

Data Sheet B7719





B7719

#### **Low-Loss Filter for Mobile Communication**

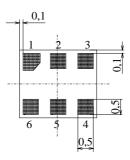
881,5 MHz

#### **Data Sheet**

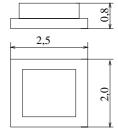


#### **Features**

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



Chip sized SAW package DCS6I



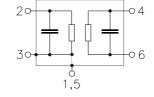
#### **Terminals**

■ 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



Туре	Ordering code	3	Packing according to		
B7719	B39881-B7719-C610	C61157-A7-A76	F61074-V8112-Z000		

Electrostatic Sensitive Device (ESD)

#### **Maximum ratings**

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



B7719

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881,5 MHz

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Characteristics

Operating temperature range:  $T = 25 \pm 2$  °C

Terminating source impedance:  $Z_{\rm S}=50~\Omega$  (unbalanced) Terminating load impedance:  $Z_{\rm L}=200~\Omega$  (balanced)

				min.	typ.	max.	
Center frequency			$f_{\mathbb{C}}$	_	881,5	_	MHz
Maximum insertion attenuation			01				
	0040	N 41 1-	$\alpha_{max}$		2.6	2.0	٩D
869,0	894,0	MHz		_	2,6	2,8	dB
Amplitude ripple (p-p)			Δα				
869,0	894,0	MHz		_	1,0	1,2	dB
Unbalanced input VSWR							
869,0	9040	MHz			1,6	2,0	
869,0	094,0	IVITZ			1,0	2,0	
Balanced output VSWR							
869,0	894,0	MHz		_	1,7	2,0	
	<b>3</b> > 100°						
Output phase balance $(\phi(S_{31})-\phi(S_{31}))$				4.0		40	.
869,0	894,0	MHz		-10		+10	degree
Output amplitude balance ( S <sub>31</sub> /S	S <sub>21</sub> ])						
869,0	894,0	MHz		-2,0	_	2,0	dB
Common mode Suppression			S <sub>sc12</sub>				
0,1	849 0	MHz	O <sub>sc12</sub>	20	45	_	
869,0		MHz		20	25	_	
914,06	•	MHz		20	30	_	
Attenuation	0040		α	40	00		I.D.
0,0		MHz		40	60	_	dB
824,0	,	MHz		40	57	_	dB
914,0		MHz		28	33	_	dB
935,0		MHz		30	45 65	_	dB
1135,0′		MHz		40 25	65 45	_	dB
1175,02		MHz		35	45	_	dB
2500,04		MHz		30	34	_	dB
4000,06	6000,0	MHz		15	25	_	dB



B7719

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Operating temperature range:  $T = -20 \text{ to } +80 \,^{\circ}\text{C}$ Terminating source impedance:  $Z_{\text{S}} = 50 \,\Omega$  (unbalanced) Terminating load impedance:  $Z_{\text{L}} = 200 \,\Omega$  (balanced)

			min.	typ.	max.	
Center frequency		f <sub>C</sub>	_	881,5	_	MHz
Maximum insertion attenuation		01				
	MHz	$\alpha_{max}$		2,8	3,1	dB
000,0 004,0	1711 12			2,0	0,1	ub
Amplitude ripple (p-p)		Δα				
869,0 894,0	MHz		_	1,2	1,5	dB
Unbalanced input VSWR	N 41 1-			4.0	0.0	
869,0 894,0	MHz		_	1,6	2,0	
Balanced output VSWR						
<u>-</u>	MHz		_	1,7	2,0	
Output phase balance ( $\phi(S_{31})$ – $\phi(S_{21})$ +180°)						
869,0 894,0	MHz		-10	_	+10	degree
Output amplitude balance ( $ S_{31}/S_{21} $ )						
*	MHz		-2,0		2,0	dB
550,5 III 55 1,5			2,0		2,0	
Common mode Suppression		S <sub>sc12</sub>				
0,1 849,0	MHz		20	45	_	
·	MHz		20	25	_	
914,06000,0	MHz		20	30	_	
Attenuation		α				
	MHz	u	40	60		dB
·	MHz		38	54	_	dB
•	MHz		26	31	_	dB
	MHz		30	45	_	dB
1135,01175,0	MHz		40	65	_	dB
	MHz		35	45	_	dB
	MHz		30	34	_	dB
4000,06000,0	MHz		15	25	_	dB



B7719

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#### Characteristics

Operating temperature range: T=-30 to +85 °CTerminating source impedance:  $Z_{\text{S}}=50 \Omega \text{ (unbalanced)}$ Terminating load impedance:  $Z_{\text{L}}=200 \Omega \text{ (balanced)}$ 

			min.	typ.	max.	
Center frequency		$f_{\mathbb{C}}$	_	881,5	_	MHz
Maximum insertion attenuation	MHz	$\alpha_{max}$		2.0	2.0	dB
869,0 894,0	IVII		<u>—</u>	2,8	3,2	иь
Amplitude ripple (p-p)		Δα				
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	N / I I			4.7	2.0	
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 <sub>sc12</sub>	00	45		
0,1 849,0	MHz		20	45	_	
869,0 894,0 914,06000,0	MHz MHz		20 20	25 30	_	
914,00000,0	IVII IZ		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
935,01135,0	MHz		30	45	_	dB
1135,01175,0	MHz		40	65	_	dB
1175,02500,0	MHz		35	45		dB
2500,04000,0	MHz		30 15	34 35	_	dB
4000,06000,0	MHz		15	25	_	dB

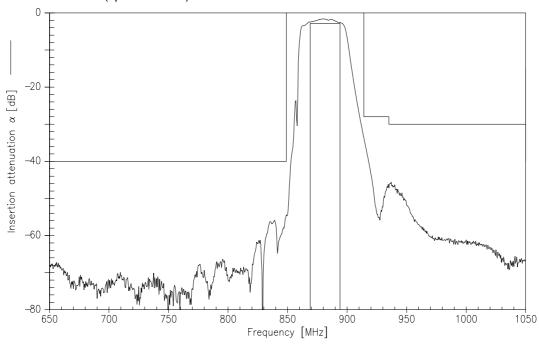


SAW Components B7719
Low-Loss Filter for Mobile Communication 881,5 MHz

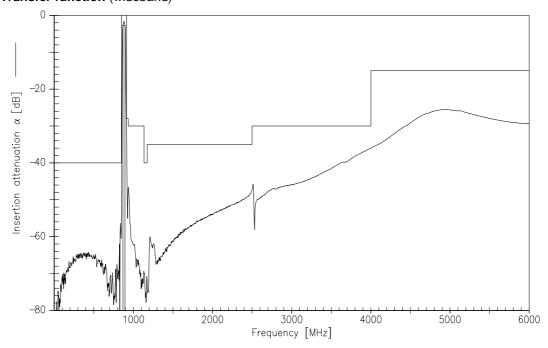
**Data Sheet** 



# Transfer function (spec at 25 °C)



# Transfer function (wideband)





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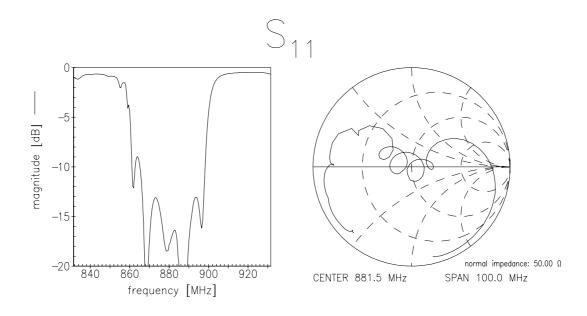
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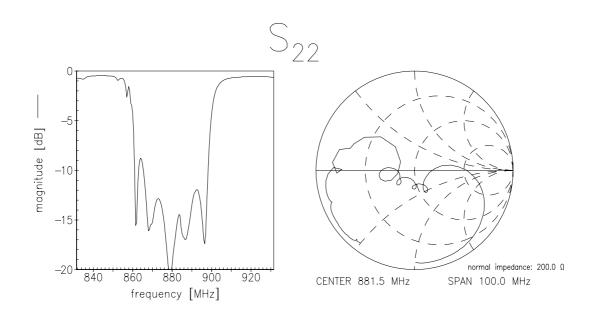
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**Data Sheet** 



Matching (measurement; S22 is balanced output )







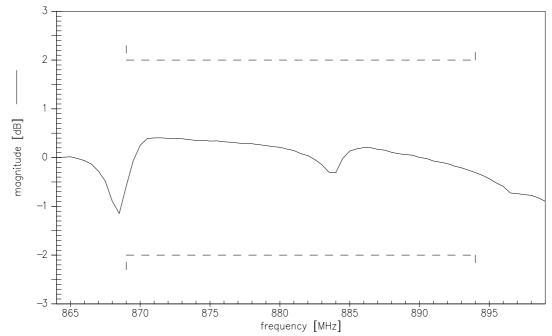
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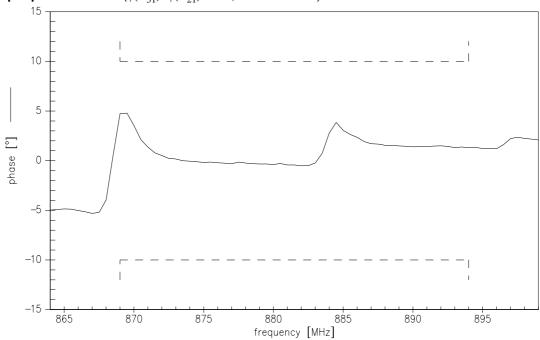
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# Input amplitude balance ( $|S_{31}/S_{21}|$ ; measurement)



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





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#### Published by EPCOS AG Surface Acoustic Wave Components Division, SAW MC WT P.O. Box 80 17 09, 81617 Munich, GERMANY

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