



SAW Components

Data Sheet B7715

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 gradients.

EPCOS



SAW Components

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Low-Loss Filter for Mobile Communication

897,5 MHz

Data Sheet



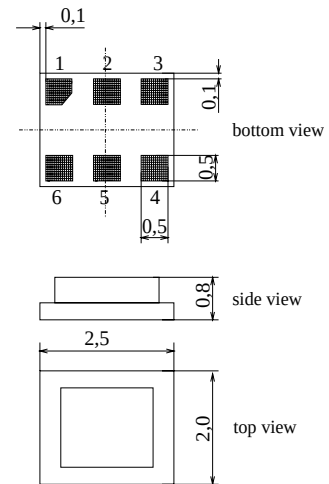
Chip sized SAW package DCS6I

Features

- Low-loss RF filter for mobile telephone EGSM systems, transmit path
- Low amplitude ripple
- Usable passband 35 MHz
- Balanced to unbalanced operation
- Impedance transformation from 200 Ω to 50 Ω
- Ceramic package for Surface Mounted Technology (SMT)

Terminals

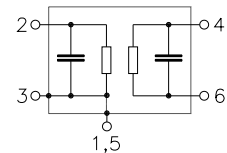
- Ni, gold-plated



Dimensions in mm, approx. weight 0,014g

Pin configuration

- 2 Output, unbalanced
- 4, 6 Balanced inputs
- 1, 3, 5 To be grounded
- 1, 5 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7715	B39901-B7715-C610	C61157-A7-A76	F61074-V8153-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 10 / + 80	$^{\circ}\text{C}$	
Storage temperature range	T_{stg}	- 40 / + 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50	V	
Input power max.				> 2000 hrs at 85 $^{\circ}\text{C}$ peak power of GSM signal, duty cycle 2 : 8 duty cycle 4 : 8,
880 ... 915 MHz	P_{IN}	14 12	dBm dBm	
elsewhere		0	dBm	continuous wave



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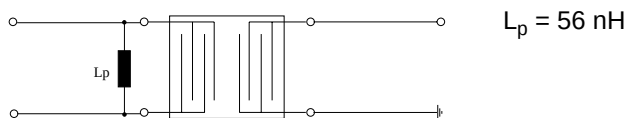


Characteristics

Operating temperature range: $T = 25 \pm 2^\circ\text{C}$
 Terminating source impedance: $Z_S = 200\ \Omega$ including matching network
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,6	3,0	dB
	880,0 ... 915,0 MHz	—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,1	1,5	dB
	880,0 ... 915,0 MHz	—	1,1	1,5	dB
Balanced input VSWR		—	1,7	2,0	
	880,0 ... 915,0 MHz	—	1,7	2,0	
Unbalanced output VSWR		—	1,8	2,2	
	880,0 ... 915,0 MHz	—	1,8	2,2	
Diff. to common mode suppression	S_{sc12}	20	23	—	dB
	880,0 ... 915,0 MHz	20	23	—	dB
Input phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-10	—	+10	degree
	880,0 ... 915,0 MHz	-10	—	+10	degree
Input amplitude balance (S_{31} / S_{21})		-1,0	—	1,0	dB
	880,0 ... 915,0 MHz	-1,0	—	1,0	dB
Attenuation	α				
	0,0 ... 850,0 MHz	45	58	—	dB
	850,0 ... 871,0 MHz	12	21	—	dB
	935,0 ... 960,0 MHz	20	34	—	dB
	960,0 ... 1850,0 MHz	35	42	—	dB
	1850,0 ... 3660,0 MHz	35	40	—	dB
	3660,0 ... 6000,0 MHz	15	26	—	dB

Test matching network





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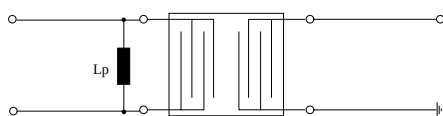


Characteristics

Operating temperature range: $T = -10$ to $80\text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 200\text{ }\Omega$ including matching network
Terminating load impedance: $Z_L = 50\text{ }\Omega$

		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,7	3,2	dB
880,0 ... 915,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,2	1,8	dB
880,0 ... 915,0 MHz					
Balanced input VSWR		—	1,7	2,0	
880,0 ... 915,0 MHz					
Unbalanced output VSWR		—	1,8	2,2	
880,0 ... 915,0 MHz					
Diff. to common mode suppression	S_{sc12}	20	23	—	dB
880,0 ... 915,0 MHz					
Input phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-10	—	+10	degree
880,0 ... 915,0 MHz					
Input amplitude balance ($ S_{31} / S_{21} $)		-1,0	—	1,0	dB
880,0 ... 915,0 MHz					
Attenuation	α				
0,0 ... 850,0 MHz		45	58	—	dB
850,0 ... 871,0 MHz		12	21	—	dB
935,0 ... 960,0 MHz		20	34	—	dB
960,0 ... 1850,0 MHz		35	42	—	dB
1850,0 ... 3660,0 MHz		35	40	—	dB
3660,0 ... 6000,0 MHz		15	26	—	dB

Test matching network



$$L_p = 56\text{ nH}$$



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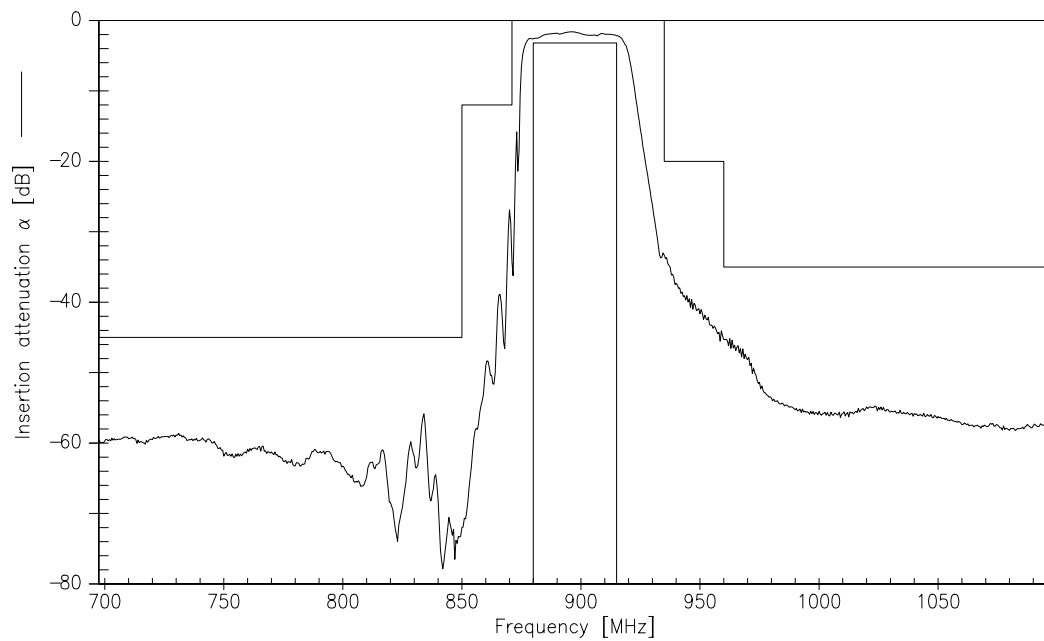
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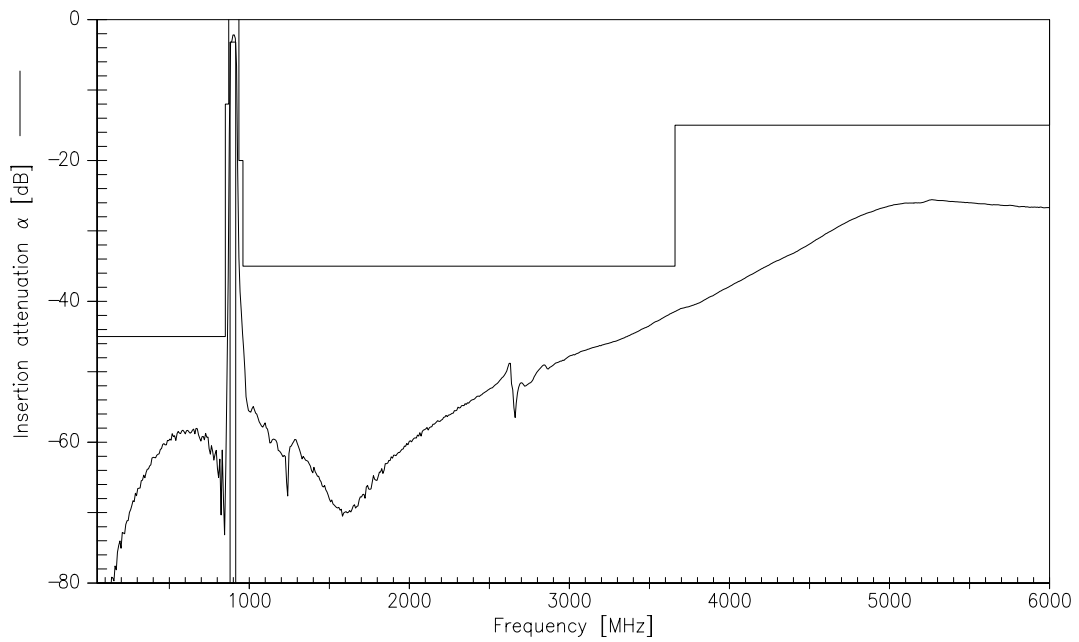
Data Sheet



Transfer function (measurement)



Transfer function (wideband measurement)





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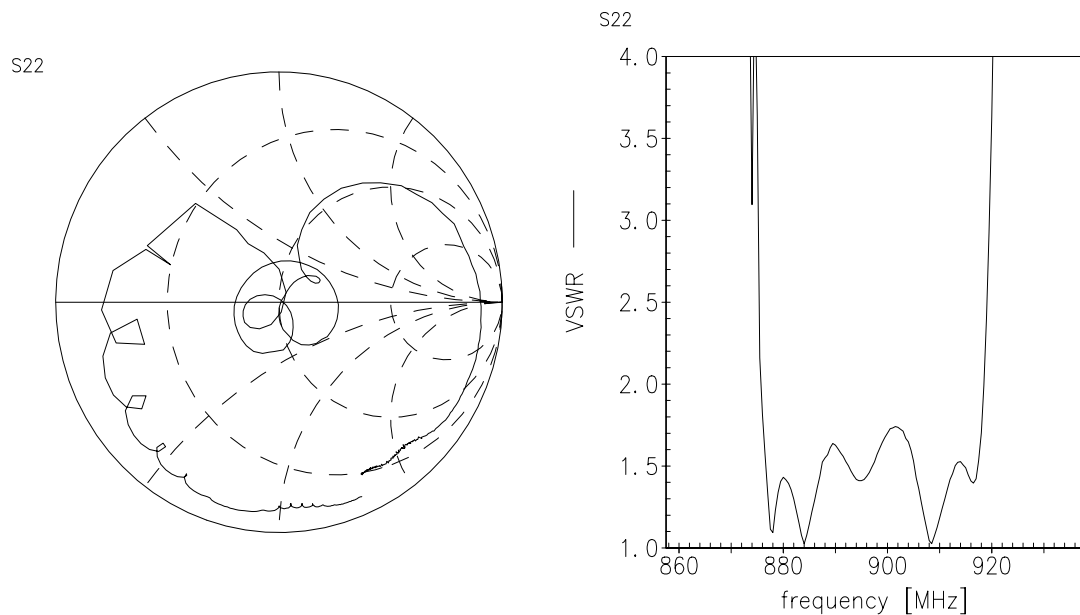
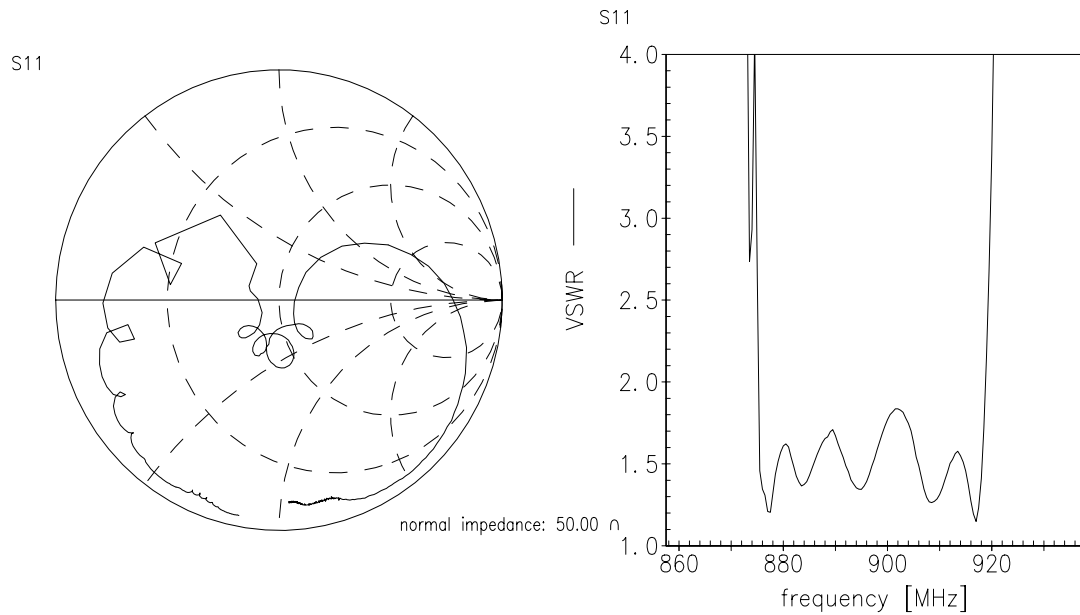
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Matching (measurement including calculated matching network; S11 is unbalanced output)





SAW Components	B7715
Low-Loss Filter for Mobile Communication	897,5 MHz
Data Sheet	SMD

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