



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 blue outline and a blue glow. They are set against a dark background that includes a faint, glowing globe and circuitry patterns. The overall effect is futuristic and high-tech.



SAW Components

B7616

Low-Loss Filter for Mobile Communication

942,5 MHz

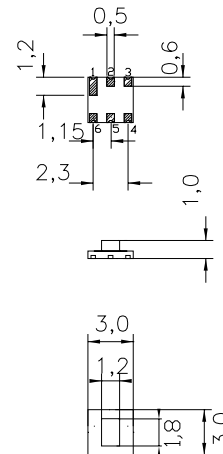
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Features

- 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



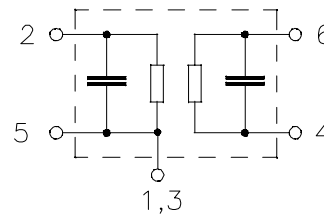
Terminals

- 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	



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Characteristics

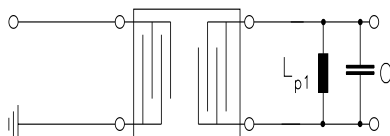
Operating temperature range:	$T = 25\text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50\text{ }\Omega$
Terminating load impedance:	$Z_L = 150\text{ }\Omega$ including matching network

		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		—	2,9	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,7	dB
925,0 ... 960,0 MHz		—	0,8	1,7	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	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:

$$L_{p1} = 15\text{ nH (Q = 30)}$$

$$C_L = 1,5\text{ pF}$$





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Characteristics

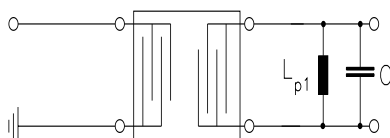
Operating temperature range:	$T = -10 \text{ to } +75 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$
Terminating load impedance:	$Z_L = 150 \text{ } \Omega$ including matching network

		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
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2880,0 ... 4050,0 MHz		35	45	—	dB
4050,0 ... 5700,0 MHz		25	35	—	dB

Test matching network:

$$L_{p1} = 15 \text{ nH (Q = 30)}$$

$$C_L = 1,5 \text{ pF}$$





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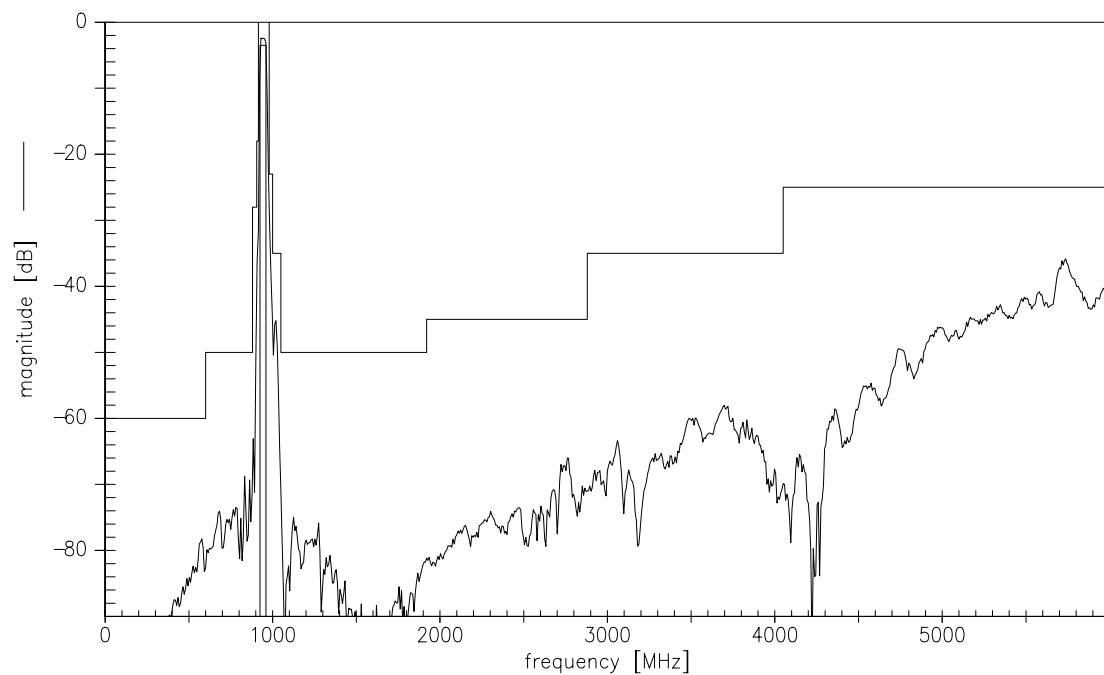
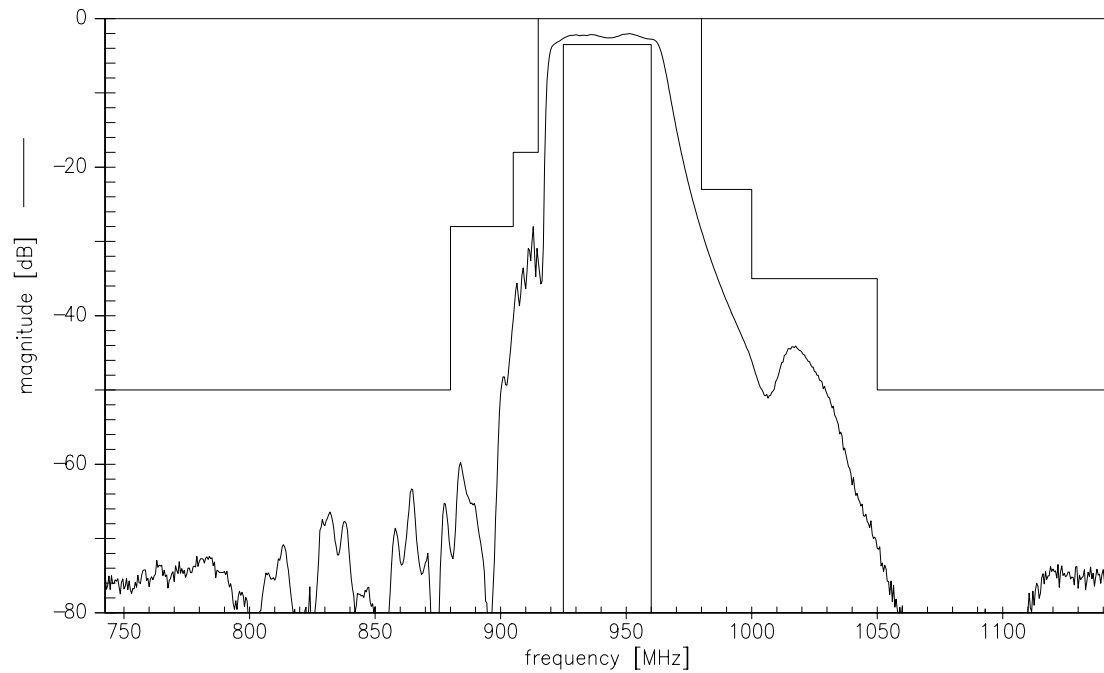
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Transfer function:





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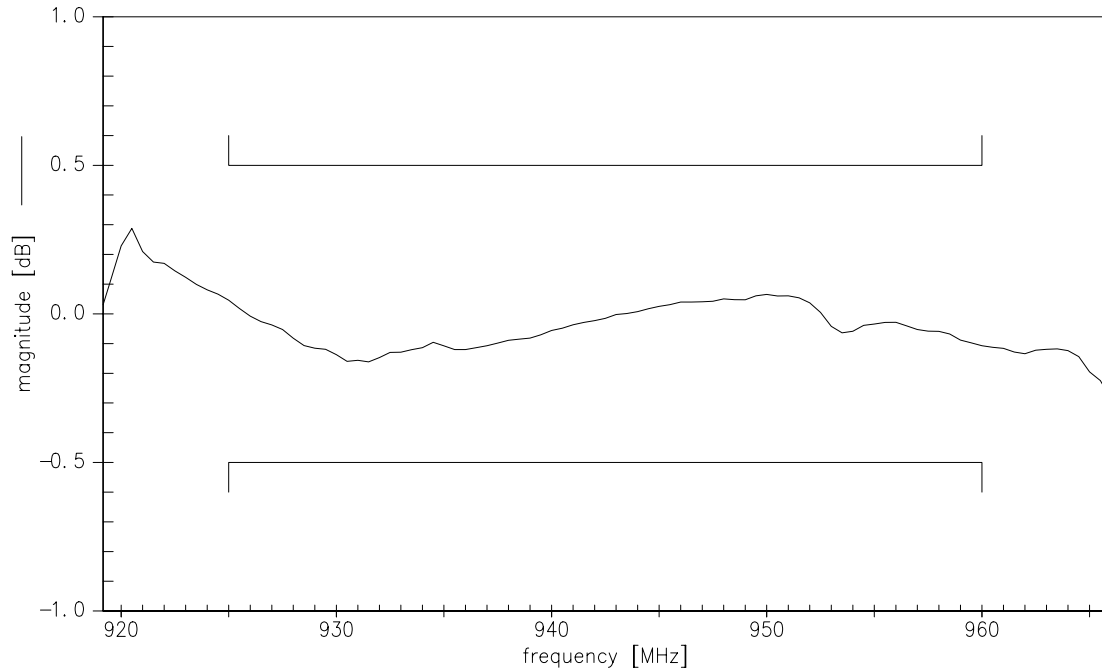
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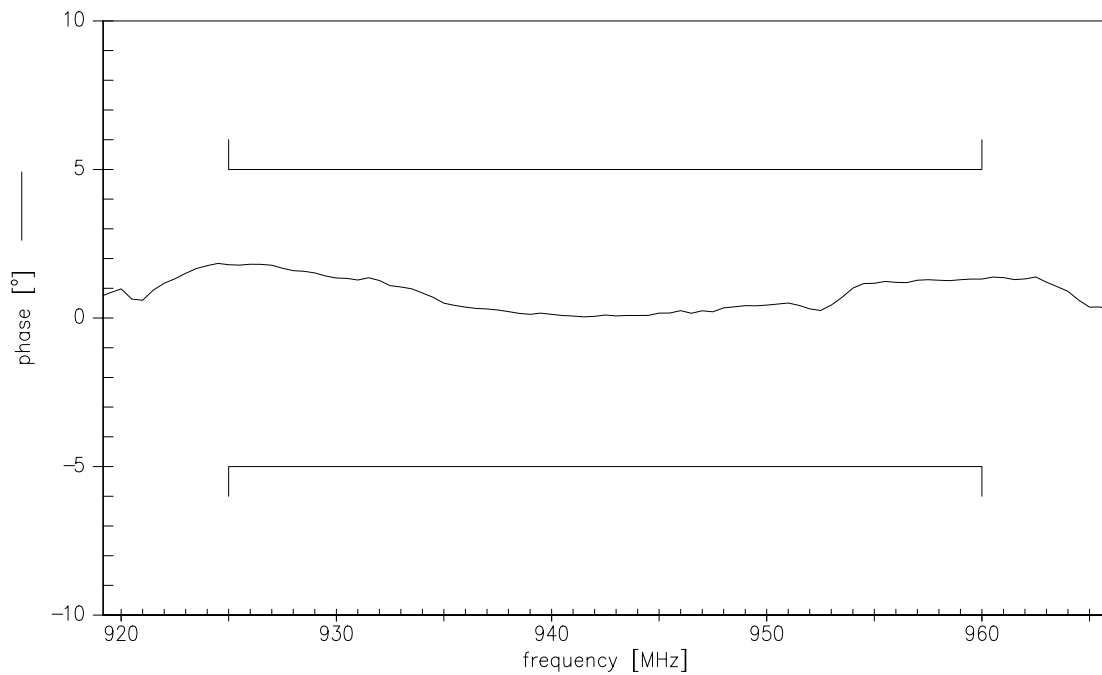
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Output amplitude balance ($|S_{31}|/|S_{21}|$)



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





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Data Sheet	SMD

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