



SAW Components

Data Sheet B7825

Data Sheet

An abstract, grayscale graphic featuring a globe with a grid pattern, overlaid with a large, stylized, and slightly blurred "EPCOS" logo. The logo is rendered in a light gray, almost white, color, giving it a three-dimensional appearance as if it's floating or attached to the globe. The background is dark and textured, with some light streaks and a sense of motion or depth.

EPCOS



SAW Components

B7825

Low-Loss Filter for Mobile Communication

1960,0 MHz

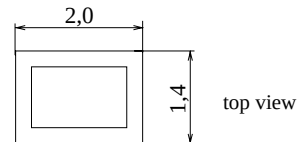
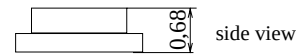
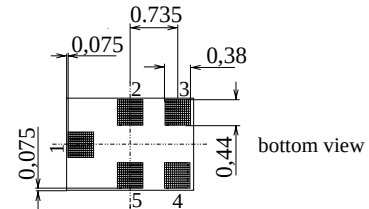
Data Sheet



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 **Surface Mounted Technology (SMT)**



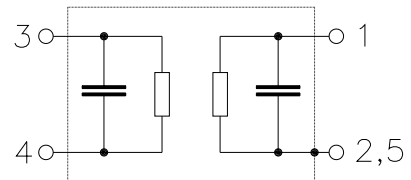
Terminals

- 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 Sensitive Device (ESD)

Maximum ratings

Operating temperature range	T	- 30/+ 85	$^{\circ}\text{C}$	human body model
Storage temperature range	T_{stg}	- 40/+ 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	250	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				



SAW Components

B7825

Low-Loss Filter for Mobile Communication

1960,0 MHz

Data Sheet



Characteristics

Operating temperature range: $T = 25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\ \Omega$
Terminating load impedance: $Z_L = 150\ \Omega$ (balanced) $\parallel 18\ \text{nH}$

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	1,9	2,7	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,5	1,5	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-1,5	-0,9 / +0,9	1,5	dB
1930,0 ... 1990,0 MHz					
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



SAW Components

B7825

Low-Loss Filter for Mobile Communication

1960,0 MHz

Data Sheet



Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,2	2,9	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,8	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-1,5	-0,9 / +1,3	1,5	dB
1930,0 ... 1990,0 MHz					
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



SAW Components

B7825

Low-Loss Filter for Mobile Communication

1960,0 MHz

Data Sheet



Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,2	2,9	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,8	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-1,5	-0,9 / +1,3	1,5	dB
1930,0 ... 1990,0 MHz					
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



SAW Components

B7825

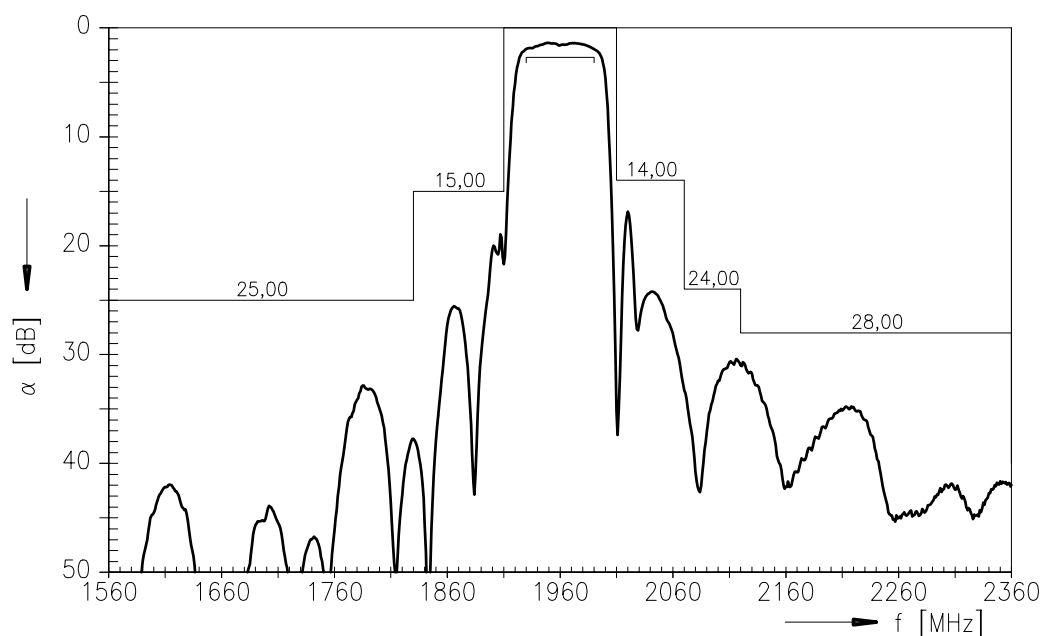
Low-Loss Filter for Mobile Communication

1960,0 MHz

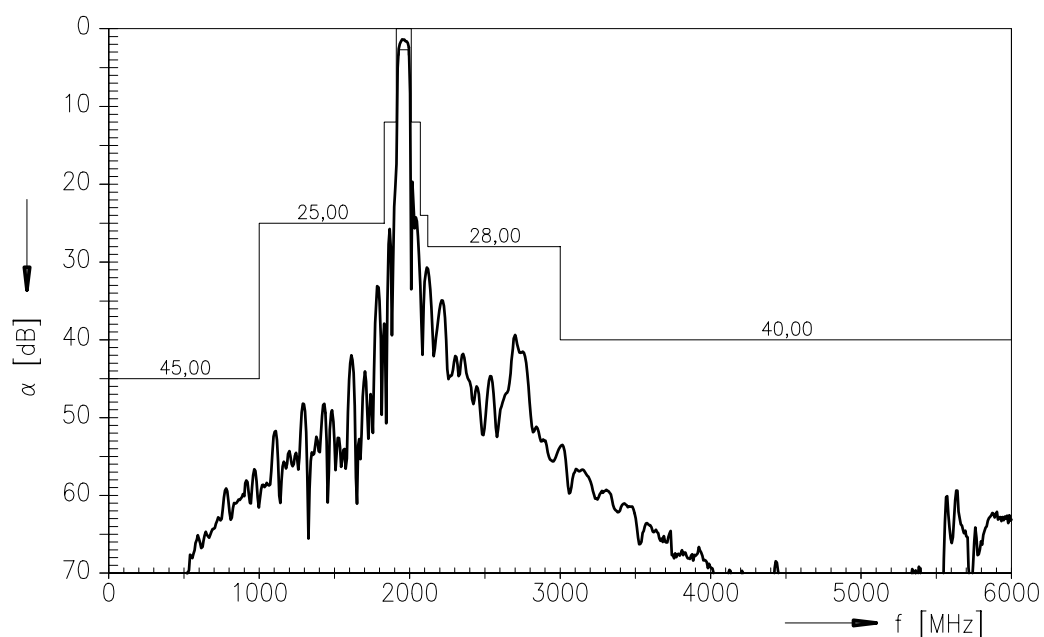
Data Sheet



Transfer function (specification for $T = 25^\circ\text{C}$)



Transfer function (wide band):





SAW Components	B7825
Low-Loss Filter for Mobile Communication	1960,0 MHz
Data Sheet	SMD

Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC WT
P.O. Box 80 17 09, 81617 Munich, GERMANY

© EPCOS AG 2003. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.