EPCOS

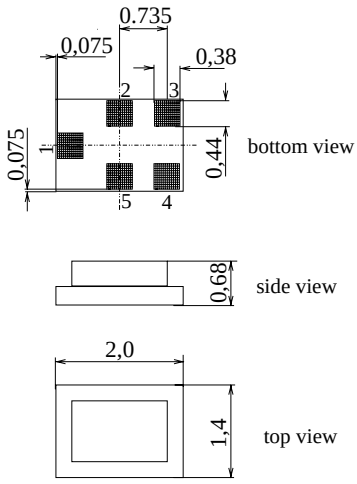
SAW Components

Data Sheet B7844

Chip sized SAW package QCS5E

Features

- Low-loss RF filter for mobile telephone PCN systems, receive path
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 75 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**ount **T**echnology (**SMT**)
- Pb-free



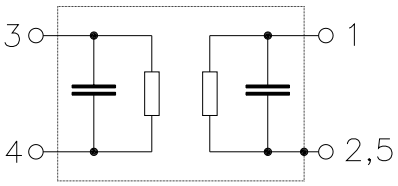
Dimensions in mm, approx. weight 0,007 g

Terminals

- Ni, gold-plated

Pin configuration

1	Input, unbalanced
3,4	Output, balanced
2,5	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7844	B39182-B7844-K410	C61157-A7-A131	F61074-V8151-Z000

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

Maximum ratings

Operable temperature range	T	– 20 / + 75	˚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
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				

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

Characteristics

Operating temperature range: T = 25°C ± 2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 15 nH (balanced)

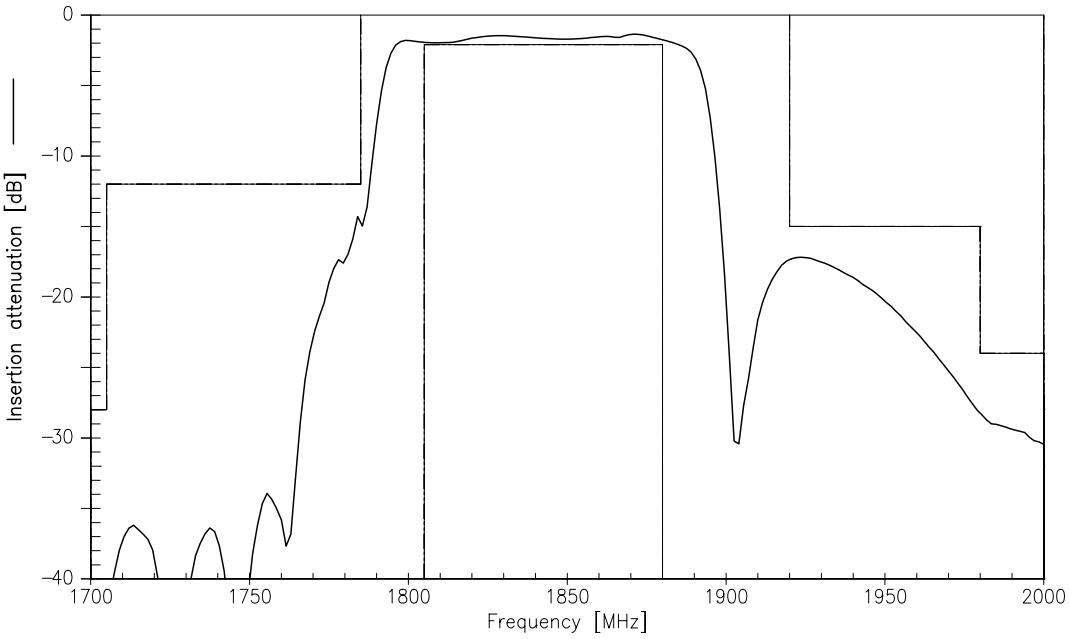
		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	α_{max}				
1805,0 ... 1880,0 MHz		—	1,9	2,1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	0,6	1,0	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,1	2,6	
Output VSWR					
1805,0 ... 1880,0 MHz		—	2,0	2,6	
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1805,0 ...1880,0 MHz		-1,0	-0,5 / +0,5	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1805,0 ...1880,0 MHz		-10	-1 / +3	10	°
Attenuation	α				
0,0 ... 902,0 MHz		30	50	—	dB
902,0 ... 940,0 MHz		45	50	—	dB
940,0 ... 1705,0 MHz		28	33	—	dB
1705,0 ... 1785,0 MHz		12	16	—	dB
1920,0 ... 1980,0 MHz		15	18	—	dB
1980,0 ... 2030,0 MHz		24	28	—	dB
2030,0 ... 2400,0 MHz		28	32	—	dB
2400,0 ... 2500,0 MHz		32	37	—	dB
2500,0 ... 2775,0 MHz		27	30	—	dB
2775,0 ... 2880,0 MHz		40	47	—	dB
2880,0 ... 3610,0 MHz		28	46	—	dB
3610,0 ... 3760,0 MHz		40	46	—	dB
3760,0 ... 5415,0 MHz		28	47	—	dB
5415,0 ... 5640,0 MHz		35	44	—	dB
5640,0 ... 6000,0 MHz		28	44	—	dB

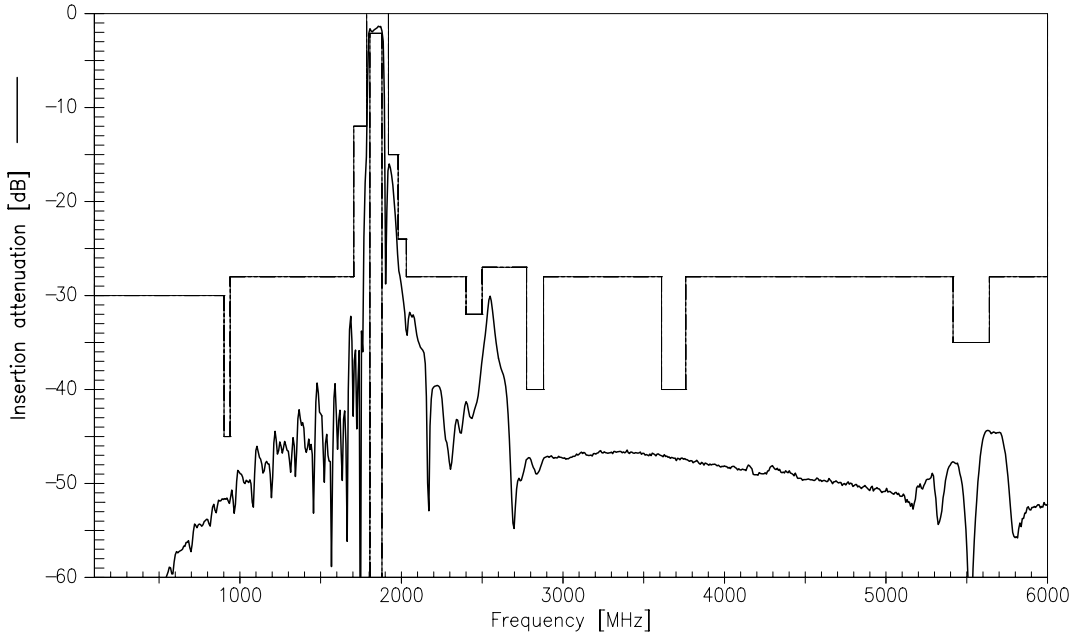
Characteristics

Operating temperature range: T = -20 to +75 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L =150 Ω || 15 nH (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	α_{max}				
1805,0 ... 1880,0 MHz		—	1,9	2,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	0,6	1,3	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,1	2,6	
Output VSWR					
1805,0 ... 1880,0 MHz		—	2,0	2,6	
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1805,0 ...1880,0 MHz		-1,0	-0,7 / +0,5	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1805,0 ...1880,0 MHz		-10	-1 / +4	10	°
Attenuation	α				
0,0 ... 902,0 MHz		30	50	—	dB
902,0 ... 940,0 MHz		45	50	—	dB
940,0 ... 1705,0 MHz		28	33	—	dB
1705,0 ... 1785,0 MHz		10	14	—	dB
1920,0 ... 1980,0 MHz		15	18	—	dB
1980,0 ... 2030,0 MHz		23	28	—	dB
2030,0 ... 2400,0 MHz		28	32	—	dB
2400,0 ... 2500,0 MHz		32	37	—	dB
2500,0 ... 2775,0 MHz		27	30	—	dB
2775,0 ... 2880,0 MHz		40	47	—	dB
2880,0 ... 3610,0 MHz		28	46	—	dB
3610,0 ... 3760,0 MHz		40	46	—	dB
3760,0 ... 5415,0 MHz		28	47	—	dB
5415,0 ... 5640,0 MHz		35	44	—	dB
5640,0 ... 6000,0 MHz		28	44	—	dB

Transfer function





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