



SAW Components

Data Sheet B7616

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a bright, circular highlight in the center of each, giving them a three-dimensional appearance. They are set against a dark, textured background that includes a faint, glowing globe and circuitry patterns, suggesting a high-tech or electronic theme.



SAW Components

B7616

Low-Loss Filter for Mobile Communication

942,5 MHz

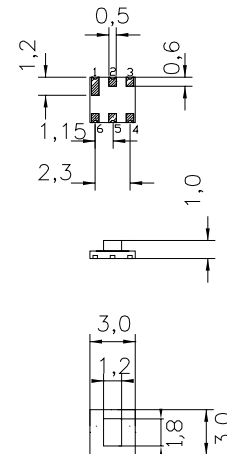
Data Sheet



Features

- Low-loss RF filter for mobile telephone EGSM system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Excellent symmetry
- Impedance transformation from 50 Ω to 150 Ω
- Ceramic Package for Surface Mounted Technology (SMT)

Chip sized SAW package



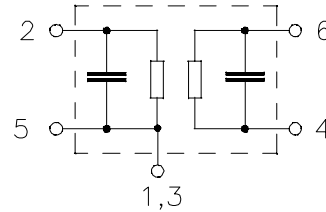
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,027 g

Pin configuration

- 2 Input, unbalanced
- 4, 6 Output, balanced
- 1, 3, 5 to be grounded
- 1, 3, 5 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7616	B39941-B7616-B710	C61157-A7-A77	F61074-V8108-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 10 / + 75	$^{\circ}\text{C}$	source impedance 50 Ω , load impedance 150 Ω ; CW input for 2000h
Storage temperature range	T_{stg}	- 40 / + 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	3	V	
Input power max.				
880 ... 915 MHz	P_{IN}	18	dBm	
925 ... 960 MHz		8	dBm	
1705...1785 MHz		18	dBm	
elsewhere		0	dBm	



SAW Components

B7616

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



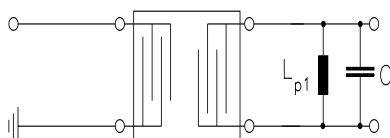
Characteristics

Operating temperature range: $T = 25\text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\text{ }\Omega$
Terminating load impedance: $Z_L = 150\text{ }\Omega$ including matching network

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,9	3,5	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,7	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,1	2,3	
925,0 ... 960,0 MHz					
Output VSWR		—	1,8	2,1	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-5	0	5	degree
925,0 ... 960,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz					
Attenuation	α				
0,0 ... 600,0 MHz		60	70	—	dB
600,0 ... 880,0 MHz		50	60	—	dB
880,0 ... 905,0 MHz		28	40	—	dB
905,0 ... 915,0 MHz		18	26	—	dB
980,0 ... 1000,0 MHz		23	27	—	dB
1000,0 ... 1050,0 MHz		35	42	—	dB
1050,0 ... 1920,0 MHz		50	65	—	dB
1920,0 ... 2880,0 MHz		45	55	—	dB
2880,0 ... 4050,0 MHz		35	45	—	dB
4050,0 ... 5700,0 MHz		25	35	—	dB

Test matching network:

$L_{p1} = 15\text{ nH}$ ($Q = 30$)
 $C_L = 1,5\text{ pF}$





SAW Components

B7616

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



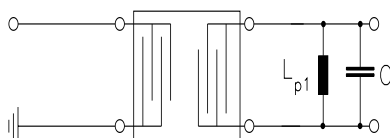
Characteristics

Operating temperature range:	$T = -10 \text{ to } +75 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$
Terminating load impedance:	$Z_L = 150 \text{ } \Omega$ including matching network

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	3,0	3,8	dB
925,0 ... 960,0 MHz		—	3,0	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,9	2,0	dB
925,0 ... 960,0 MHz		—	0,9	2,0	dB
Input VSWR		—	2,1	2,3	
925,0 ... 960,0 MHz		—	2,1	2,3	
Output VSWR		—	1,8	2,1	
925,0 ... 960,0 MHz		—	1,8	2,1	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-5	0	5	degree
925,0 ... 960,0 MHz		-5	0	5	degree
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz		-0,5	0	0,5	dB
Attenuation	α				
0,0 ... 600,0 MHz		60	70	—	dB
600,0 ... 880,0 MHz		50	60	—	dB
880,0 ... 905,0 MHz		28	40	—	dB
905,0 ... 915,0 MHz		18	26	—	dB
980,0 ... 1000,0 MHz		23	26	—	dB
1000,0 ... 1050,0 MHz		35	42	—	dB
1050,0 ... 1920,0 MHz		50	65	—	dB
1920,0 ... 2880,0 MHz		45	55	—	dB
2880,0 ... 4050,0 MHz		35	45	—	dB
4050,0 ... 5700,0 MHz		25	35	—	dB

Test matching network:

$L_{p1} = 15 \text{ nH}$ ($Q = 30$)
 $C_L = 1,5 \text{ pF}$





SAW Components

B7616

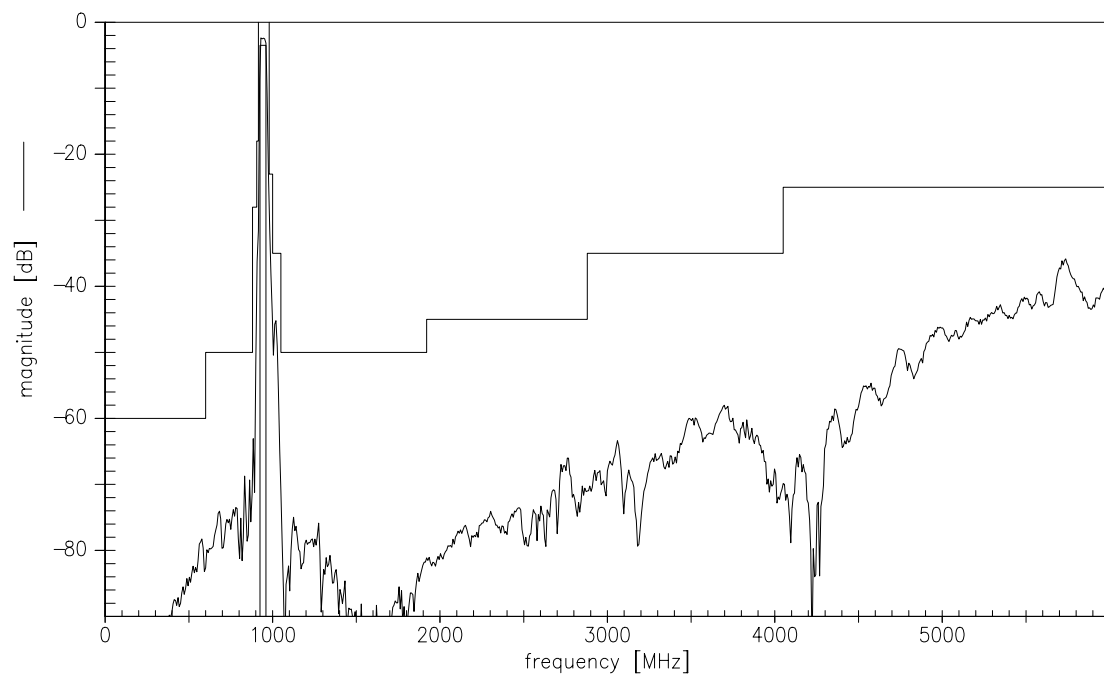
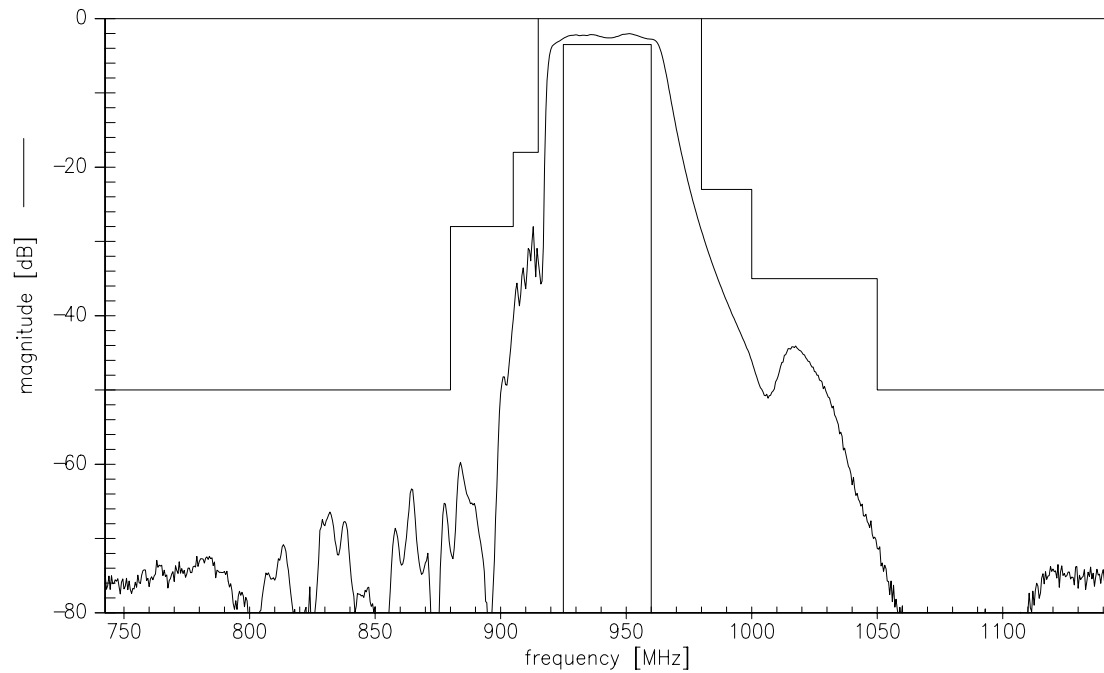
Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Transfer function:





SAW Components

B7616

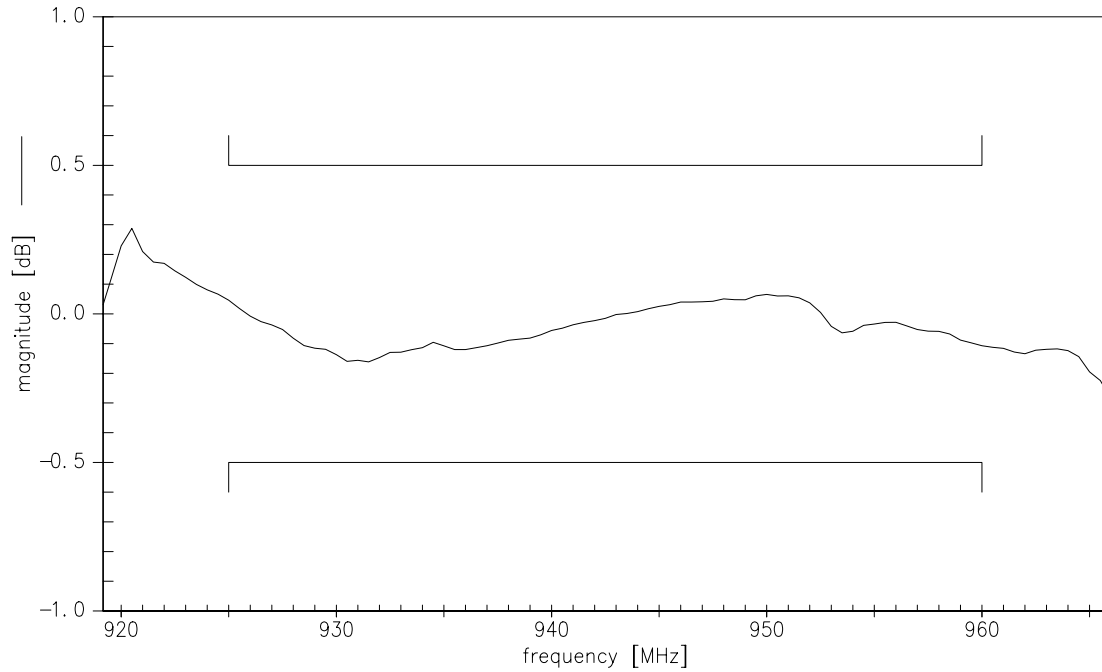
Low-Loss Filter for Mobile Communication

942,5 MHz

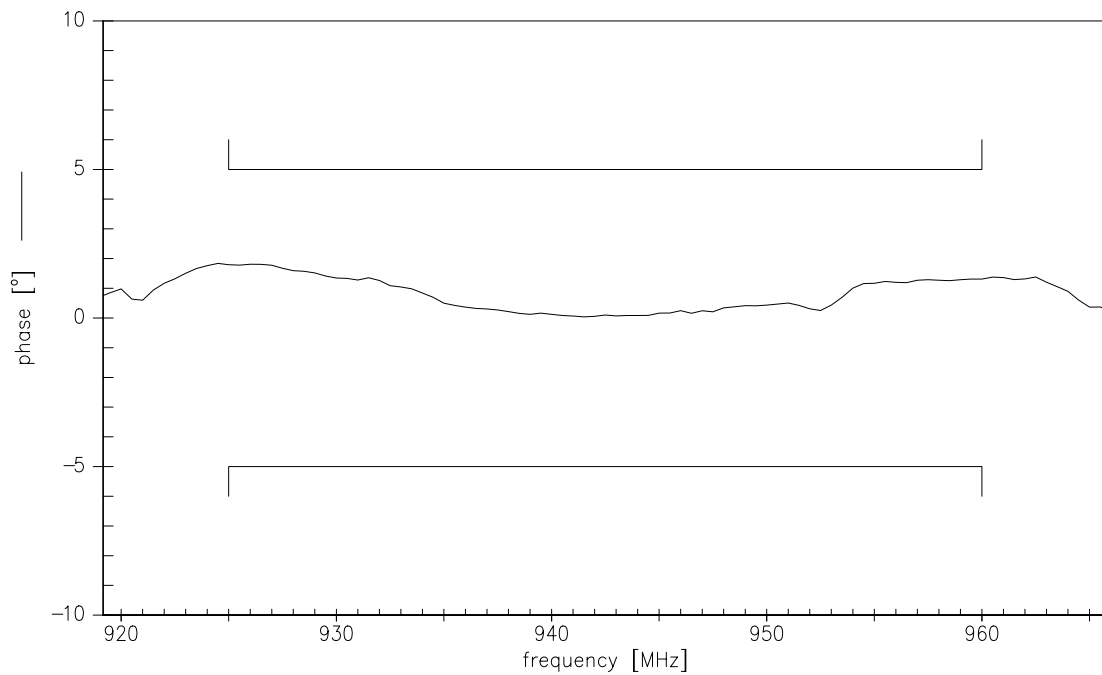
Data Sheet



Output amplitude balance ($|S_{31}|/|S_{21}|$)



Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)





SAW Components	B7616
Low-Loss Filter for Mobile Communication	942,5 MHz
Data Sheet	SMD

Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2000. All Rights Reserved. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. 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.