



SAW Components

Data Sheet B7753





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Low-Loss Filter for Mobile Communication

881,5 MHz

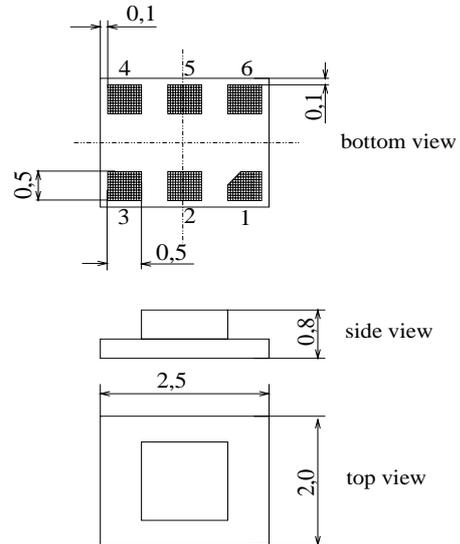
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Chip sized SAW package DCS6K

Features

- Low-loss RF filter for mobile telephone GSM 850 systems, receive path
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**



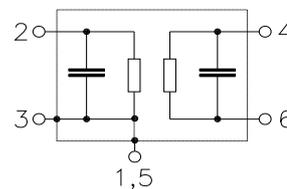
Terminals

- 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
B7753	B39881-B7753-C910	C61157-A7-A97	F61074-V8153-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30 / + 85	°C	peak power of GSM signal, duty cycle 4:8
Storage temperature range	T_{stg}	- 40 / + 85	°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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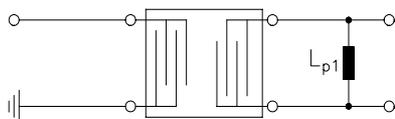


Characteristics

Operating temperature range: $T = +25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ (unbalanced)
 Terminating load impedance: $Z_L = 150\ \Omega // 82\text{ nH}$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,0	2,3	dB
	869,0 ... 894,0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,5	0,8	dB
	869,0 ... 894,0 MHz				
Unbalanced input VSWR		—	1,9	2,1	
	869,0 ... 894,0 MHz				
Balanced output VSWR		—	1,9	2,1	
	869,0 ... 894,0 MHz				
Common mode Suppression	S_{sc12}				dB
	869,0 ... 894,0 MHz	20	35	—	dB
	824,0 ... 995,0 MHz	20	35	—	dB
	1648,0 ... 1990,0 MHz	20	45	—	dB
	3296,0 ... 3980,0 MHz	20	28	—	dB
Attenuation	α				dB
	0,0 ... 824,0 MHz	45	65	—	dB
	824,0 ... 849,0 MHz	32	40	—	dB
	914,0 ... 1000,0 MHz	25	30	—	dB
	1000,0 ... 3000,0 MHz	40	65	—	dB
	3000,0 ... 6000,0 MHz	40	55	—	dB

Test matching network



$L_{p1} = 82\text{ nH}$



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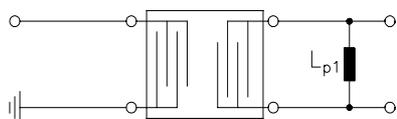
Characteristics

Operating temperature range: $T = -10$ to $+75$ °C
 Terminating source impedance: $Z_S = 50 \Omega$ (unbalanced)
 Terminating load impedance: $Z_L = 150 \Omega // 82$ nH (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,3	2,7 ¹⁾	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	0,8	1,2	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,9	2,1	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,9	2,1	
Common mode Suppression	S_{sc12}				
869,0 ... 894,0 MHz		20	35	—	dB
824,0 ... 995,0 MHz		20	35	—	dB
1648,0 ... 1990,0 MHz		20	45	—	dB
3296,0 ... 3980,0 MHz		20	28	—	dB
Attenuation	α				
0,0 ... 824,0 MHz		45	65	—	dB
824,0 ... 849,0 MHz		32	40	—	dB
914,0 ... 1000,0 MHz		25	30	—	dB
1000,0 ... 3000,0 MHz		40	65	—	dB
3000,0 ... 6000,0 MHz		40	55	—	dB

1) Maximum insertion attenuation from -30 to -10 and +75 to +85 °C is 2.7 dB

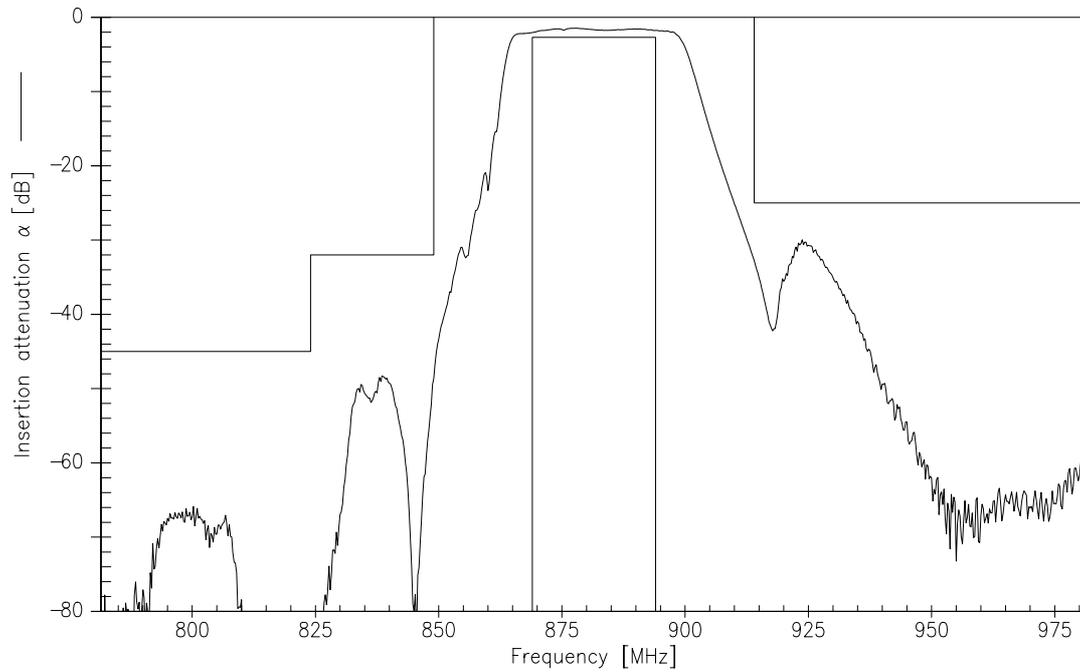
Test matching network



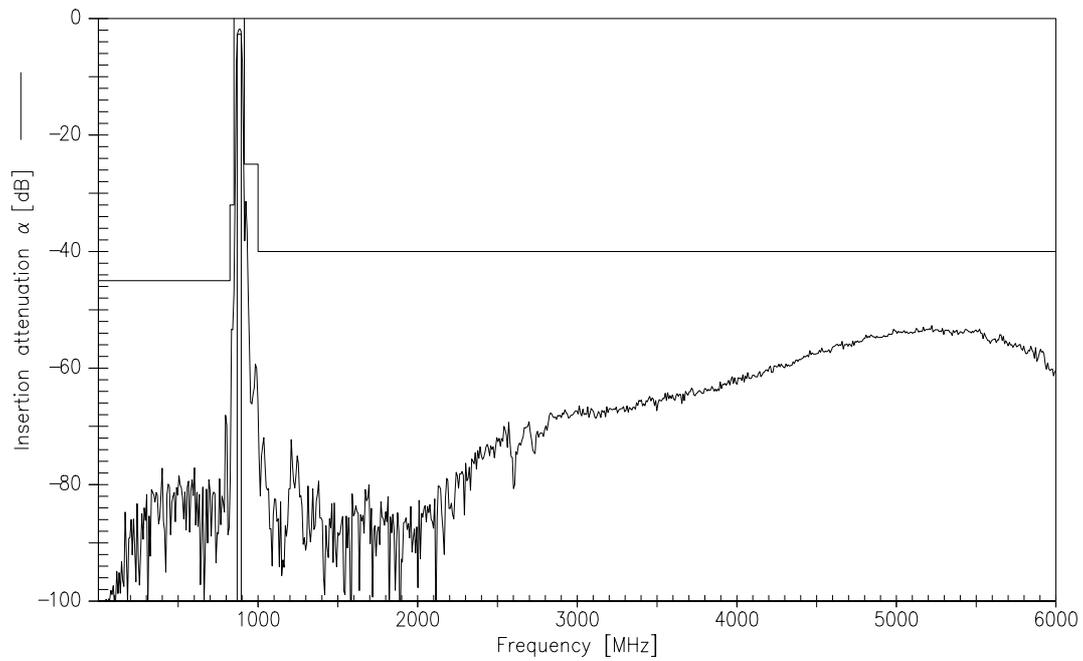
$L_{p1} = 82$ nH



Transfer function (narrowband measurement at 25 °C)



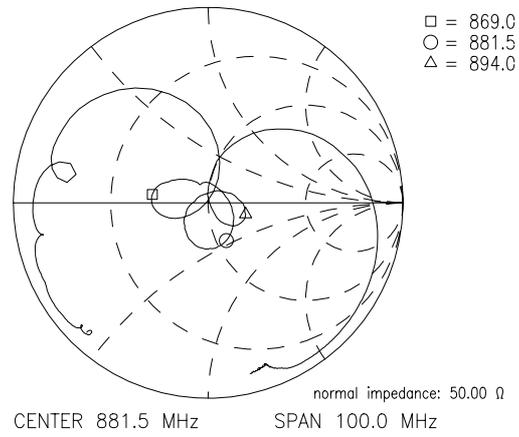
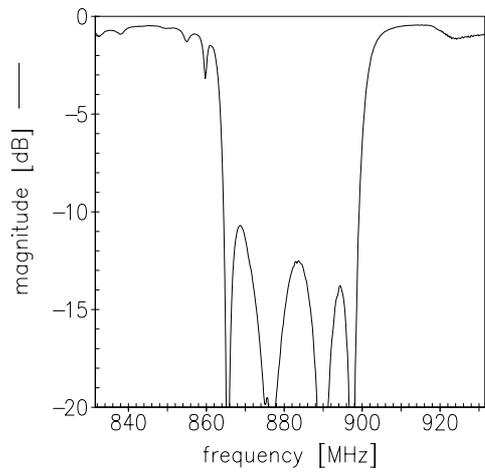
Transfer function (wideband)



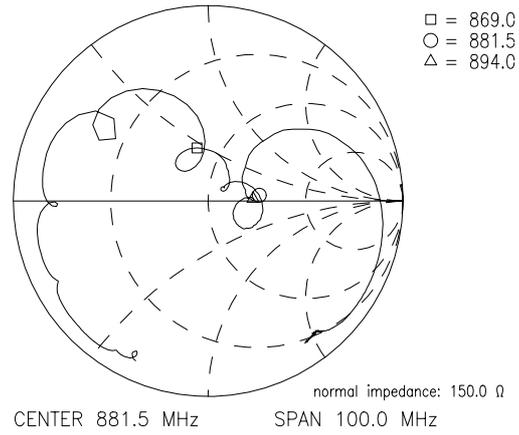
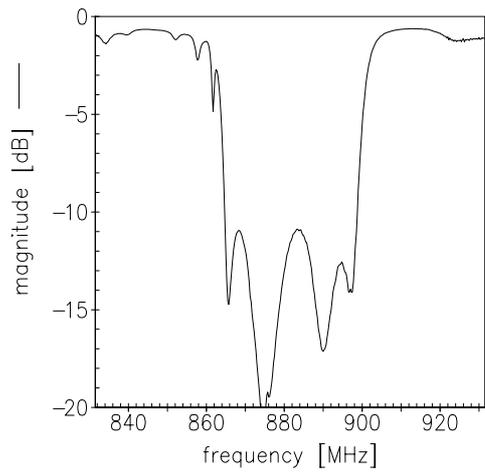


Matching (measurement including test matching network)

S_{11}



S_{22}





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Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, D-81617 München

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