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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# *SAW Components*

*Data Sheet B7707*

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a white, glowing, sans-serif font, appearing to be part of a larger, curved structure that resembles the company's logo. The background is dark and textured, with a faint map of the world visible.



**SAW Components**

**B7707**

**Low-Loss Filter for Mobile Communication**

**942,50 MHz**

Data Sheet



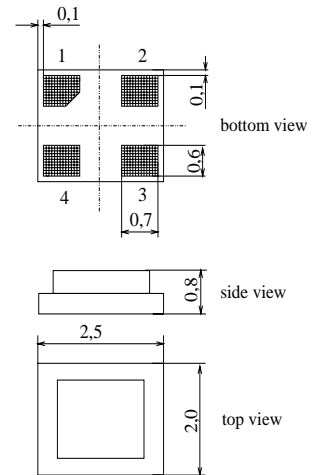
**Chip sized SAW package DCS4C**

**Features**

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- No matching network required for operation at 50 Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

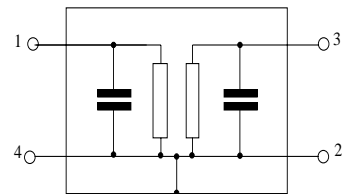
- Ni, gold-plated



Dimensions in mm, approx. weight 0,015g

**Pin configuration**

- 1 Input
- 3 Output
- 2,4 Ground



Type	Ordering code	Marking and Package according to	Packing according to
B7707	B39941-B7707-C510	C61157-A7-A80	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	$V_{DC}$	3	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:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
	925,0 ... 960,0 MHz	—	2,8	3,3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	925,0 ... 960,0 MHz	—	1,0	1,6	dB
<b>Input VSWR</b>					
	925,0 ... 960,0 MHz	—	2,0	2,3	
<b>Output VSWR</b>					
	925,0 ... 960,0 MHz	—	2,0	2,2	
<b>Input return loss</b>					
	925,0 ... 960,0 MHz	8,0	9,0	—	dB
<b>Input return loss phase</b>					
	1842,5 MHz	-150,0	-140,0	-130,0	°
<b>Attenuation</b>	$\alpha$				
	0,0 ... 750,0 MHz	50	66	—	dB
	750,0 ... 800,0 MHz	46	69	—	dB
	800,0 ... 880,0 MHz	45	54	—	dB
	880,0 ... 905,0 MHz	31	60	—	dB
	905,0 ... 915,0 MHz	17	33	—	dB
	980,0 ... 982,0 MHz	23	26	—	dB
	982,0 ... 1005,0 MHz	23	29	—	dB
	1005,0 ... 1025,0 MHz	30	52	—	dB
	1025,0 ... 1035,0 MHz	35	54	—	dB
	1035,0 ... 1760,0 MHz	40	55	—	dB
	1760,0 ... 3120,0 MHz	34	38	—	dB
	3120,0 ... 4000,0 MHz	18	26	—	dB
	4000,0 ... 6000,0 MHz	8	18	—	dB



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Low-Loss Filter for Mobile Communication

942,50 MHz

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**Characteristics**

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

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	925,0 ... 960,0 MHz	—	3,0	3,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	925,0 ... 960,0 MHz	—	1,2	1,8	dB
<b>Input VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,3	
<b>Output VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,2	
<b>Input return loss</b>		925,0 ... 960,0 MHz	8,0	9,0	—	dB
<b>Input return loss phase</b>		1842,5 MHz	-150,0	-140,0	-130,0	°
<b>Attenuation</b>	$\alpha$					
		0,0 ... 750,0 MHz	50	66	—	dB
		750,0 ... 800,0 MHz	46	69	—	dB
		800,0 ... 880,0 MHz	45	54	—	dB
		880,0 ... 905,0 MHz	31	60	—	dB
		905,0 ... 915,0 MHz	17	24	—	dB
		980,0 ... 982,0 MHz	22	25	—	dB
		982,0 ... 1005,0 MHz	23	27	—	dB
		1005,0 ... 1025,0 MHz	30	52	—	dB
		1025,0 ... 1035,0 MHz	35	54	—	dB
		1035,0 ... 1760,0 MHz	40	55	—	dB
		1760,0 ... 3120,0 MHz	34	38	—	dB
		3120,0 ... 4000,0 MHz	18	26	—	dB
		4000,0 ... 6000,0 MHz	8	18	—	dB



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Low-Loss Filter for Mobile Communication

942,50 MHz

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**Characteristics**

Operating temperature range:  $T = -30^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	925,0 ... 960,0 MHz	—	3,0	4,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	925,0 ... 960,0 MHz	—	1,2	2,3	dB
<b>Input VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,3	
<b>Output VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,2	
<b>Input return loss</b>		925,0 ... 960,0 MHz	8,0	9,0	—	dB
<b>Input return loss phase</b>		1842,5 MHz	-150,0	-140,0	-130,0	°
<b>Attenuation</b>	$\alpha$					
		0,0 ... 750,0 MHz	50	66	—	dB
		750,0 ... 800,0 MHz	46	69	—	dB
		800,0 ... 880,0 MHz	45	54	—	dB
		880,0 ... 905,0 MHz	31	60	—	dB
		905,0 ... 915,0 MHz	15	23	—	dB
		980,0 ... 982,0 MHz	21	24	—	dB
		982,0 ... 1005,0 MHz	23	27	—	dB
		1005,0 ... 1025,0 MHz	30	52	—	dB
		1025,0 ... 1035,0 MHz	35	54	—	dB
		1035,0 ... 1760,0 MHz	40	55	—	dB
		1760,0 ... 3120,0 MHz	34	38	—	dB
		3120,0 ... 4000,0 MHz	18	26	—	dB
		4000,0 ... 6000,0 MHz	8	18	—	dB



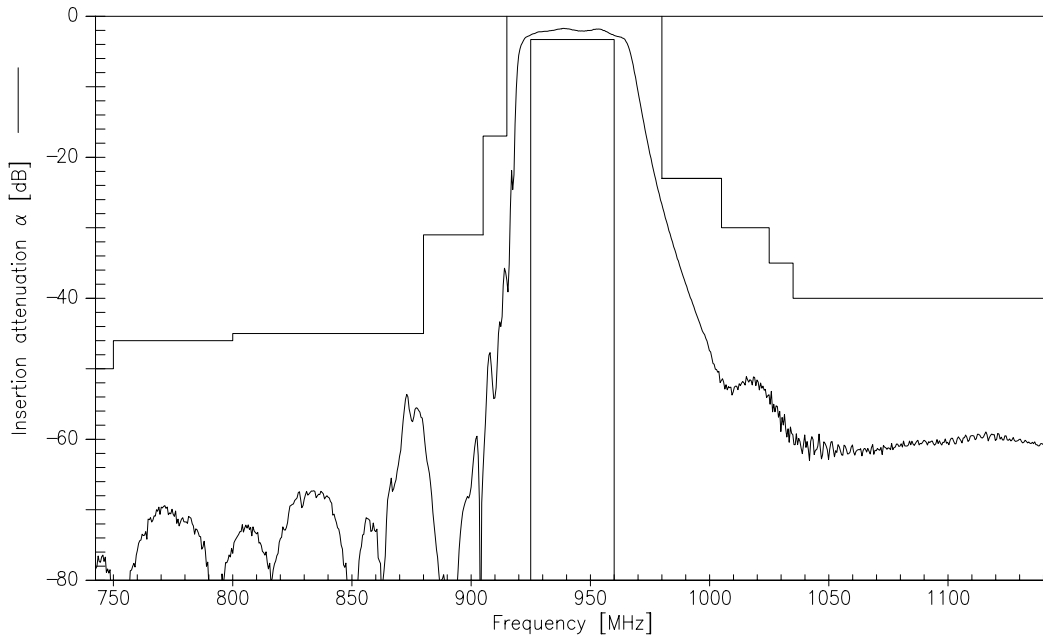
**Characteristics**

Operating temperature range:  $T = -30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

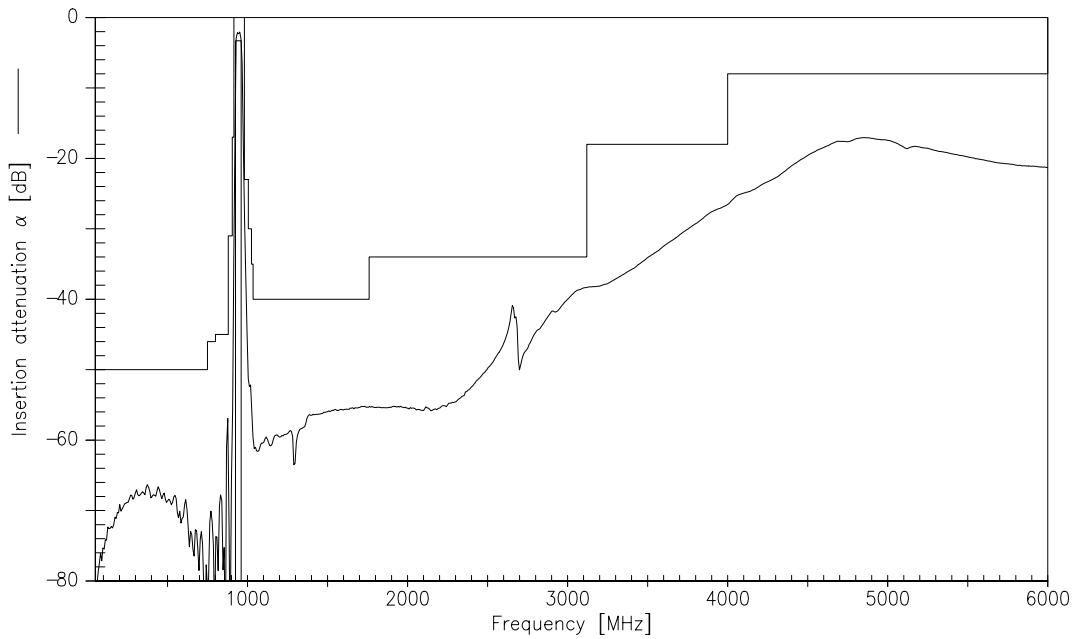
			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	925,0 ... 960,0 MHz	—	3,0	4,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	925,0 ... 960,0 MHz	—	1,2	2,3	dB
<b>Input VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,3	
<b>Output VSWR</b>		925,0 ... 960,0 MHz	—	2,0	2,2	
<b>Input return loss</b>		925,0 ... 960,0 MHz	8,0	9,0	—	dB
<b>Input return loss phase</b>		1842,5 MHz	-150,0	-140,0	-130,0	°
<b>Attenuation</b>	$\alpha$					
		0,0 ... 750,0 MHz	50	66	—	dB
		750,0 ... 800,0 MHz	46	69	—	dB
		800,0 ... 880,0 MHz	45	54	—	dB
		880,0 ... 905,0 MHz	31	60	—	dB
		905,0 ... 915,0 MHz	12	22	—	dB
		980,0 ... 982,0 MHz	21	24	—	dB
		982,0 ... 1005,0 MHz	23	27	—	dB
		1005,0 ... 1025,0 MHz	30	52	—	dB
		1025,0 ... 1035,0 MHz	35	54	—	dB
		1035,0 ... 1760,0 MHz	40	55	—	dB
		1760,0 ... 3120,0 MHz	34	38	—	dB
		3120,0 ... 4000,0 MHz	18	26	—	dB
		4000,0 ... 6000,0 MHz	8	18	—	dB



**Transfer function (+25 C specification)**



**Transfer function (wideband)**







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