



IF Filters for CDMA Cellular Phones

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39131B4957H710		2006-12-01	2007-02-28	2007-05-31

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SAW Components

Data Sheet B4957





SAW Components

B4957

Low-Loss Filter for Mobile Communication

128,1 MHz

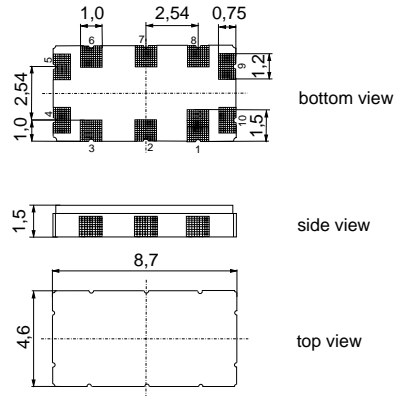
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Features

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

SMD package **QCC10E**



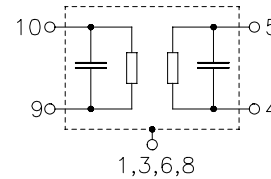
Dimensions in mm, approx. weight 0,23 g

Terminals

- Gold plated

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4957	B39131-B4957-H710	C61157-A7-A127	F61074-V8192-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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Operating temperature range: $T = -30^{\circ}\text{C} \dots +85^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 1370 \Omega \parallel 170 \text{ nH}$
 Terminating load impedance: $Z_L = 760 \Omega \parallel 119 \text{ nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	128,1	—	MHz
Minimum insertion attenuation (including loss in matching network without loss in balun)	α_{\min}	—	9,2	10,5	dB
Amplitude ripple	$\Delta\alpha$				
$f_N - 0,3 \text{ MHz} \dots f_N + 0,3 \text{ MHz}$		—	0,6	1,0	dB
Phase linearity (rms deviation)					
$f_N - 0,615 \text{ MHz} \dots f_N + 0,615 \text{ MHz}$		—	1,6	3,0	°
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 0,615 \text{ MHz}$		—	4,0	4,5	dB
10,0 MHz ... $f_N - 5,0 \text{ MHz}$		45 ¹⁾	48	—	dB
$f_N - 5,0 \text{ MHz} \dots f_N - 0,9 \text{ MHz}$		37	39	—	dB
$f_N - 2,05 \text{ MHz}$		37	49	—	dB
$f_N - 1,7 \text{ MHz}$		37	44	—	dB
$f_N - 1,25 \text{ MHz}$		37	52	—	dB
$f_N - 0,9 \text{ MHz}$		37	43	—	dB
$f_N + 0,9 \text{ MHz}$		37	40	—	dB
$f_N + 1,25 \text{ MHz}$		37	53	—	dB
$f_N + 1,7 \text{ MHz}$		37	44	—	dB
$f_N + 2,05 \text{ MHz}$		37	54	—	dB
$f_N + 0,9 \text{ MHz} \dots f_N + 5,0 \text{ MHz}$		37	40	—	dB
$f_N + 5,0 \text{ MHz} \dots f_N + 70,0 \text{ MHz}$		45 ²⁾	48	—	dB
172,485 MHz ... 173,715 MHz		60	75	—	dB
207,485 MHz ... 208,715 MHz		48	50	—	dB

1) exception: 122,1 MHz +/- 200 kHz

2) exception: 135,2 MHz +/- 300 kHz



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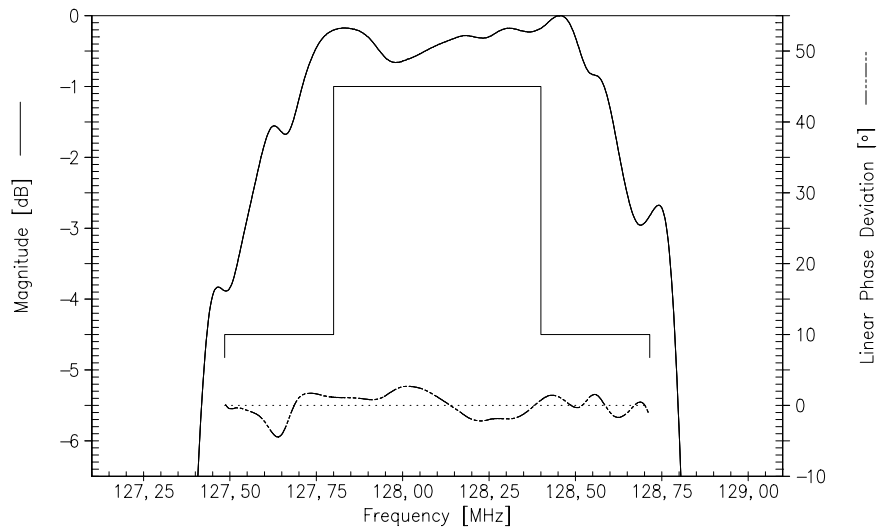
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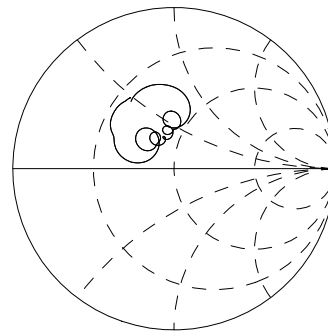
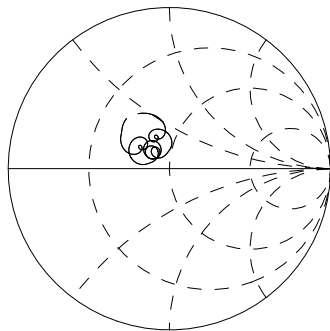


Transfer function: passband, single ended (pin 5) - balanced (pins 9,10)



output reflection

input reflection





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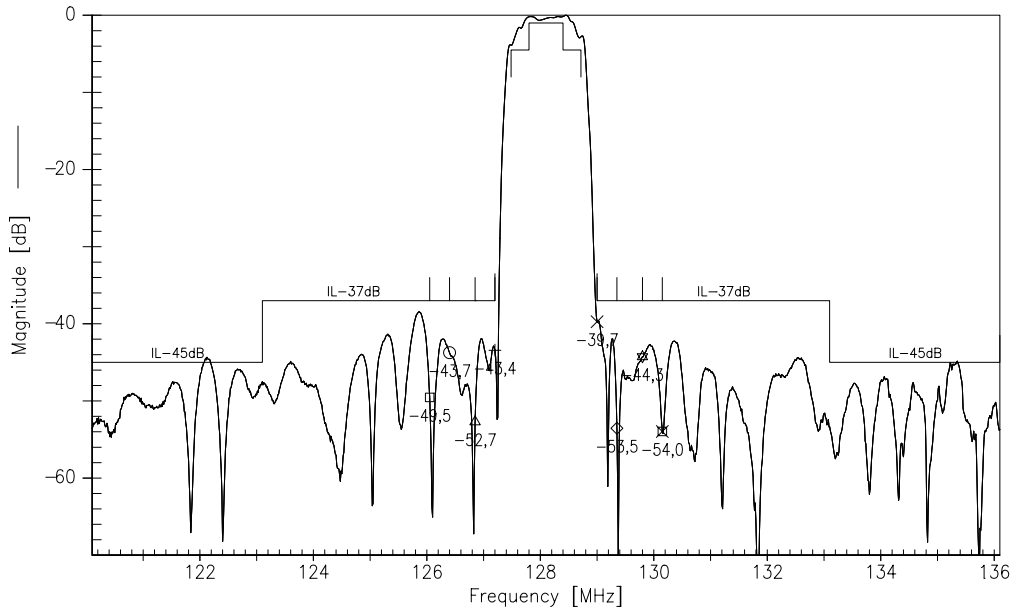
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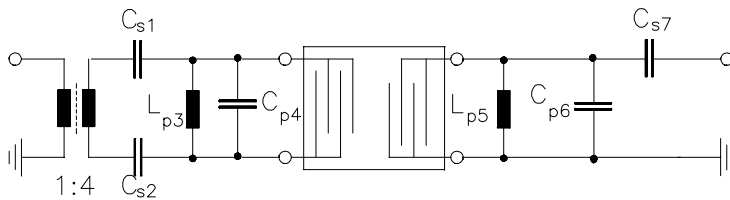


Transfer function: wide band, single ended (pin 5) - balanced (pins 9,10)



Test matching network to 50Ω

(Element values depend on pcb layout. Input is at the right hand side)



- $C_{s1} = 5,6 \text{ pF}$
- $C_{s2} = 6,8 \text{ pF}$
- $L_{p3} = 82 \text{ nH} \parallel 5,6 \text{ pF}$
- $L_{p5} = 68 \text{ nH} \parallel 2,2 \text{ pF}$
- $C_{s7} = 6,8 \text{ pF}$



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