EPCOS

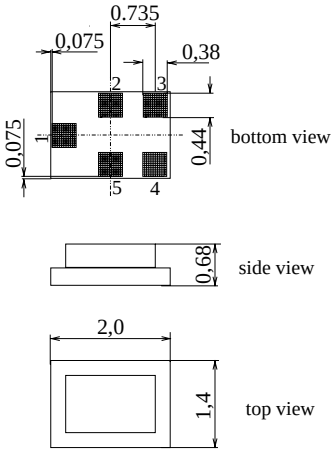
SAW Components

Data Sheet B7825

Chip sized SAW package **QCS5C**

Features

- Low-loss RF filter for mobile telephone PCS systems, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS class 1 to 12
- Package for **S**urface **M**ounted **T**echnology (**SMT**)



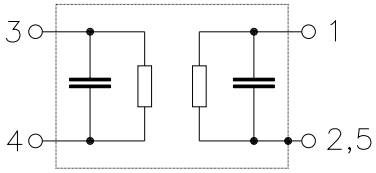
Terminals

- Gold-plated Ni

Dimensions in mm, approx. weight 0,007 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B7825	B39202-B7825-C710	C61157-A7-A111	F61074-V8151-Z000

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

Maximum ratings

Operating temperature range	T	– 30/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	250	V	human body model
Input power at				
GSM850, GSM900	P_{IN}	15	dBm	peak power of GSM signal,
GSM1800,GSM1900	P_{IN}	12	dBm	duty cycle 4:8
Tx bands				

Characteristics

Operating temperature range: T = 25°C ± 2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω (balanced) || 18 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0 ... 1990,0 MHz		—	1,9	2,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	0,5	1,5	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-10	-7 / +7	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	-0,9 / +0,9	1,5	dB
Attenuation	α				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		15	18	—	dB
2010,0 ... 2070,0 MHz		14	17	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB

Characteristics

Operating temperature range: T = -20 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω (balanced) || 18 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0 ... 1990,0 MHz		—	2,2	2,9	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	0,8	1,8	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-10	-7 / +7	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	-0,9 / +1,3	1,5	dB
Attenuation	α				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		8	14	—	dB
2010,0 ... 2070,0 MHz		8	14	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB

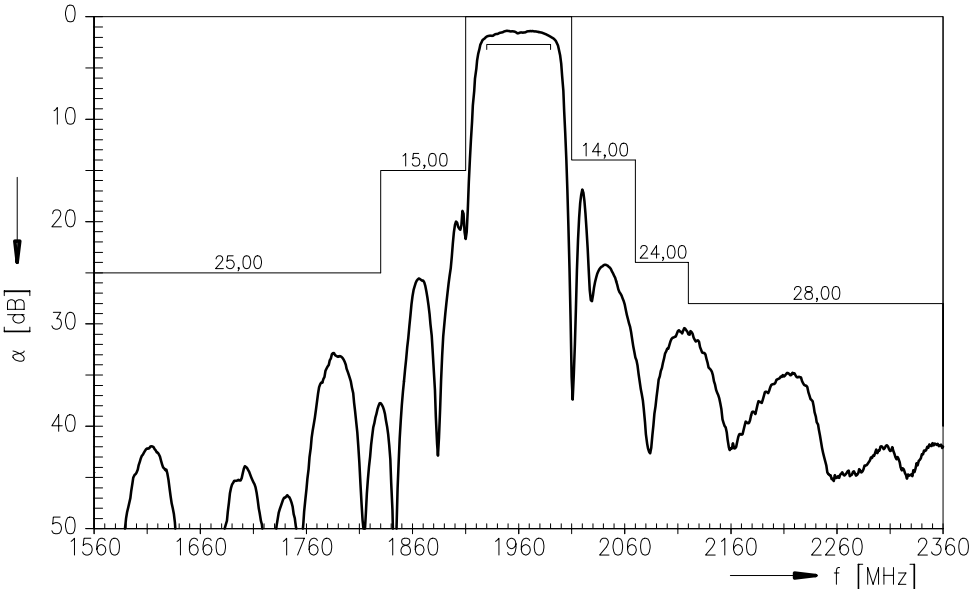
Data Sheet SMD

Characteristics

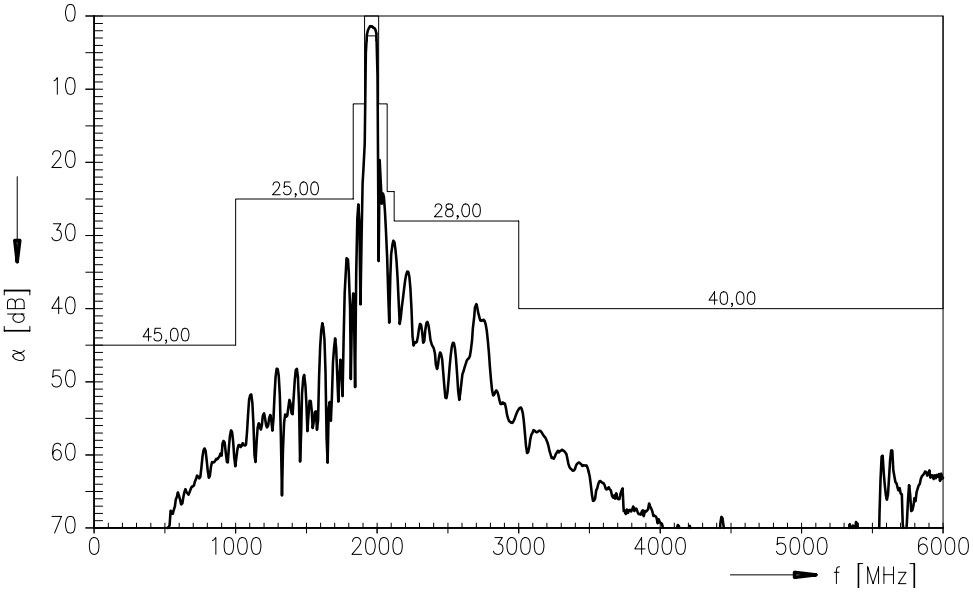
Operating temperature range: T = -30 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω (balanced) || 18 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0 ... 1990,0 MHz		—	2,2	2,9	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	0,8	1,8	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,6	2,2	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-10	-7 / +7	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	-0,9 / +1,3	1,5	dB
Attenuation	α				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		8	14	—	dB
2010,0 ... 2070,0 MHz		7	13	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB

Transfer function (specification for *T*= 25 ˚C)



Transfer function (wide band):



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