



SAW Components

Data Sheet B7844

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a curved, metallic-looking structure. The background is dark and textured, suggesting a globe or a complex circuit board layout.



SAW Components

B7844

Low-Loss Filter for Mobile Communication

1842,5 MHz

Data Sheet



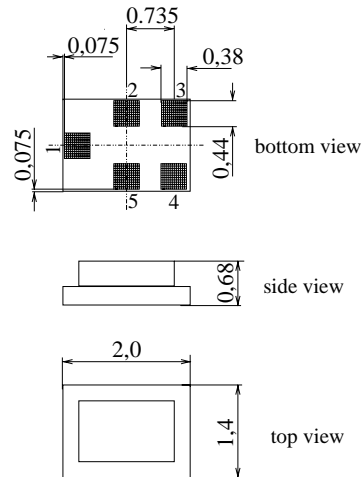
Chip sized SAW package QCS5E

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 **Surface Mount Technology (SMT)**
- Pb-free

Terminals

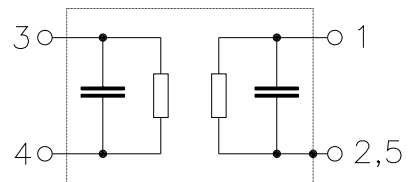
- Ni, gold-plated



Dimensions in mm, approx. weight 0,007 g

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 Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 20 / + 75	°C	Machine Model, 10 pulses
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50*	V	
Input Power at				peak power of GSM signal, duty cycle 4:8
GSM850, GSM900	P_{IN}	15	dBm	
GSM1800, GSM1900	P_{IN}	12	dBm	
Tx bands				

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



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Characteristics

Operating temperature range: $T = 25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega \parallel 15 \text{ nH (balanced)}$

			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 (S_{31}/S_{21})		1805,0 ... 1880,0 MHz	-1,0	-0,5 / +0,5	1,0	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		1805,0 ... 1880,0 MHz	-10	-1 / +3	10	$^{\circ}$
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



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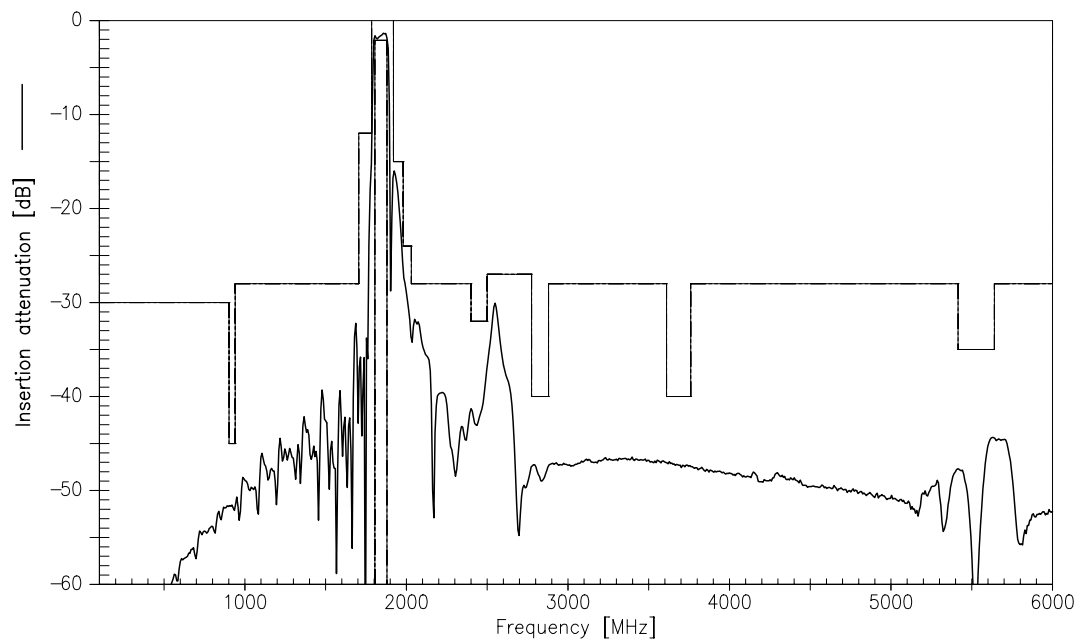
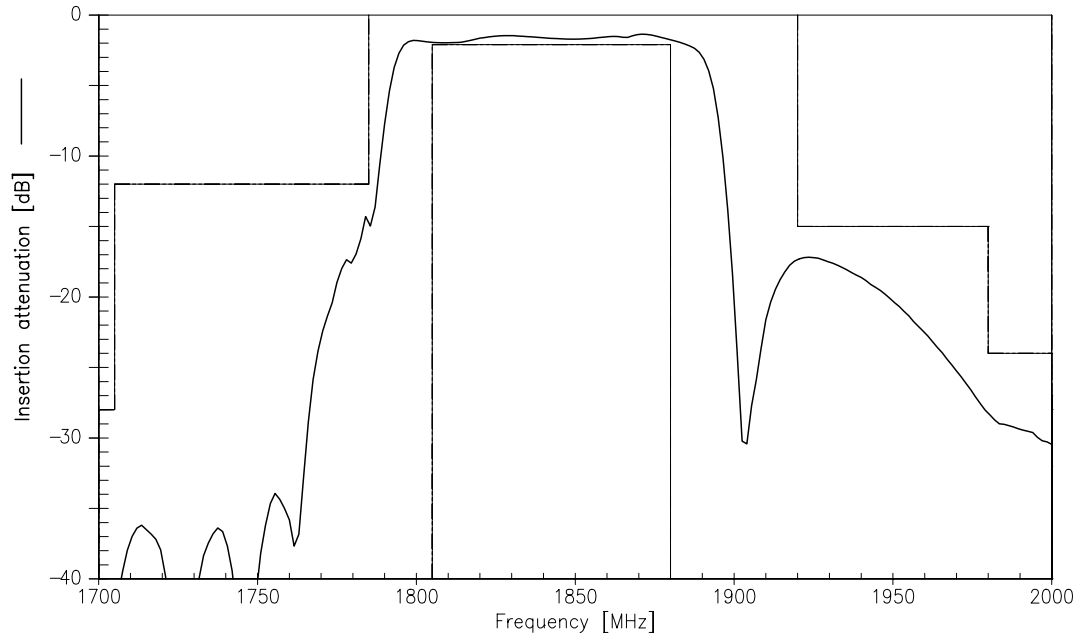
Characteristics

Operating temperature range: $T = -20$ to $+75$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega \parallel 15$ 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 (S_{31}/S_{21})					
1805,0 ... 1880,0 MHz		-1,0	-0,7 / +0,5	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
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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Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, 81617 Munich, GERMANY

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