



SAW Components

Data Sheet B4115

Data Sheet

An abstract, grayscale background graphic featuring a globe with a grid pattern. Overlaid on the globe is a large, stylized, 3D-effect word "EPCOS" in a light gray color. The word is tilted and appears to be floating or emerging from the globe. The overall effect is a sense of global connectivity and technological sophistication.

EPCOS



SAW Components

B4115

Low-Loss Filter for Mobile Communication

942,5 MHz

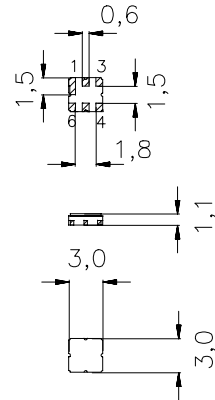
Data Sheet



Ceramic package **DCC6D**

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced Operation
- Ceramic package for **Surface Mounted Technology (SMT)**



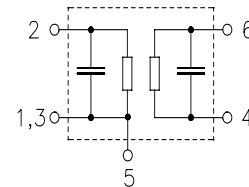
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,037 g

Pin configuration

- | | |
|---------|-------------------|
| 2 | Input, unbalanced |
| 4, 6 | Balanced Outputs |
| 1, 3, 5 | To be grounded |
| 1, 3, 5 | Case ground |



Type	Ordering code	Marking and Package according to	Packing according to
B4115	B39941-B4115-U510	C61157-A7-A68	F61074-V8089-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 20 / + 80	°C	source and load impedance 50 Ω peak power of GSM signal duty cycle 1 : 8 duty cycle 2 : 8 continuous wave
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	3	V	
Input power max.	P_{IN}			
880 ... 915 MHz		5	dBm	
		3	dBm	
elsewhere		0	dBm	



SAW Components

B4115

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	2,7	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	0,8	2,0	dB
Input/Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
925,0 ... 960,0 MHz		170	—	190	degree
Output amplitude balance (S_{31} / S_{21})					
925,0 ... 960,0 MHz		-1,0	0	1,0	dB
Output reflection coefficient @942,5 MHz					
Phase		-59	-39	-19	°
Attenuation	α				
0,0 ... 880,0 MHz		50	60	—	dB
880,0 ... 905,0 MHz		28	35	—	dB
905,0 ... 915,0 MHz		18	25	—	dB
980,0 ... 1050,0 MHz		22	24	—	dB
1050,0 ... 1680,0 MHz		50	60	—	dB
1680,0 ... 2000,0 MHz		45	55	—	dB
2000,0 ... 3000,0 MHz		30	45	—	dB
3000,0 ... 6000,0 MHz		15	25	—	dB



SAW Components

B4115

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Characteristics

Operating temperature range:	$T = -20^{\circ}\text{C to } +75^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 50\ \Omega$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	3,0	4,2	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,3	2,5	dB
925,0 ... 960,0 MHz					
Input/Output VSWR		—	1,8	2,3	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		170	—	190	degree
925,0 ... 960,0 MHz					
Output amplitude balance (S_{31}/S_{21})		-1,0	0	1,0	dB
925,0 ... 960,0 MHz					
Attenuation	α				
0,0 ... 880,0 MHz		50	60	—	dB
880,0 ... 905,0 MHz		28	33	—	dB
905,0 ... 915,0 MHz		15	23	—	dB
980,0 ... 1050,0 MHz		20	22	—	dB
1050,0 ... 1680,0 MHz		50	60	—	dB
1680,0 ... 2000,0 MHz		45	55	—	dB
2000,0 ... 3000,0 MHz		30	45	—	dB
3000,0 ... 6000,0 MHz		15	25	—	dB



SAW Components

B4115

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



Characteristics

Operating temperature range:	$T = -20^{\circ}\text{C to } +80^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 50\ \Omega$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,0	4,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,3	2,6	dB
Input/Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,3	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)					
925,0 ... 960,0 MHz		170	—	190	degree
Output amplitude balance ($ S_{31} / S_{21} $)					
925,0 ... 960,0 MHz		-1,0	0	1,0	dB
Attenuation	α				
0,0 ... 880,0 MHz		50	60	—	dB
880,0 ... 905,0 MHz		28	33	—	dB
905,0 ... 915,0 MHz		13	21	—	dB
980,0 ... 1050,0 MHz		20	22	—	dB
1050,0 ... 1680,0 MHz		50	60	—	dB
1680,0 ... 2000,0 MHz		45	55	—	dB
2000,0 ... 3000,0 MHz		30	45	—	dB
3000,0 ... 6000,0 MHz		15	25	—	dB



SAW Components

B4115

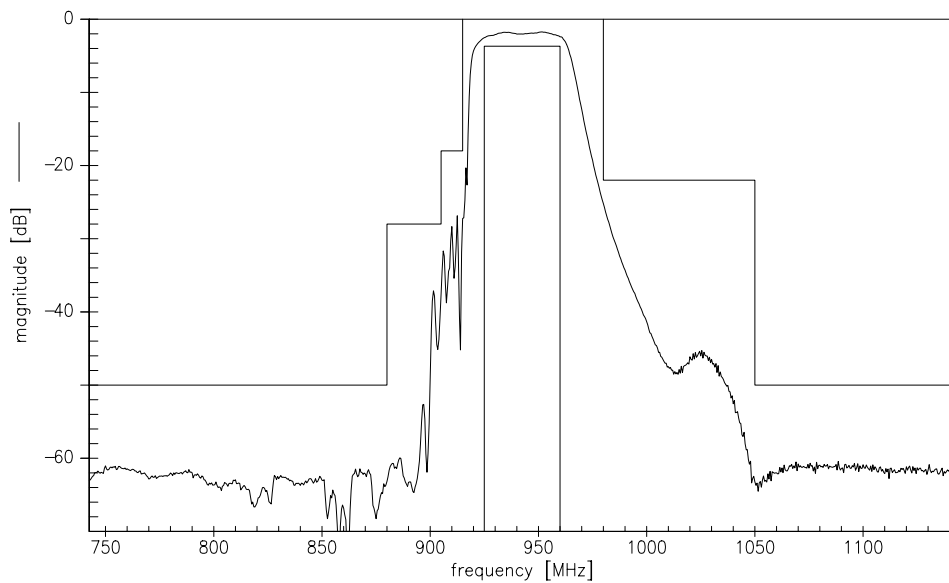
Low-Loss Filter for Mobile Communication

942,5 MHz

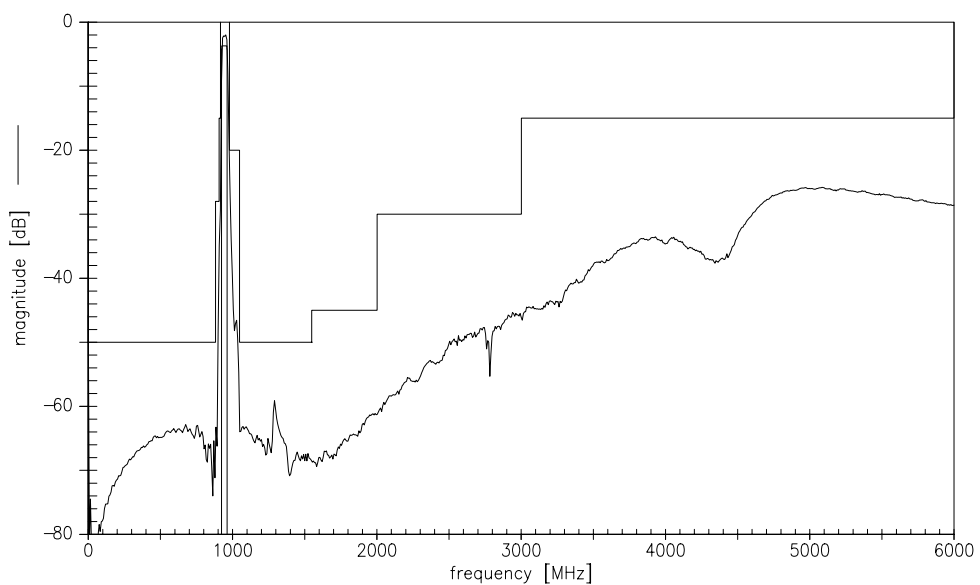
Data Sheet



Transfer function



Transfer function (wide band)





SAW Components	B4115
Low-Loss Filter for Mobile Communication	942,5 MHz
Data Sheet	SMD

Published by EPCOS AG
Surface Acoustic Wave Components Division, OFW E MF
P.O. Box 80 17 09, D-81617 München

© EPCOS AG 1999. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

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.