



# SAW Components

Data Sheet B3829





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B3829

Low-Loss Filter

87,0 MHz

Data Sheet

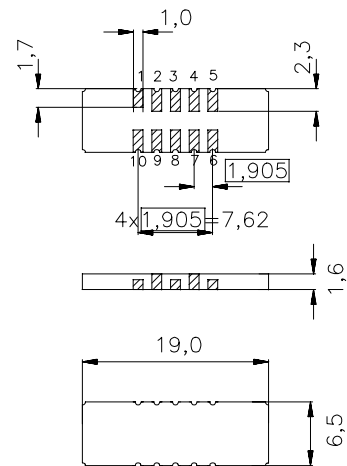
Ceramic package DCC18

Features

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

Terminals

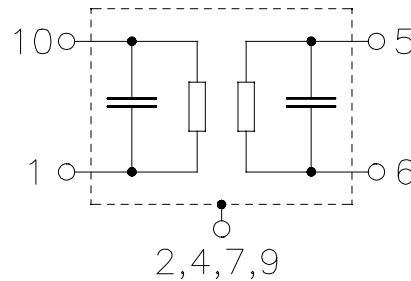
- Gold plated



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 MHz ... $f_N - 1,60 \text{ MHz}$		34	45	—	dB
	$f_N + 1,60 \text{ MHz} \dots 180,00 \text{ MHz}$		34	45	—	dB
	180 MHz ... 2000,00 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	—	$^\circ\text{C}$

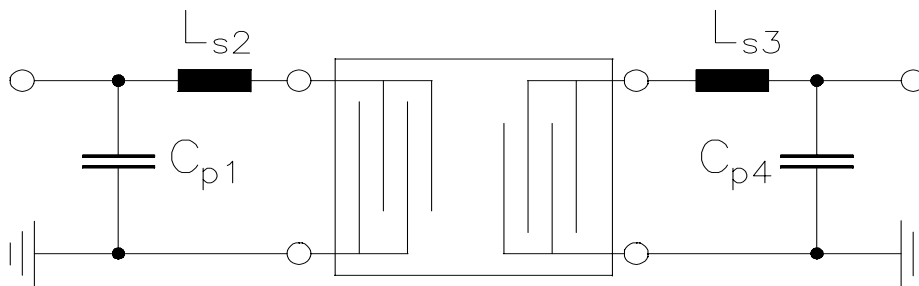
<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network to 50 Ω

(Element values depend upon PCB layout)



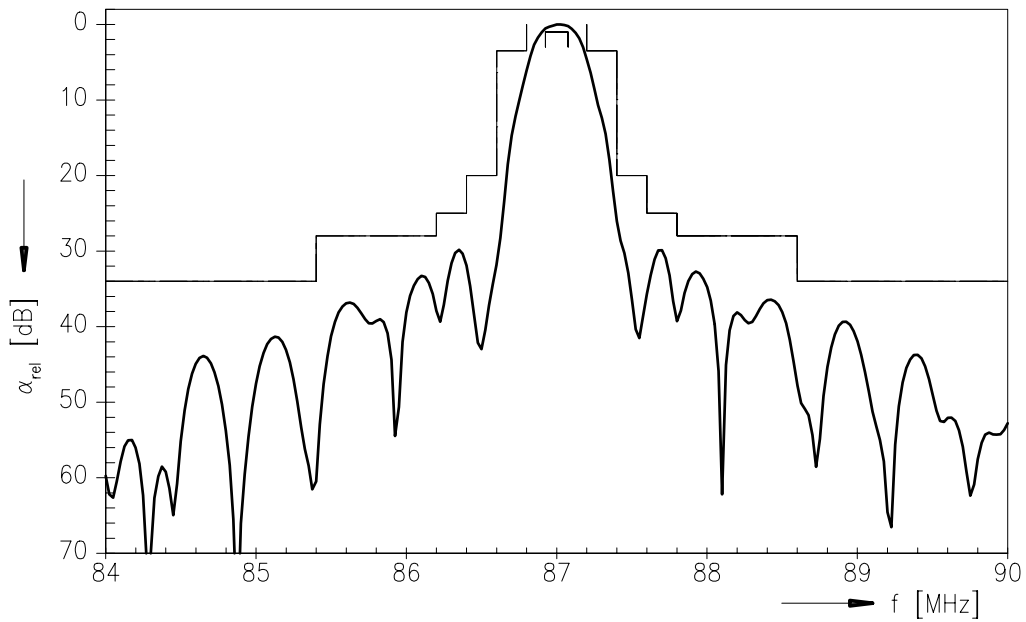
$C_{p1} = 56 \text{ pF}$   
 $L_{s2} = 150 \text{ nH}$

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

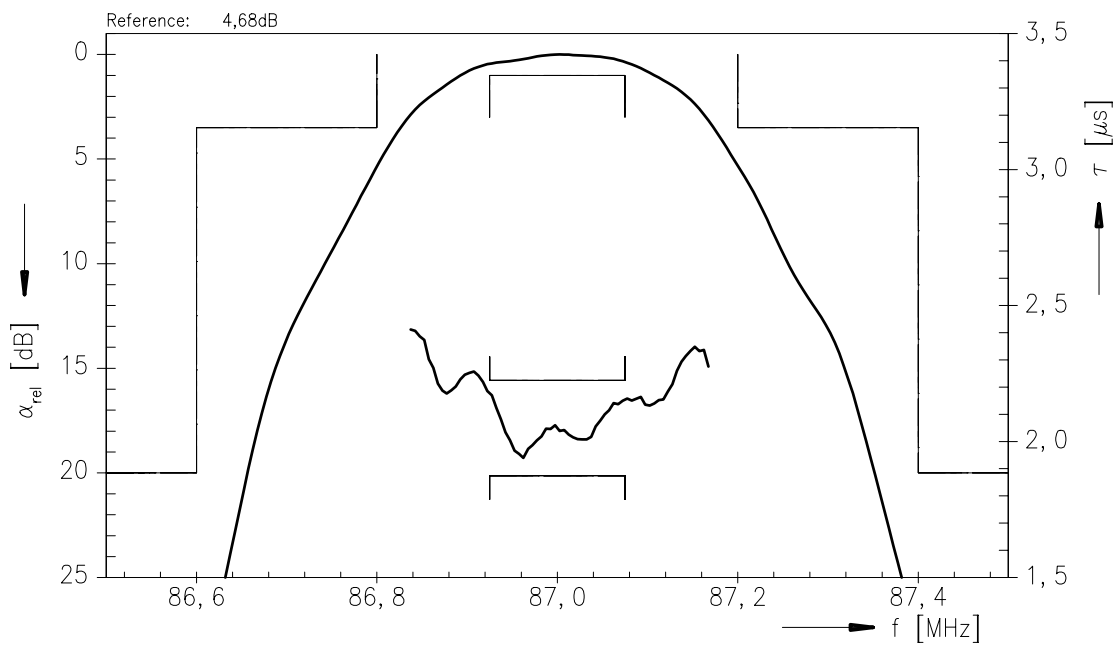


Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





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