



SAW Components

Data Sheet B4959

Data Sheet

A large, stylized, 3D-rendered "EPCOS" logo in white, tilted diagonally. The background is a dark, grayscale image of a globe with a grid of latitude and longitude lines, and some abstract, flowing shapes.



SAW Components

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Low-Loss Filter for Mobile Communication

128,1 MHz

Data Sheet



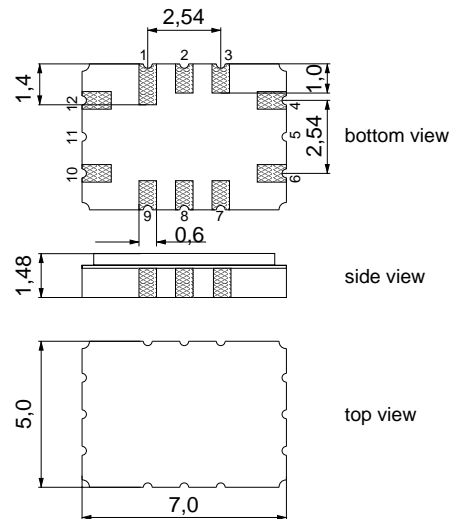
Features

- IF filter for mobile telephone
- Channel selection in CDMA systems
- Balanced or unbalanced
- High rejection, very small size
- Low amplitude ripple
- Package for **Surface Mounted Technology (SMT)**
- Filter surface passivated

Terminals

- Ni, gold plated

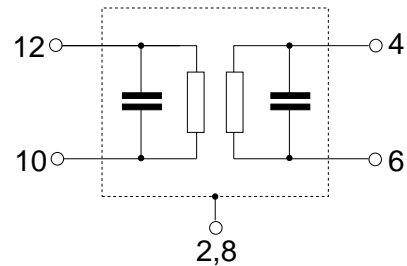
SMD ceramic package QCC12C



Dimensions in mm, approx. weight 0,155 g

Pin configuration

- | | |
|------------------|--------------------------|
| 6 | Input |
| 4 | Balanced input or ground |
| 12 | Balanced output |
| 10 | Balanced output |
| 1, 2, 3, 7, 8, 9 | To be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B4959	B39131-B4959-H310	C61157-A7-A95	F61074-V8170-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}	5	V	
Source power	P_s	10	dBm	



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Characteristics

Specified temperature range: $T = -30^{\circ}\text{C} \dots +85^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 1270 \Omega \parallel 185 \text{ nH}$
 Terminating load impedance: $Z_L = 1840 \Omega \parallel 180 \text{ nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	128,1	—	MHz
Minimum insertion attenuation (with losses of matching network, without loss of balun)	α_{\min}	—	10,4	12,0	dB
Amplitude ripple	$\Delta\alpha$				
$f_N - 0,30 \text{ MHz} \dots f_N + 0,30 \text{ MHz}$		—	0,5	1,0	dB
Phase linearity (rms deviation)					
$f_N - 0,615 \text{ MHz} \dots f_N + 0,615 \text{ MHz}$		—	2,0	3,5	°
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 0,615 \text{ MHz}$		—	3,8	4,5	dB
$f_N - 0,9 \text{ MHz}$		37	50	—	dB
$f_N + 0,9 \text{ MHz}$		37	41	—	dB
$f_N - 1,25 \text{ MHz}$		37	45	—	dB
$f_N + 1,25 \text{ MHz}$		37	50	—	dB
$f_N - 1,7 \text{ MHz}$		37	46	—	dB
$f_N + 1,7 \text{ MHz}$		37	47	—	dB
$f_N - 2,05 \text{ MHz}$		40	48	—	dB
$f_N + 2,05 \text{ MHz}$		40	52	—	dB
$10,0 \text{ MHz} \dots f_N - 2,05 \text{ MHz}$		40	43	—	dB
$f_N - 2,05 \text{ MHz} \dots f_N - 0,9 \text{ MHz}$		37	42	—	dB
$f_N + 0,9 \text{ MHz} \dots f_N + 2,05 \text{ MHz}$		37	40	—	dB
$f_N + 2,05 \text{ MHz} \dots 200 \text{ MHz}$		40	43	—	dB
$172,485 \text{ MHz} \dots 173,715 \text{ MHz}$		60	70	—	dB
$207,485 \text{ MHz} \dots 208,715 \text{ MHz}$		45	47	—	dB



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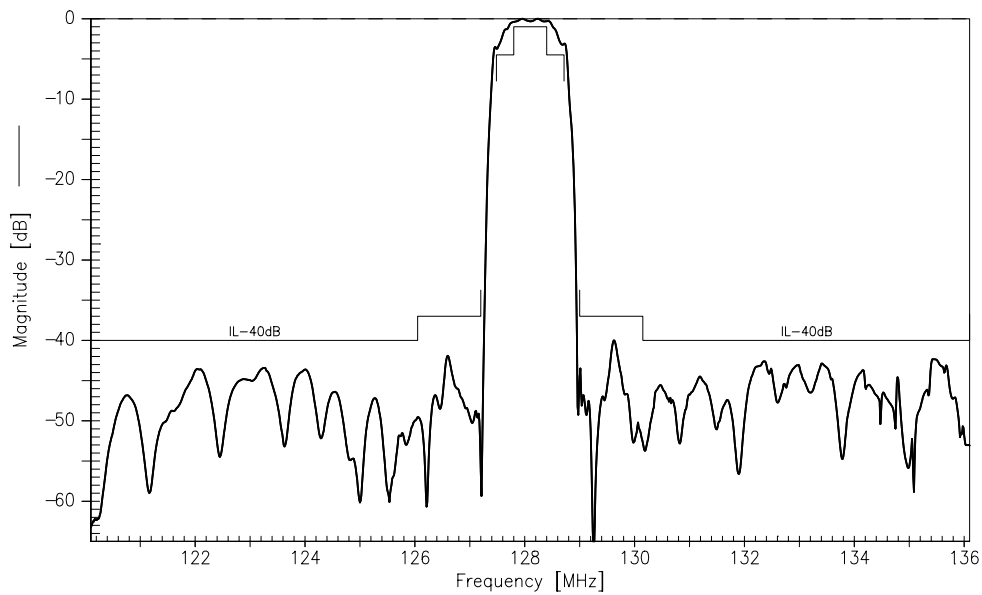
Low-Loss Filter for Mobile Communication

128,1 MHz

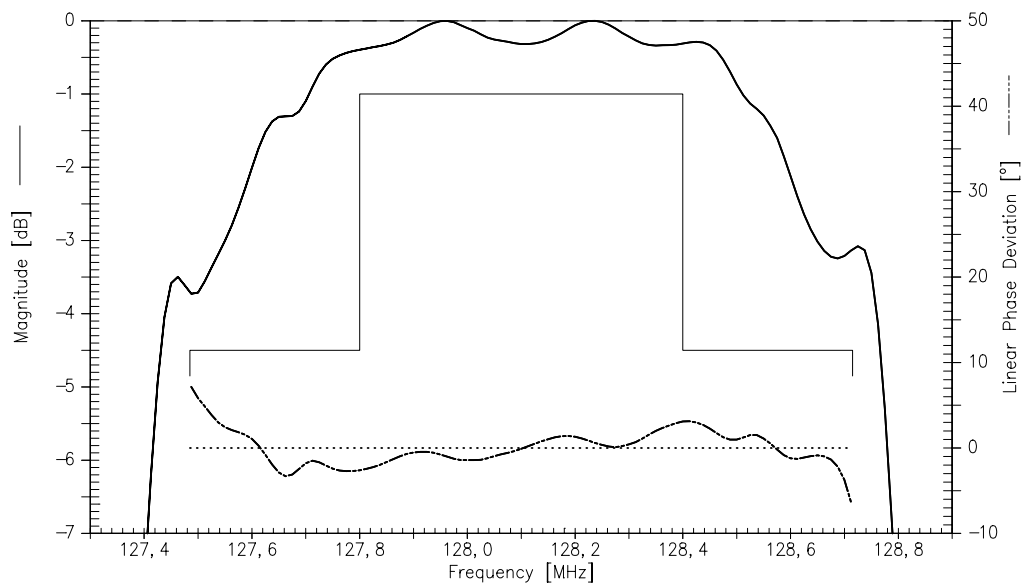
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Normalized transfer function (measurement):

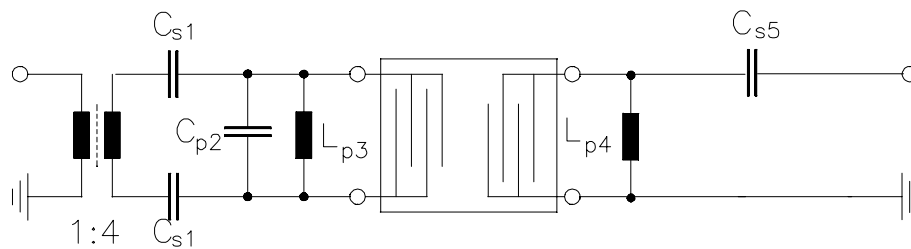


Normalized transfer function (measurement, passband):



**SAW Components****B4959****Low-Loss Filter for Mobile Communication****128,1 MHz****Data Sheet****Test matching network**

(Element values depend on pcb layout)



$$C_{s1} = 5,6 \text{ pF}$$

all coils: Coilcraft 0603

$$C_{p2} = \text{not used}$$

$$L_{p3} = 120 \text{ nH}$$

$$L_{p4} = 100 \text{ nH}$$

$$C_{s5} = 2,7 \text{ pF} \parallel 1,5 \text{ pF}$$

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