EPCOS

SAW Components

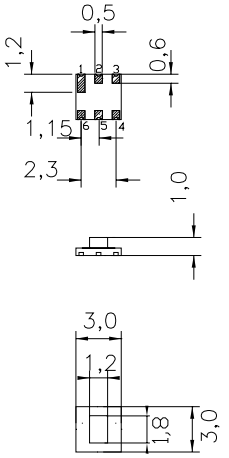
Data Sheet B7616

Data Sheet SMD

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 **S**urface **M**ounted **T**echnology (**SMT**)

Chip sized SAW package



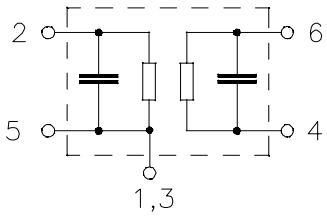
Terminals

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

Maximum ratings

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

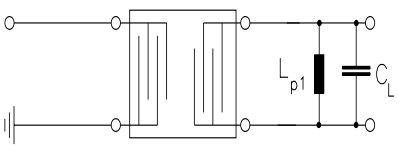
Characteristics

Operating temperature range: T = 25 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω including matching network

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	2,9	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	0,8	1,7	dB
Input VSWR					
925,0 ... 960,0 MHz		—	2,1	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^o$)					
925,0 ... 960,0 MHz		-5	0	5	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
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 nH (Q = 30)
C_L = 1,5 pF



Characteristics

Operating temperature range: T = -10 to + 75 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω including matching network

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	3,0	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
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Input VSWR					
925,0 ... 960,0 MHz		—	2,1	2,3	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,1	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^o$)					
925,0 ... 960,0 MHz		-5	0	5	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
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
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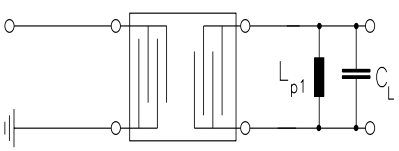
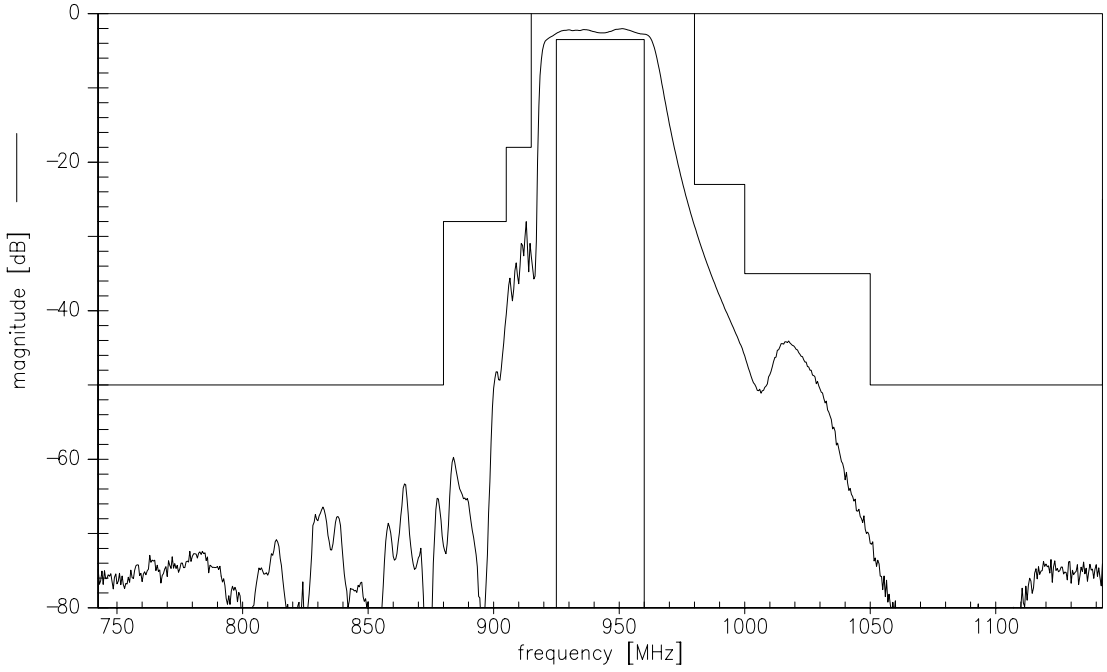
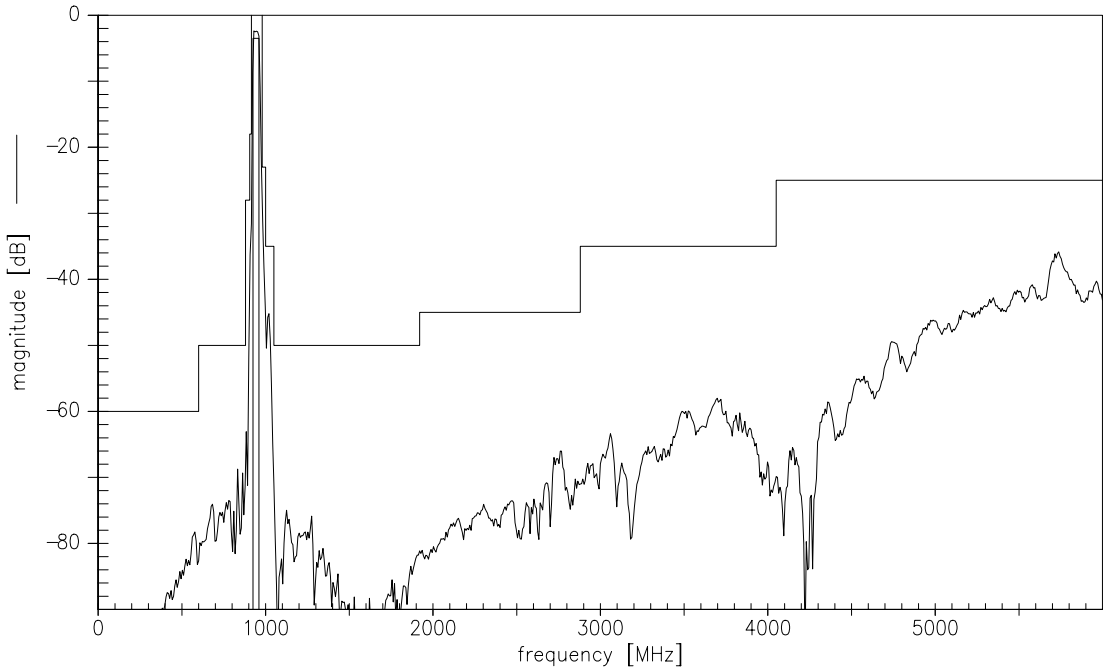
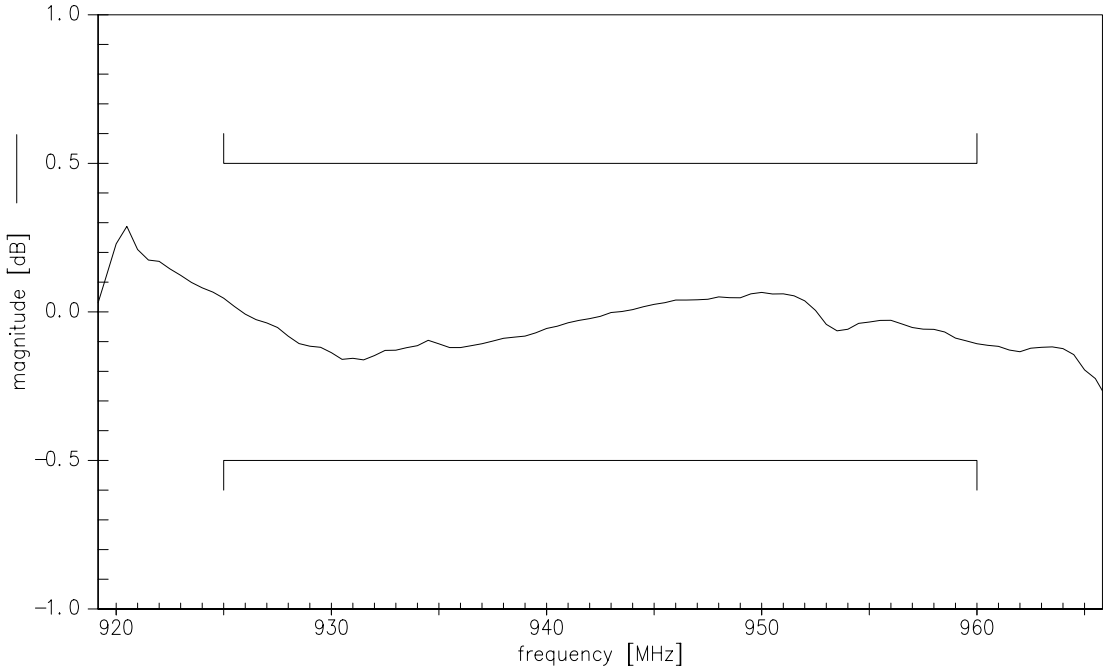


Transfer function:

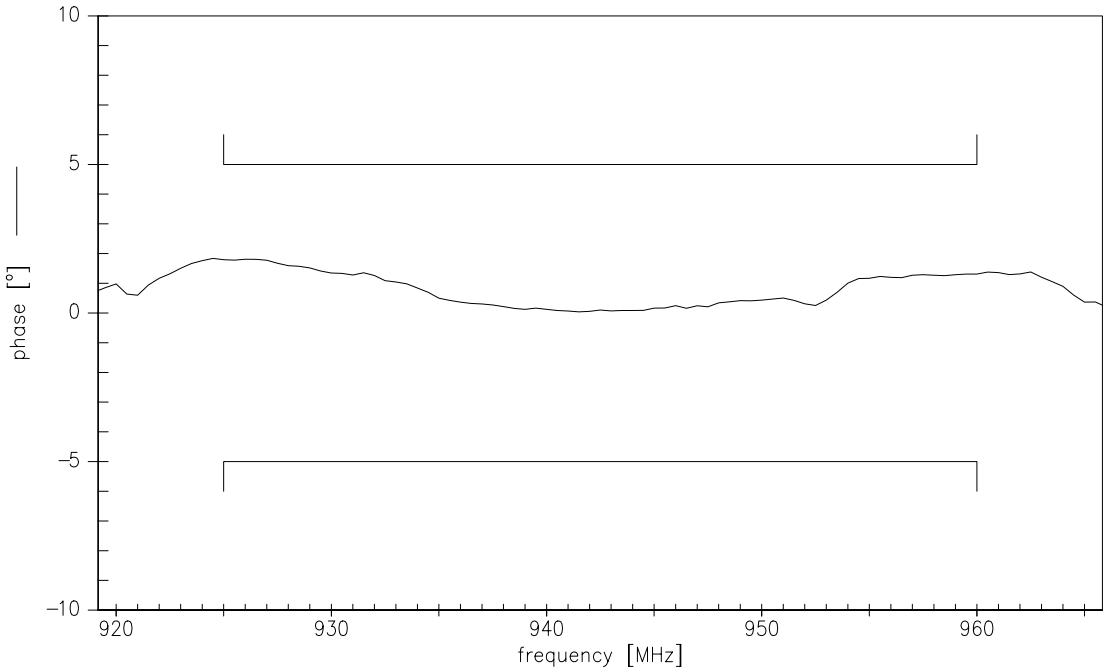




Output amplitude balance ($|S_{31}/S_{21}|$)



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



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This brochure replaces the previous edition.

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