EPCOS

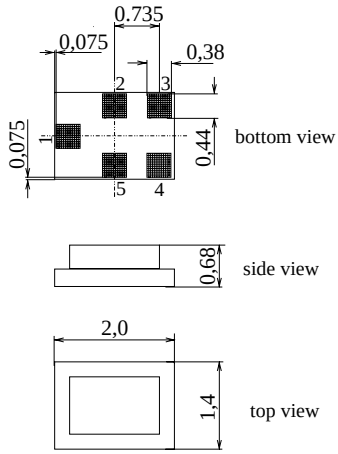
SAW Components

Data Sheet B7835

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 **S**urface **M**ounted **T**echnology (**SMT**)
- Chip Sized SAW Package (CSSP)



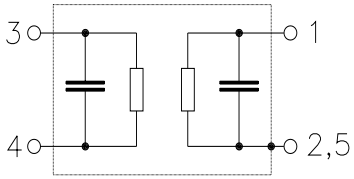
Terminals

- 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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operating temperature range	T	– 20/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}*	50	V	Machine Model, 10 pulses
Source power	P_S	10	dBm	

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

Characteristics

Operating temperature range: T = +25°C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω (balanced) || 22 nH

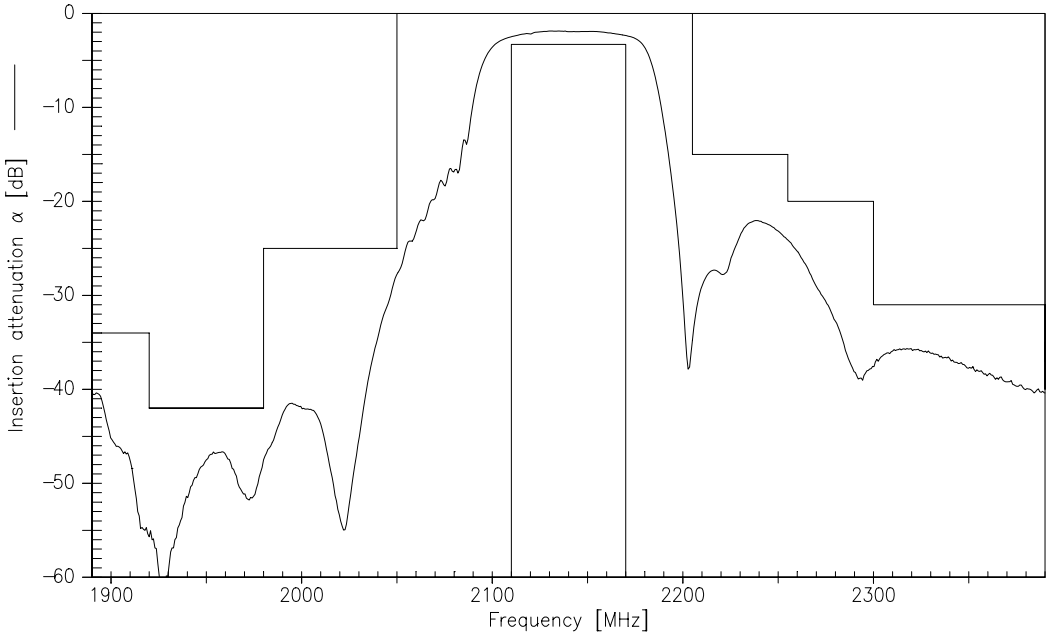
		min.	typ.	max.	
Center frequency	f_C	—	2140,0	—	MHz
Maximum insertion attenuation	α_{max}				
2110,0 ... 2170,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2110,0 ... 2170,0 MHz		—	0,7	1,2	dB
Amplitude ripple per 5MHz channel (p-p)	$\Delta\alpha_{5MHz}$				
2110,0 ... 2170,0 MHz		—	0,3	0,6	dB
Input VSWR					
2110,0 ... 2170,0 MHz		—	1,5	2,0	
Output VSWR					
2110,0 ... 2170,0 MHz		—	1,7	2,1	
Output amplitude balance($\lvert S_{31}/S_{21}\rvert$)					
2110,0 ... 2170,0 MHz		-1,6		1,6	dB
Output phase balance($\phi(S_{31})-\phi(S_{21})+180°$)					
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

Characteristics

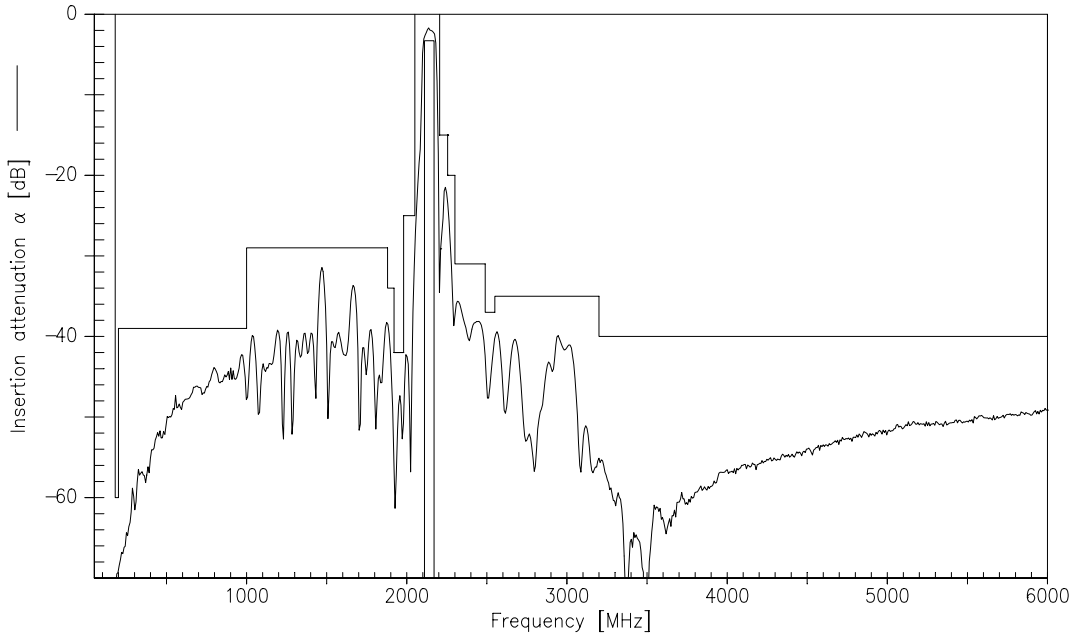
Operating temperature range: T = -20 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω (balanced) || 22 nH

		min.	typ.	max.	
Center frequency	f_C	—	2140,0	—	MHz
Maximum insertion attenuation	α_{max}				
2110,0 ... 2170,0 MHz		—	2,8	3,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2110,0 ... 2170,0 MHz		—	0,9	1,5	dB
Amplitude ripple per 5MHz channel (p-p)	$\Delta\alpha_{5MHz}$				
2110,0 ... 2170,0 MHz		—	0,4	0,6	dB
Input VSWR					
2110,0 ... 2170,0 MHz		—	1,6	2,0	
Output VSWR					
2110,0 ... 2170,0 MHz		—	1,7	2,1	
Output amplitude balance($\lvert S_{31}/S_{21}\rvert$)					
2110,0 ... 2170,0 MHz		-1,6		1,6	dB
Output phase balance($\phi(S_{31})-\phi(S_{21})+180°$)					
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

Transfer function



Transfer function (wide band):



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