



# SAW Components

Data Sheet B4690

Data Sheet

An abstract, grayscale graphic featuring a stylized, three-dimensional representation of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a globe or a stylized wave. The background is dark and textured, with light reflecting off the surfaces of the logo.



## SAW Components

B4690

## Low-Loss Filter

836,50 MHz

### Data Sheet

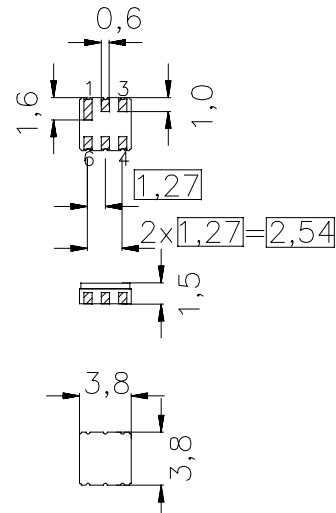
#### Features

- Low-loss RF filter for basestations (IS-54), receive path
- Low amplitude ripple
- Usable passband 25 MHz
- No matching network required for operation at 50  $\Omega$
- Ceramic package for **Surface Mounted Technology (SMT)**

#### Terminals

- Ni, gold-plated

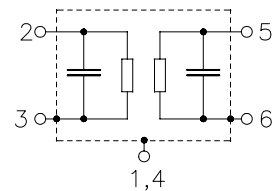
Ceramic package **DCC6**



Dim. in mm, approx. weight 0,07 g

#### Pin configuration

2	Input
3	Input - ground
5	Output
6	Output - ground
1, 4	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B4690	B39841-B4690-Z610	C61157-A7-A41	F61064-V8030-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

#### Maximum ratings

Operable temperature range	$T$	- 30/+ 85	$^{\circ}\text{C}$	
Storage temperature range	$T_{\text{stg}}$	- 40/+ 85	$^{\circ}\text{C}$	
DC voltage	$V_{\text{DC}}$	0	V	
Source power	$P_{\text{s}}$	10	dBm	source impedance 50 $\Omega$



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#### Characteristics

Operating temperature range:  $T = -30$  to  $+85$  °C

Terminating source impedance:  $Z_S = 50 \Omega$

Terminating load impedance:  $Z_L = 50 \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_c$	—	836,50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
824,0 ... 849,0 MHz		—	3,0	3,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	1,0	1,7	dB
<b>VSWR</b>					
824,0 ... 849,0 MHz		—	1,9	2,0	
<b>Attenuation</b>	$\alpha$				
0,0 ... 600,0 MHz		60	70	—	dB
600,0 ... 700,0 MHz		55	65	—	dB
700,0 ... 750,0 MHz		50	60	—	dB
750,0 ... 800,0 MHz		40	60	—	dB
869,0 ... 910,0 MHz		25	35	—	dB
910,0 ... 1100,0 MHz		50	58	—	dB
1100,0 ... 1500,0 MHz		40	50	—	dB
1500,0 ... 2000,0 MHz		30	50	—	dB
2000,0 ... 2500,0 MHz		20	30	—	dB
2500,0 ... 3000,0 MHz		12	15	—	dB



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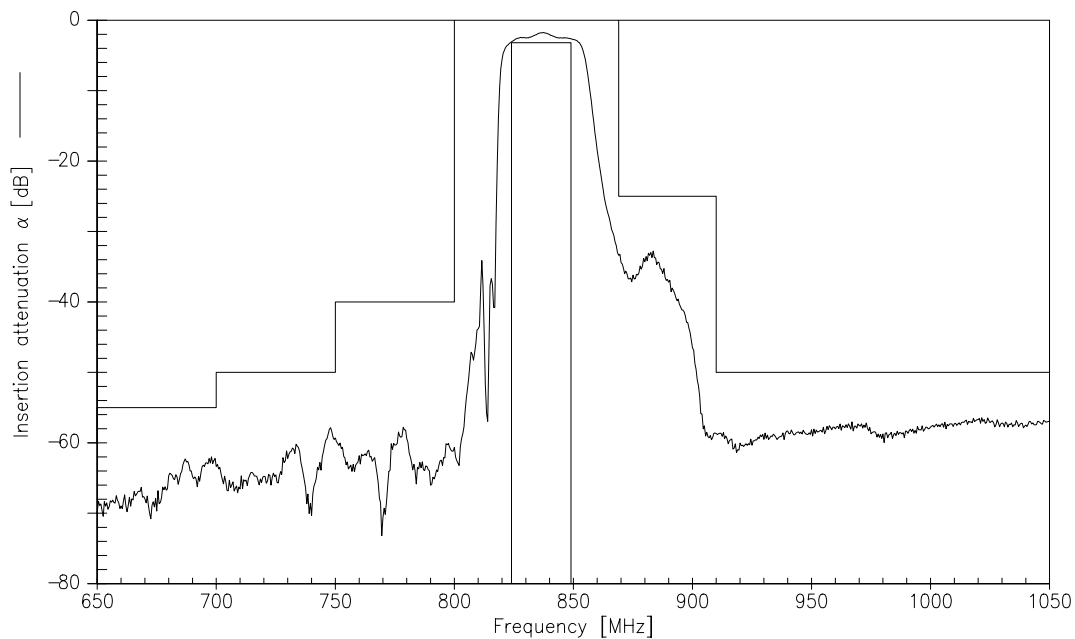
B4690

## Low-Loss Filter

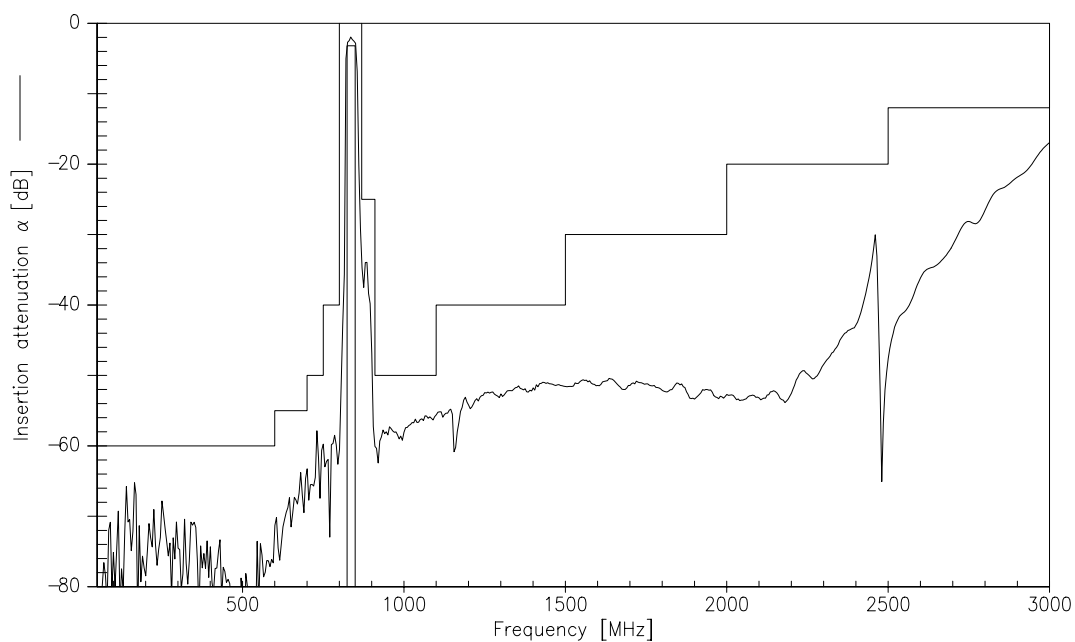
836,50 MHz

### Data Sheet

#### Transfer function



#### Transfer function (wideband)





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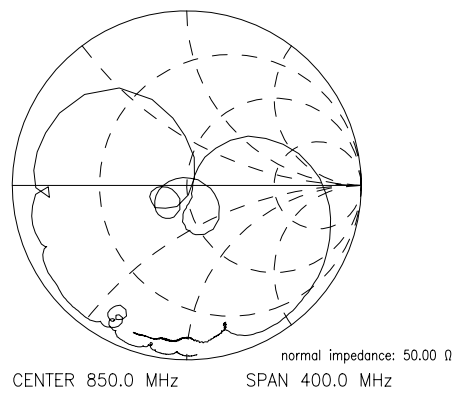
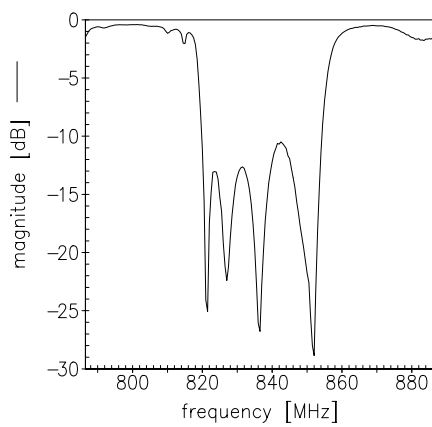
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836,50 MHz

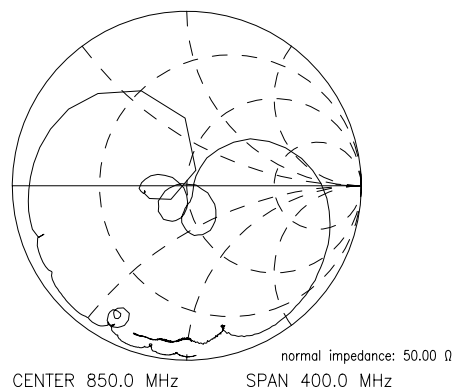
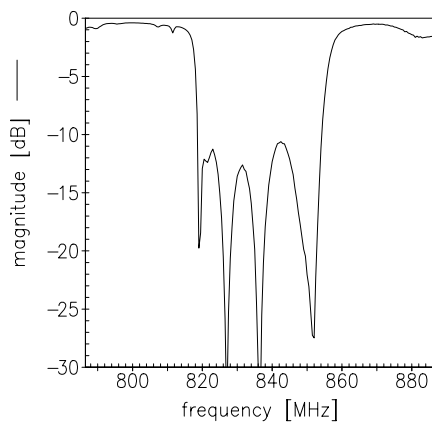
### Data Sheet

### Reflection functions

$S_{11}$



$S_{22}$



**SAW Components****B4690****Low-Loss Filter****836,50 MHz****Data Sheet****Remarks on power durability of SAW filter B4690:**

The power durability of SAW filter B4690 depends on ambient temperature and time. Measurements have shown that for an ambient temperature of 85° C and a CW input power  $P_{in} = -1.5$  dBm at 849 MHz the filter has a TTF of more than 100 000 h. The allowed input power for other parameters is given in the following table:

$T_{amb}$ [°C]	TTF [h]	$P_{in}$ [dBm]
85	100 000	-1.5
55	100 000	1.9
25	100 000	5.9
85	10 000	1.8
55	10 000	5.2
25	10 000	9.1

TTF: time to failure (frequency shift of 1 MHz and/or increase of  $\alpha_{max}$  by 0,5 dB)

$T_{amb}$ : ambient temperature

These results are based on extrapolations of measured results. The statistical uncertainty is about  $\pm 3$ dB.



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