



# SAW Components

Data Sheet B3829

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a globe or a stylized wave. The graphic is rendered in shades of gray and white, with a glowing effect around the letters.



## SAW Components

B3829

## Low-Loss Filter

87,0 MHz

### Data Sheet

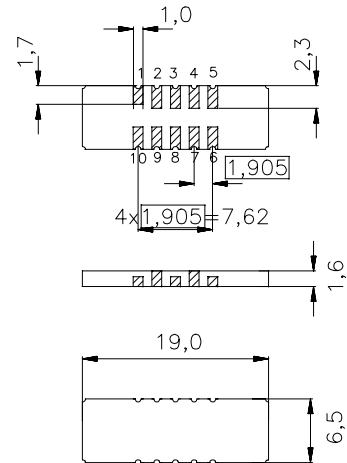
Ceramic package DCC18

#### Features

- Low-loss IF filter for GSM base stations
- Temperature stable
- Balanced or unbalanced operation
- Ceramic SMD package

#### Terminals

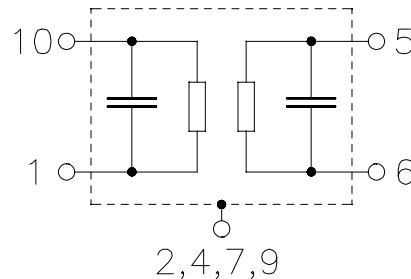
- Gold plated



Dimensions in mm, approx. weight 0,8 g

#### Pin configuration

10	Input
1	Input ground or balanced input
5	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
B3829	B39870-B3829-U210	C61157-A7-A54	F61074-V8069-Z000

Electrostatic Sensitive Device (ESD)

#### Maximum ratings

Operable temperature range	$T$	-30/ +85	°C
Storage temperature range	$T_{stg}$	-40/ +85	°C
DC voltage	$V_{DC}$	0	V
Source power	$P_s$	10	dBm



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**Characteristics**

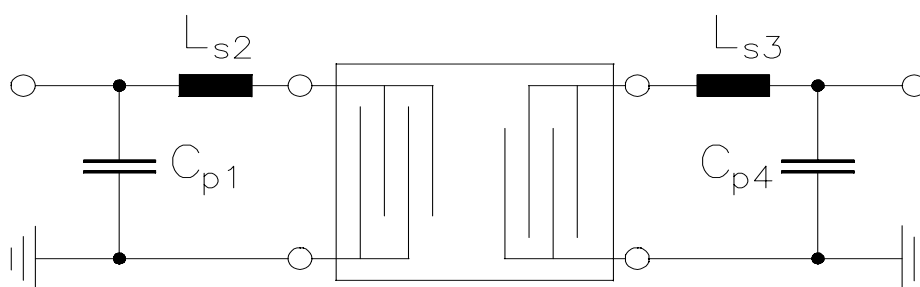
Operating temperature:  $T = -5 \dots +85 \text{ }^{\circ}\text{C}$   
Terminating source impedance:  $Z_S = 50 \text{ or } 200 \text{ } \Omega$  and matching network  
Terminating load impedance:  $Z_S = 50 \text{ or } 200 \text{ } \Omega$  and matching network

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	87,0	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	4,7	7,0	dB
<b>Passband width</b>	$\alpha_{\text{rel}} \leq 3 \text{ dB}$ $B_{3\text{dB}}$	—	330	—	kHz
<b>Amplitude ripple (p-p)</b>	$f_N \pm 75 \text{ kHz}$ $\Delta\alpha$	—	0,3	1,0	dB
<b>Absolute group delay (at <math>f_N</math>)</b>	$\tau$	—	2,1	2,4	$\mu\text{s}$
<b>Group delay ripple (p-p)</b>	$f_N \pm 75 \text{ kHz}$ $\Delta\tau$	—	250	350	ns
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N \pm 200 \text{ kHz} \dots f_N \pm 400 \text{ kHz}$		3,5	5	—	dB
$f_N \pm 400 \text{ kHz} \dots f_N \pm 600 \text{ kHz}$		20	30	—	dB
$f_N \pm 600 \text{ kHz} \dots f_N \pm 800 \text{ kHz}$		25	30	—	dB
$f_N \pm 800 \text{ kHz} \dots f_N \pm 1600 \text{ kHz}$		28	35	—	dB
$30,00 \text{ MHz} \dots f_N - 1,60 \text{ MHz}$		34	45	—	dB
$f_N + 1,60 \text{ MHz} \dots 180,00 \text{ MHz}$		34	45	—	dB
$180 \text{ MHz} \dots 2000,00 \text{ MHz}$		50	60	—	dB
<b>Input and output return loss</b>		12	15	—	dB
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	45	—	$^{\circ}\text{C}$

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

**SAW Components****B3829****Low-Loss Filter****87,0 MHz****Data Sheet****Matching network to 50  $\Omega$** 

(Element values depend upon PCB layout)



$$C_{p1} = 56 \text{ pF}$$
$$L_{s2} = 150 \text{ nH}$$

$$L_{s3} = 150 \text{ nH}$$
$$C_{p4} = 56 \text{ pF}$$



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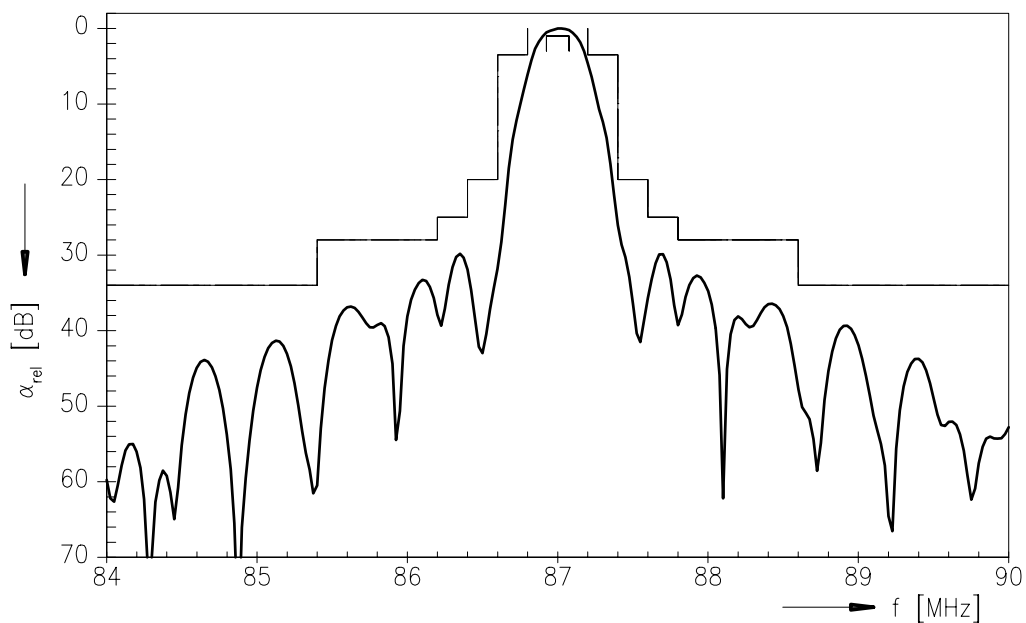
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## Low-Loss Filter

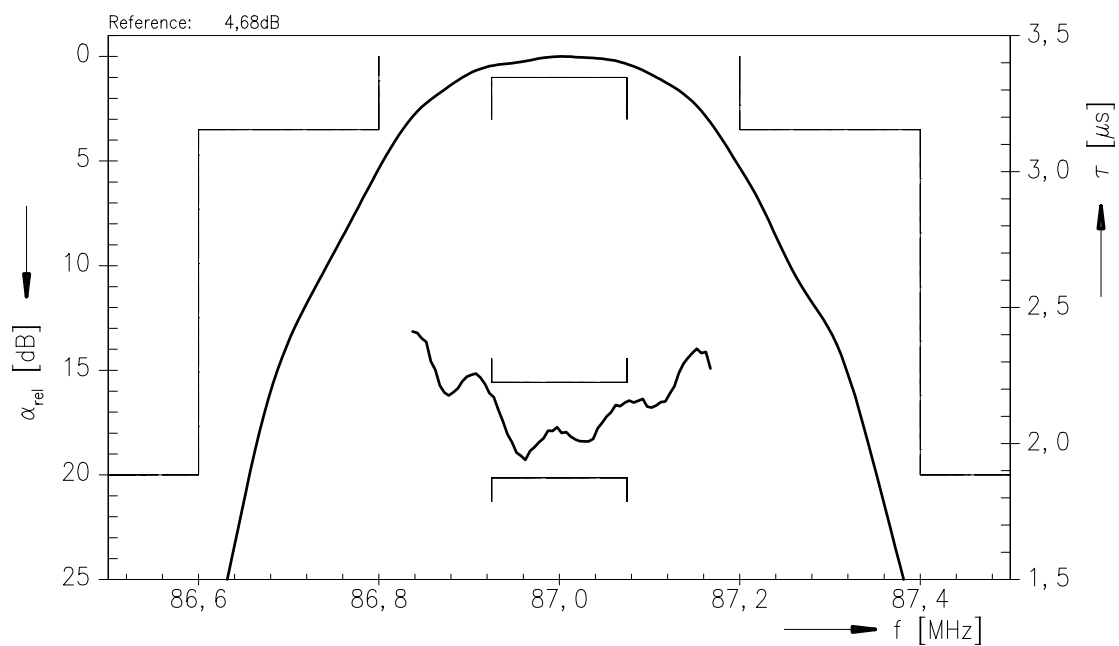
87,0 MHz

### Data Sheet

#### Normalized frequency response



#### Normalized frequency response (pass band)





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<b>Low-Loss Filter</b>	<b>87,0 MHz</b>

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