



SAW Components

Data Sheet B7835

Data Sheet

EPCOS



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Low-Loss Filter for Mobile Communication

2140,0 MHz

Data Sheet



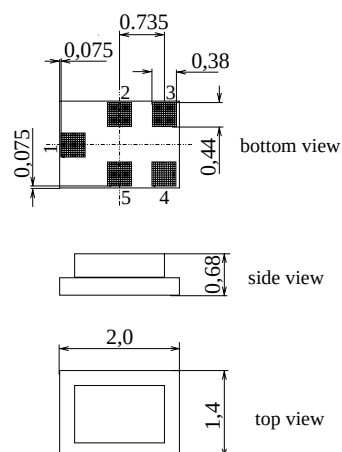
Chip sized SAW package QCS5C

Features

- Low-loss RF filter for mobile telephone W-CDMA system, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50Ω to 200Ω
- Package for **Surface Mounted Technology (SMT)**
- Chip Sized SAW Package (CSSP)

Terminals

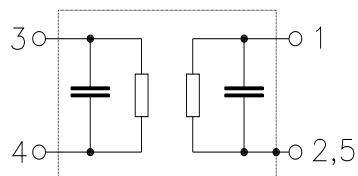
- Gold-plated Ni



Dimensions in mm, approx. weight 0,012 g

Pin configuration

- | | |
|------|-------------------|
| 1 | Input, unbalanced |
| 3, 4 | Output, balanced |
| 2, 5 | To be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B7835	B39212-B7835-C710	C61157-A7-A111	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operating temperature range	T	- 20/+ 85	$^{\circ}\text{C}$	Machine Model, 10 pulses
Storage temperature range	T_{stg}	- 40/+ 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}^*	50	V	
Source power	P_{S}	10	dBm	

* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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Characteristics

Operating temperature range: $T = +25^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\ \Omega$
Terminating load impedance: $Z_L = 200\ \Omega$ (balanced) $\parallel 22\ \text{nH}$

		min.	typ.	max.	
Center frequency	f_C	—	2140,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,6	3,0	dB
2110,0 ... 2170,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,7	1,2	dB
2110,0 ... 2170,0 MHz		—	0,7	1,2	dB
Amplitude ripple per 5MHz channel (p-p)	$\Delta\alpha_{5\text{MHz}}$	—	0,3	0,6	dB
2110,0 ... 2170,0 MHz		—	0,3	0,6	dB
Input VSWR		—	1,5	2,0	
2110,0 ... 2170,0 MHz		—	1,5	2,0	
Output VSWR		—	1,7	2,1	
2110,0 ... 2170,0 MHz		—	1,7	2,1	
Output amplitude balance (S_{31} / S_{21})		-1,6		1,6	dB
2110,0 ... 2170,0 MHz		-1,6		1,6	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-12,0		12,0	degree
2110,0 ... 2170,0 MHz		-12,0		12,0	degree
Attenuation	α				
180,0 ... 200,0 MHz		60	68	—	dB
200,0 ... 1000,0 MHz		39	42	—	dB
1000,0 ... 1880,0 MHz		29	32	—	dB
1880,0 ... 1920,0 MHz		34	38	—	dB
1920,0 ... 1980,0 MHz		42	46	—	dB
1980,0 ... 2050,0 MHz		25	29	—	dB
2205,0 ... 2255,0 MHz		15	22	—	dB
2255,0 ... 2300,0 MHz		20	23	—	dB
2300,0 ... 2490,0 MHz		31	35	—	dB
2490,0 ... 2550,0 MHz		35	40	—	dB
2550,0 ... 3200,0 MHz		35	39	—	dB
3200,0 ... 6000,0 MHz		40	52	—	dB



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Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 200\ \Omega$ (balanced) $\parallel$ 22 nH

		min.	typ.	max.	
Center frequency	f_C	—	2140,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,8	3,3	dB
	2110,0 ... 2170,0 MHz	—	2,8	3,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,9	1,5	dB
	2110,0 ... 2170,0 MHz	—	0,9	1,5	dB
Amplitude ripple per 5MHz channel (p-p)	$\Delta\alpha_{5\text{MHz}}$	—	0,4	0,6	dB
	2110,0 ... 2170,0 MHz	—	0,4	0,6	dB
Input VSWR		—	1,6	2,0	
	2110,0 ... 2170,0 MHz	—	1,6	2,0	
Output VSWR		—	1,7	2,1	
	2110,0 ... 2170,0 MHz	—	1,7	2,1	
Output amplitude balance(S_{31}/S_{21})		-1,6		1,6	dB
	2110,0 ... 2170,0 MHz	-1,6		1,6	dB
Output phase balance($\phi(S_{31})-\phi(S_{21})+180^{\circ}$)		-12,0		12,0	degree
	2110,0 ... 2170,0 MHz	-12,0		12,0	degree
Attenuation	α				
	180,0 ... 200,0 MHz	60	67	—	dB
	200,0 ... 1000,0 MHz	39	42	—	dB
	1000,0 ... 1880,0 MHz	29	32	—	dB
	1880,0 ... 1920,0 MHz	34	38	—	dB
	1920,0 ... 1980,0 MHz	42	46	—	dB
	1980,0 ... 2050,0 MHz	25	26	—	dB
	2205,0 ... 2255,0 MHz	15	22	—	dB
	2255,0 ... 2300,0 MHz	20	23	—	dB
	2300,0 ... 2490,0 MHz	31	35	—	dB
	2490,0 ... 2550,0 MHz	37	40	—	dB
	2550,0 ... 3200,0 MHz	35	39	—	dB
	3200,0 ... 6000,0 MHz	40	52	—	dB



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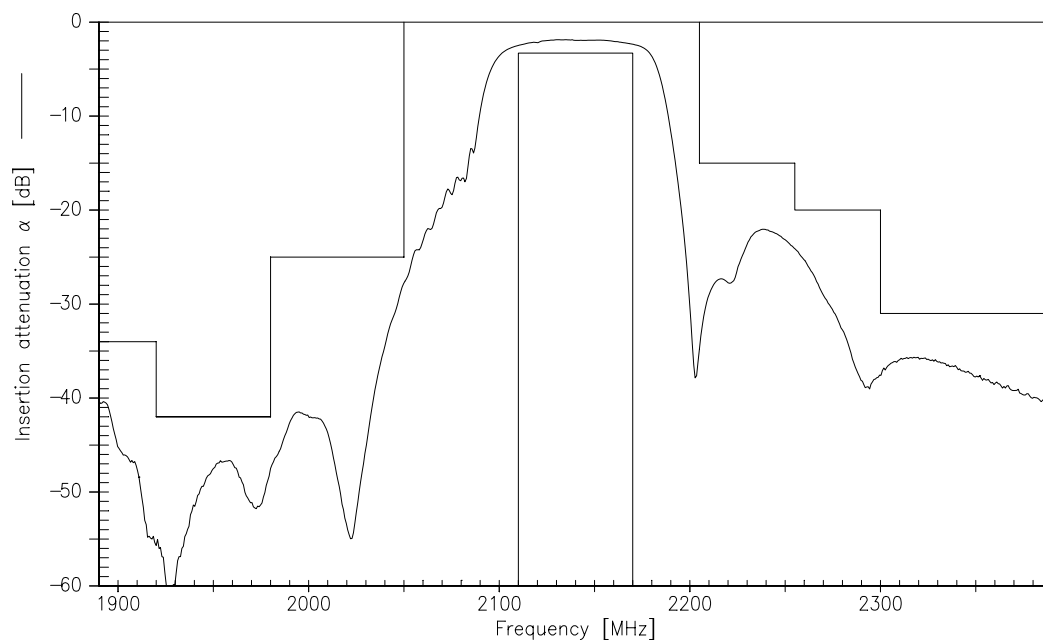
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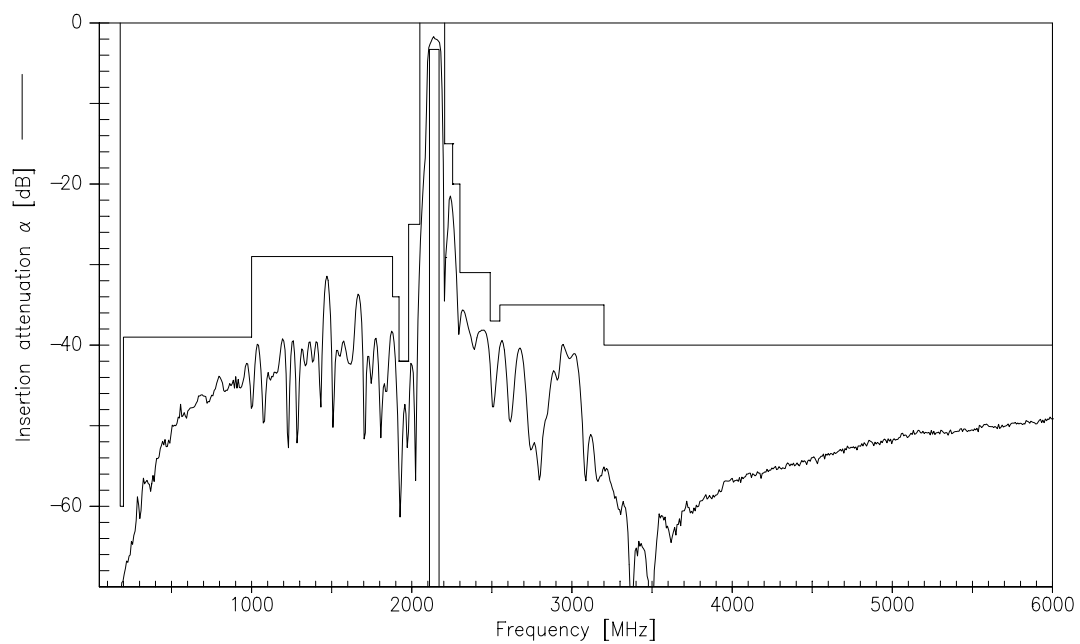
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Transfer function



Transfer function (wide band):





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Data Sheet	SMD

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