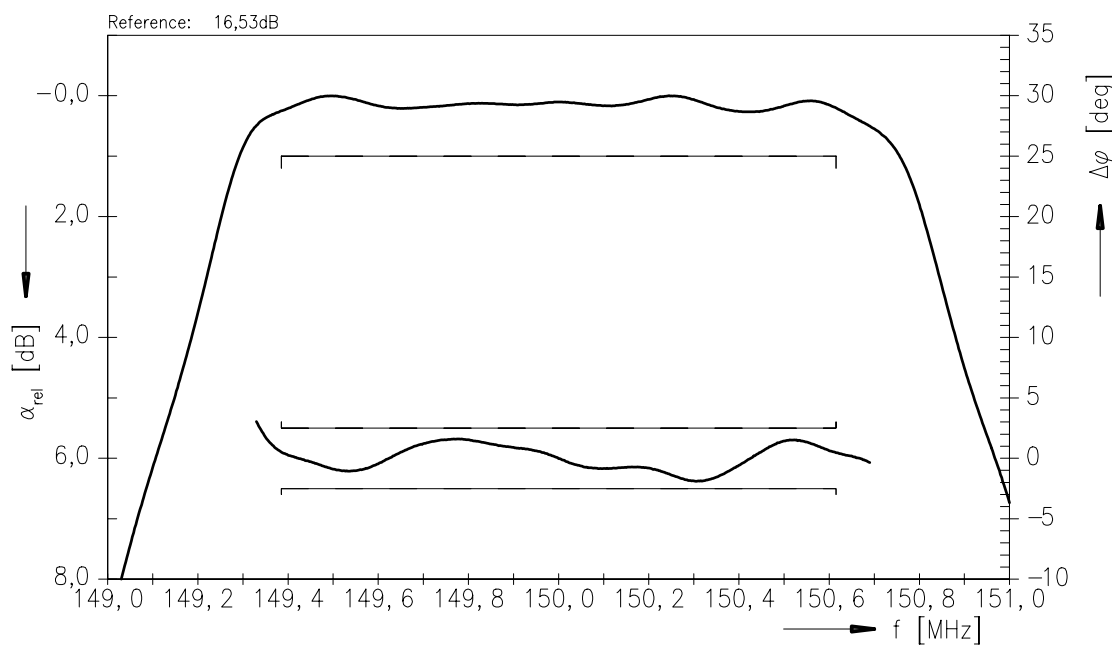
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## Data Sheet

### Normalized frequency response



### Normalized frequency response (pass band)





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**SAW MC IS, P.O. Box 80 17 09, 81617 Munich, GERMANY**

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