



SAW Components

Data Sheet B3831

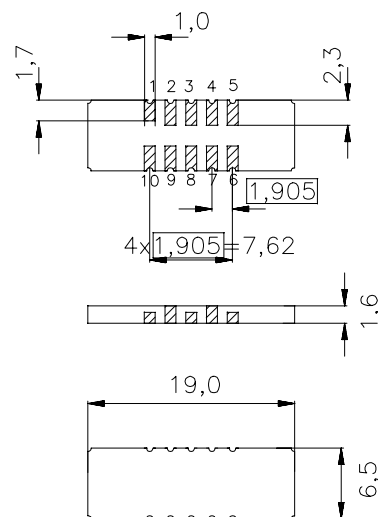


Data Sheet
Features

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

Terminals

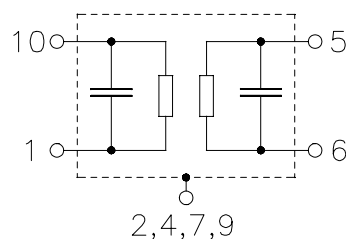
- Gold plated

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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Low-Loss Filter	150,0 MHz

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Characteristics

Operating temperature range:	$T = -40 \text{ to } +85 \text{ }^{\circ}\text{C}$
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.	
Nominal frequency	f_N		—	150	—	MHz
Minimum insertion attenuation	α_{\min}		—	16,5	18	dB
1dB bandwidth	$\alpha_{\text{rel}} \leq 1,0 \text{ dB}$	$B_{1,0\text{dB}}$	1,29	1,45	—	MHz
Amplitude ripple (p-p)	$f_N \pm 615 \text{ kHz}$	$\Delta\alpha$	—	0,5	1,0	dB
Phase linearity (p-p)	$f_N \pm 615 \text{ kHz}$	$\Delta\phi$	—	3,7	5,0	deg
Relative attenuation (relative to α_{\min})	$f_N \pm 2,25 \text{ MHz} \dots f_N \pm 40,0 \text{ MHz}$	α_{rel}	30	42	—	dB
VSWR	$f_N \pm 615 \text{ kHz}$		—	1,4:1	1,6:1	
Temperature coefficient of frequency ¹⁾	TC_f		—	-0,036	—	ppm/K ²
Turnover temperature	T_0		—	35	—	$^{\circ}\text{C}$

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



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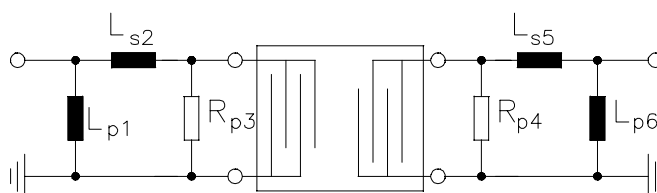
Low-Loss Filter

150,0 MHz

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Matching network to 50 Ω

(Element values depend on PCB layout)



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

$$R_{p4} = 820\Omega$$

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

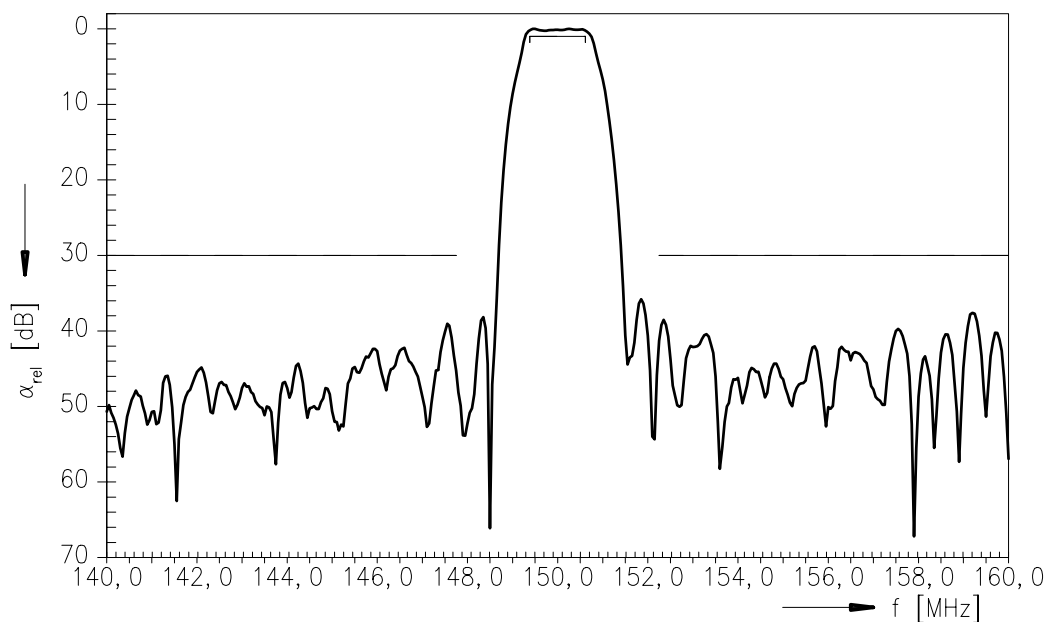
$$L_{s5} = 56\text{nH}$$

$$R_{p3} = 1000\Omega$$

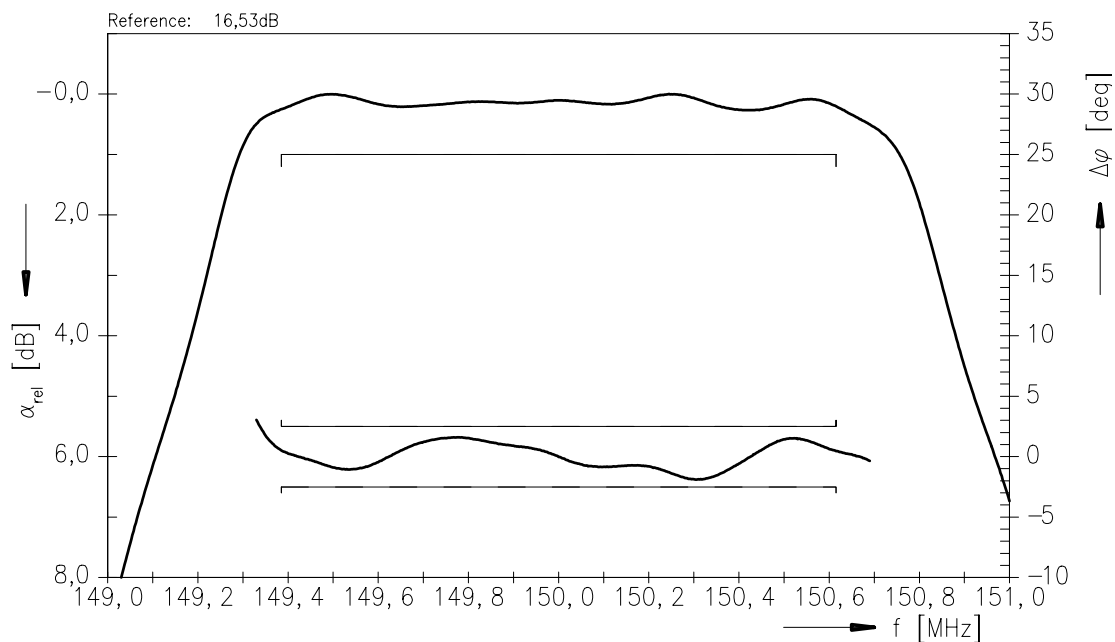
$$L_{p6} = 33\text{nH}$$

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Normalized frequency response



Normalized frequency response (pass band)





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