



SAW Components

Data Sheet B7719

Data Sheet

An abstract, grayscale graphic featuring a globe with a grid of latitude and longitude lines. Overlaid on the globe is a large, stylized, three-dimensional "EPCOS" logo. The logo is composed of thick, white, blocky letters that appear to be floating or attached to the globe's surface. The overall effect is a high-tech, global communication theme.

EPCOS



SAW Components

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Low-Loss Filter for Mobile Communication

881,5 MHz

Data Sheet



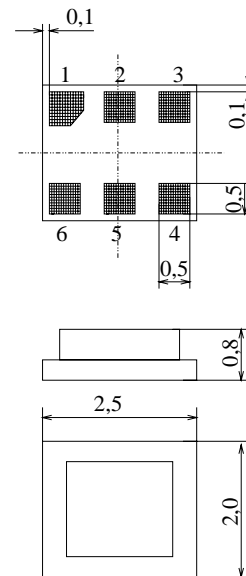
Chip sized SAW package DCS6I

Features

- Low-loss RF filter for mobile telephone GSM850 system, receive path
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 200 Ω
- Suitable for GPRS class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**

Terminals

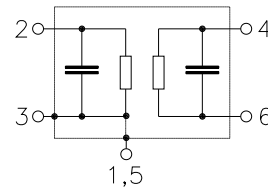
- Ni, gold-plated



Dimensions in mm, approx. weight 0,014g

Pin configuration

- | | |
|---------|------------------|
| 2 | Unbalanced input |
| 4, 6 | Balanced output |
| 1, 3, 5 | To be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B7719	B39881-B7719-C610	C61157-A7-A76	F61074-V8112-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30 / + 85	$^{\circ}\text{C}$	peak power of GSM signal, duty cycle 4:8
Storage temperature range	T_{stg}	- 40 / + 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	5	V	
ESD	V_{ESD}	50	V	
Input power at GSM850, GSM900, GSM1800 and GSM1900 Tx bands	P_{IN}	15	dBm	



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Characteristics

Operating temperature range: $T = 25 \pm 2 \text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50 \text{ } \Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200 \text{ } \Omega$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{\max}				
869,0 ... 894,0 MHz		—	2,6	2,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,0	1,2	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,6	2,0	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)					
869,0 ... 894,0 MHz		-10	—	+10	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ... 6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		40	57	—	dB
914,0 ... 935,0 MHz		28	33	—	dB
935,0 ... 1135,0 MHz		30	45	—	dB
1135,0 ... 1175,0 MHz		40	65	—	dB
1175,0 ... 2500,0 MHz		35	45	—	dB
2500,0 ... 4000,0 MHz		30	34	—	dB
4000,0 ... 6000,0 MHz		15	25	—	dB



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Characteristics

Operating temperature range: $T = -20$ to $+80$ °C
Terminating source impedance: $Z_S = 50 \Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200 \Omega$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{\max}	—	2,8	3,1	dB
869,0 ... 894,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,2	1,5	dB
869,0 ... 894,0 MHz					
Unbalanced input VSWR		—	1,6	2,0	
869,0 ... 894,0 MHz					
Balanced output VSWR		—	1,7	2,0	
869,0 ... 894,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-10	—	+10	degree
869,0 ... 894,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-2,0	—	2,0	dB
869,0 ... 894,0 MHz					
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ... 6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		38	54	—	dB
914,0 ... 935,0 MHz		26	31	—	dB
935,0 ... 1135,0 MHz		30	45	—	dB
1135,0 ... 1175,0 MHz		40	65	—	dB
1175,0 ... 2500,0 MHz		35	45	—	dB
2500,0 ... 4000,0 MHz		30	34	—	dB
4000,0 ... 6000,0 MHz		15	25	—	dB



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Characteristics

Operating temperature range: $T = -30$ to $+85$ °C
Terminating source impedance: $Z_S = 50 \Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200 \Omega$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{\max}				
869,0 ... 894,0 MHz		—	2,8	3,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,2	1,6	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,6	2,0	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
869,0 ... 894,0 MHz		-10	—	+10	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ... 6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		38	54	—	dB
914,0 ... 935,0 MHz		26	31	—	dB
935,0 ... 1135,0 MHz		30	45	—	dB
1135,0 ... 1175,0 MHz		40	65	—	dB
1175,0 ... 2500,0 MHz		35	45	—	dB
2500,0 ... 4000,0 MHz		30	34	—	dB
4000,0 ... 6000,0 MHz		15	25	—	dB



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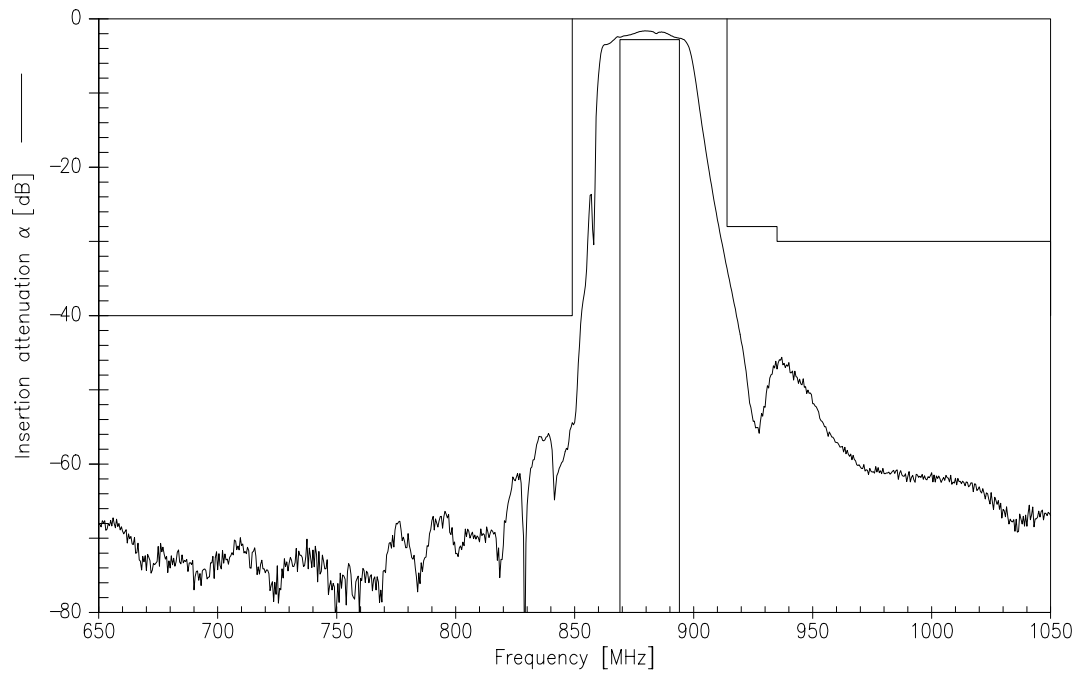
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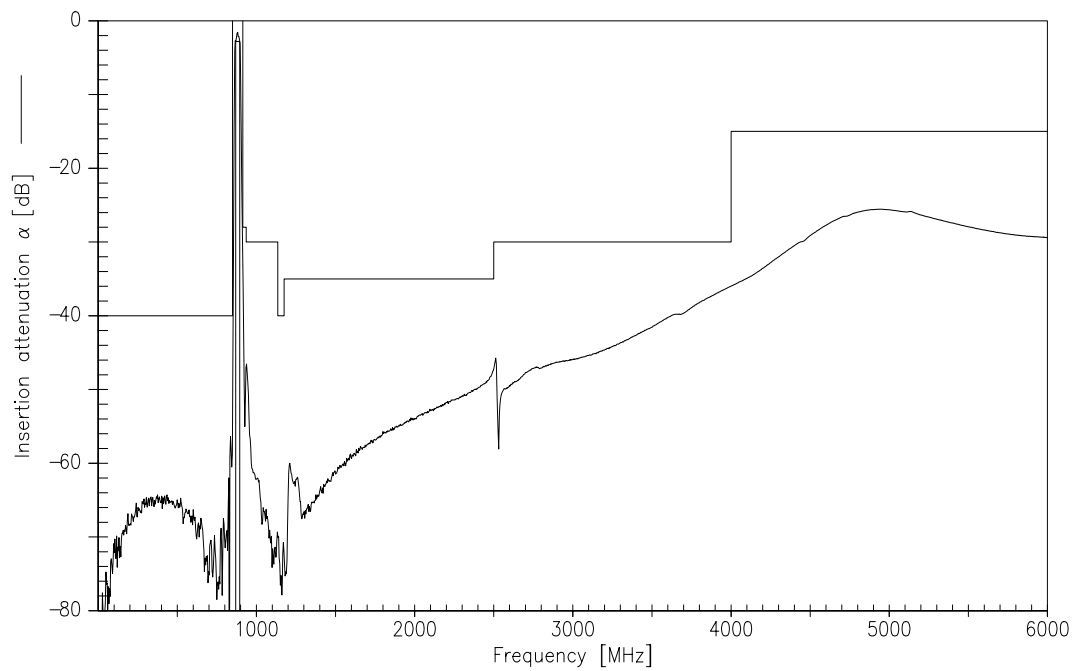
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Transfer function (spec at 25 °C)



Transfer function (wideband)





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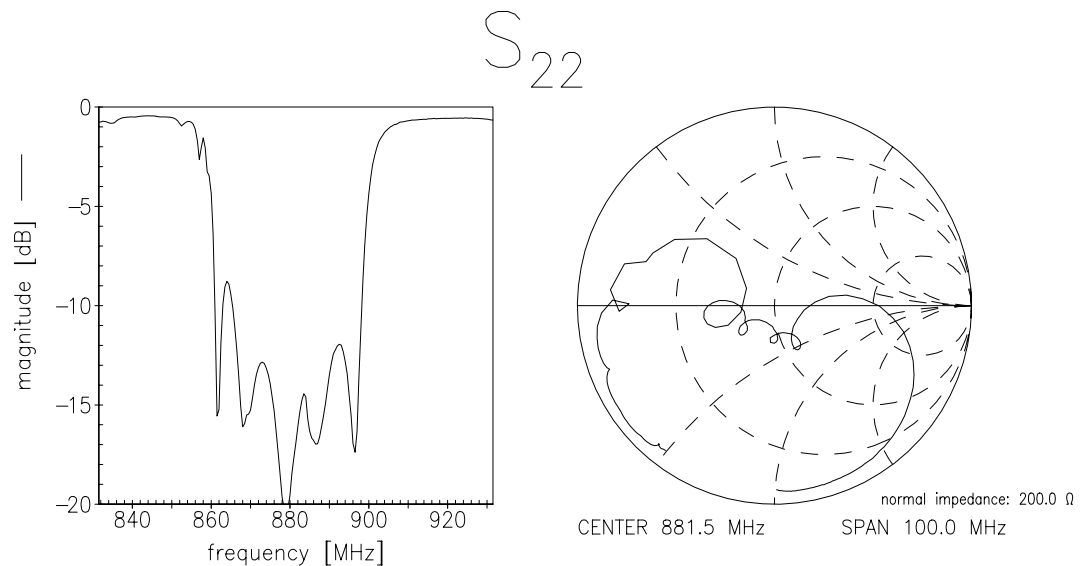
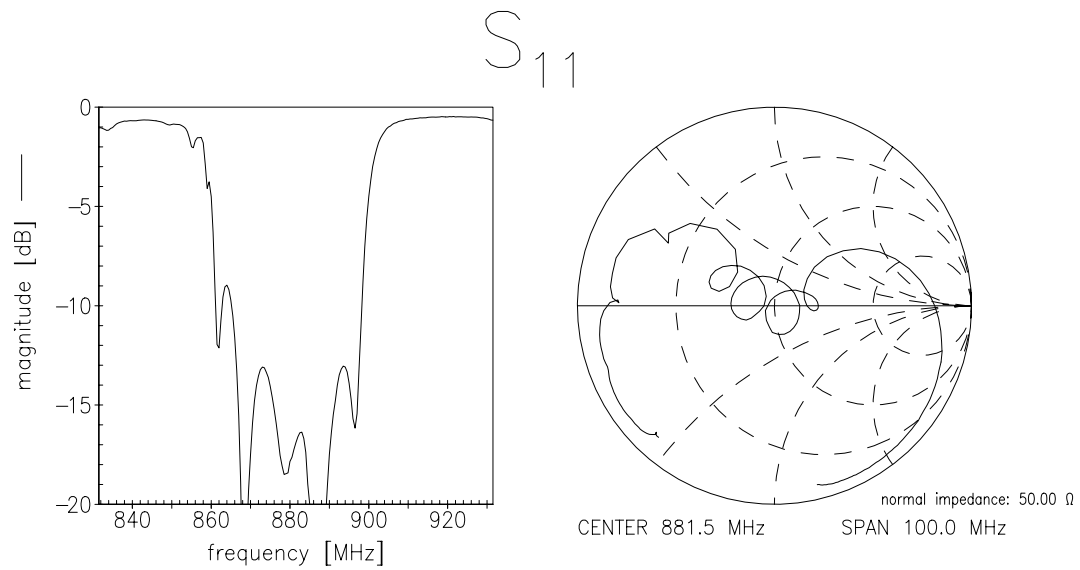
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Matching (measurement; S22 is balanced output)





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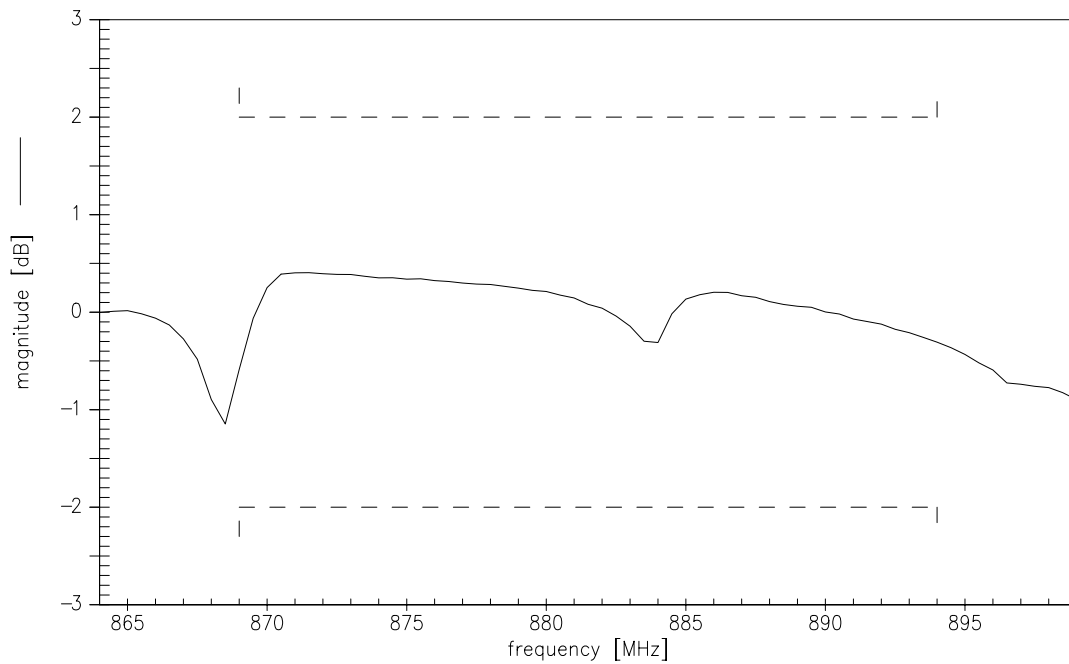
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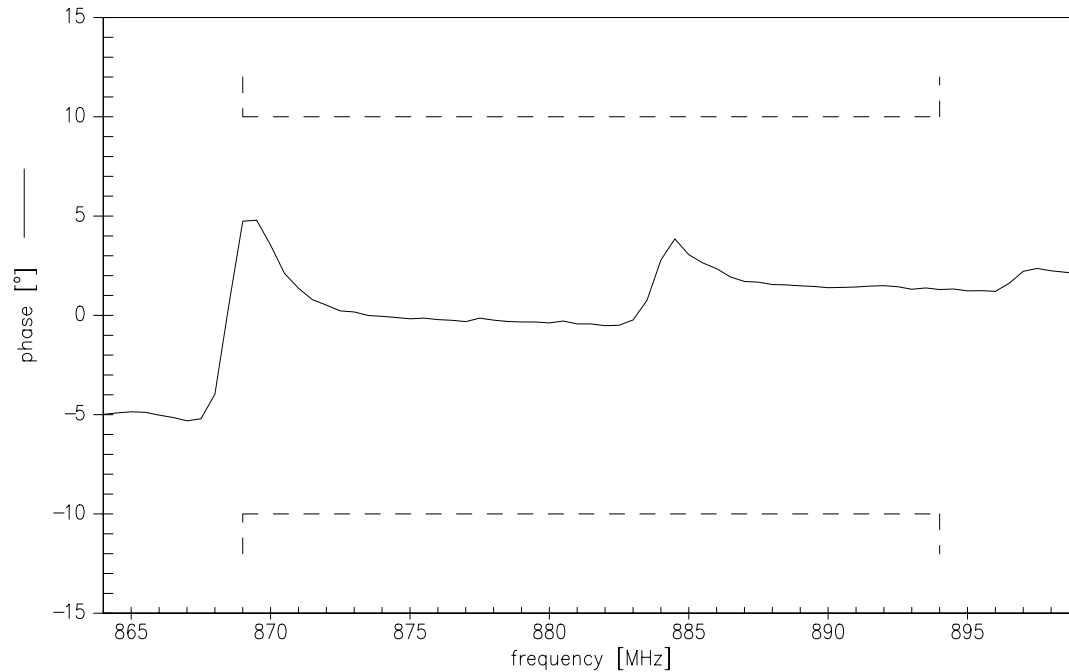
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Input amplitude balance ($|S_{31}/S_{21}|$; measurement)



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





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