



## **SAW Components**

### **SAW filter**

MediaFLO

<b>Series/type:</b>	<b>B9036</b>
<b>Ordering code:</b>	<b>B39721B9036E910</b>
<b>Date:</b>	<b>June 21, 2007</b>
<b>Version:</b>	<b>2.0</b>

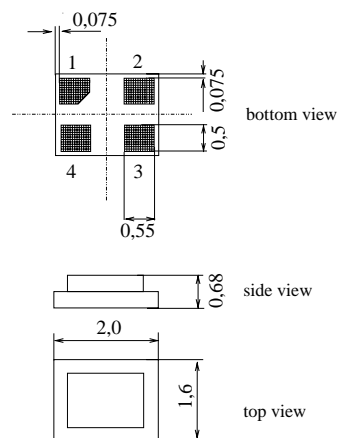
### Application

- Low-loss RF filter for MediaFLO TV application in mobile telephone systems
- High selectivity
- Usable passband: 5 MHz
- No matching required for operation at 50  $\Omega$



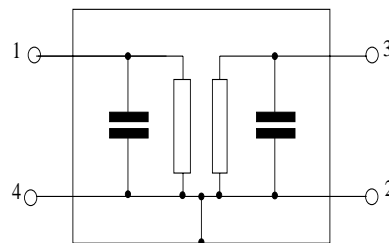
### Features

- Package size 2.0 x 1.6 x 0.68 mm<sup>3</sup>
- Package code DCS4G
- RoHS compatible
- Approximate weight 0.008 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

- 1 Input
- 3 Output
- 2,4 To be grounded





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B9036

### SAW filter

719.0 MHz

#### Data sheet



#### Characteristics

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
Terminating source impedance:  $Z_S = 50\ \Omega$   
Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	719.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
716.5 ... 721.5 MHz		—	2.5	2.7	dB <sub>INT</sub> <sup>1)</sup>
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
716.5 ... 721.5 MHz		—	0.3	2.0	dB
<b>Return Loss (Input/Output)</b>					
716.5 ... 721.5 MHz		9.4	13.0	—	dB
<b>Group delay ripple (p-p)</b>					
716.5 ... 721.5 MHz		—	30	80	ns
<b>Attenuation</b>	$\alpha$				
0.1 ... 690.0 MHz		40.0	47.0	—	dB
690.0 ... 704.0 MHz		35.0	43.0	—	dB
704.0 ... 710.0 MHz		30.0	40.0	—	dB <sub>INT</sub>
710.0 ... 716.0 MHz		4.0	9.0	—	dB <sub>INT</sub>
722.0 ... 728.0 MHz		4.0	9.0	—	dB <sub>INT</sub>
728.0 ... 734.0 MHz		30.0	36.0	—	dB <sub>INT</sub>
734.0 ... 750.0 MHz		27.0	30.0	—	dB
750.0 ... 824.0 MHz		37.0	40.0	—	dB
824.0 ... 960.0 MHz		45.0	55.0	—	dB
960.0 ... 2500.0 MHz		32.0	40.0	—	dB

1) dB<sub>INT</sub> is integrated rejection (see formula below)

$$dB_{INT} = \frac{\sum_{n=2}^N \frac{Loss(F_{n-1}) + Loss(F_n)}{2} \times (F_n - F_{n-1})}{F_N - F_1}$$

Where  $Loss(F_n) = 10^{(S_{21} \text{ in dB})/20}$

N = Number of frequency, insertion loss pairs



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#### Maximum ratings

Operable temperature range	T	−40/+85	°C	machine model, 10 pulses
Storage temperature range	T <sub>stg</sub>	−40/+85	°C	
DC voltage	V <sub>DC</sub>	3	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	
Input power at				
400.0 ... 500.0MHz	P <sub>IN</sub>	15	dBm	CW
824.0 ... 2500.0MHz				

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



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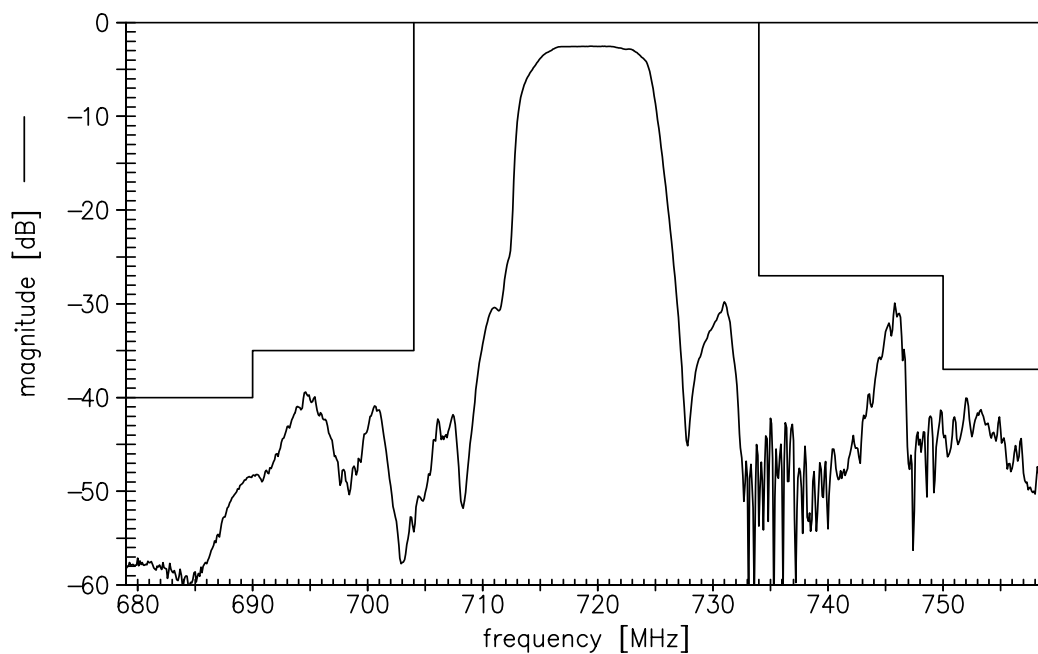
SAW filter

719.0 MHz

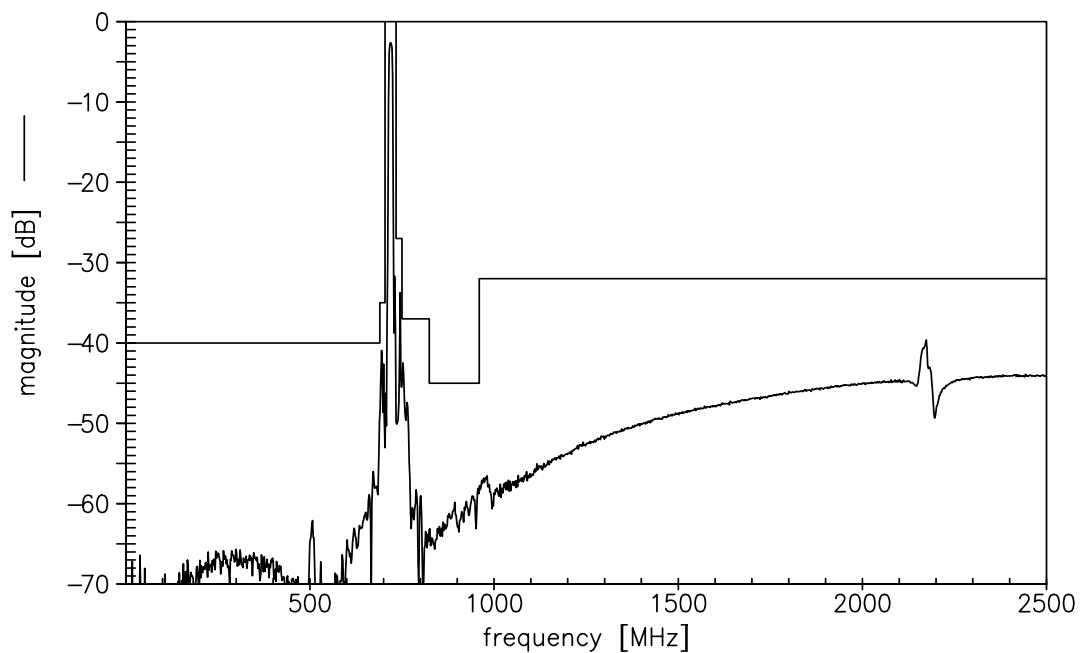
Data sheet



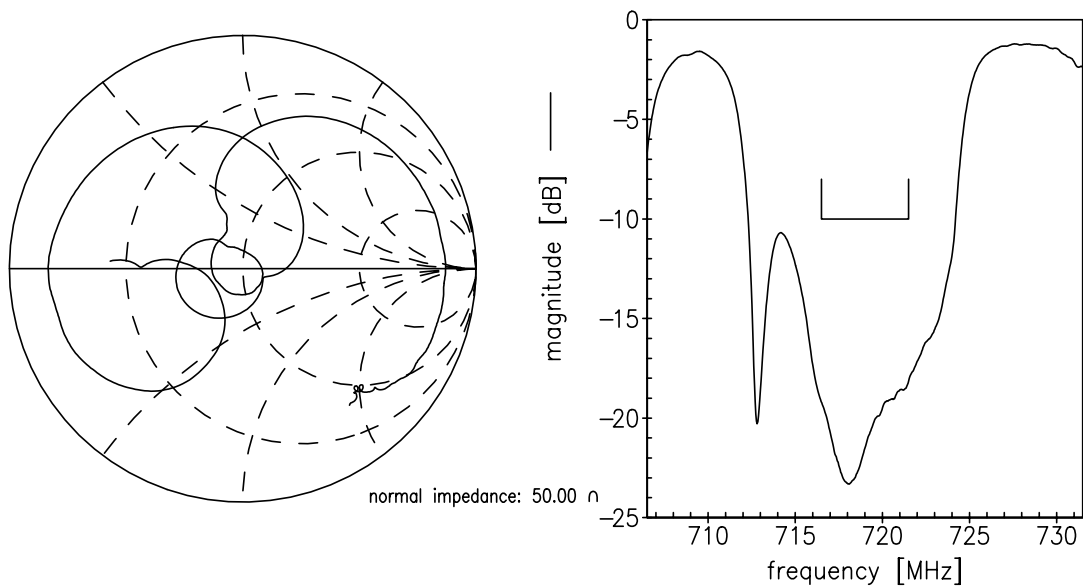
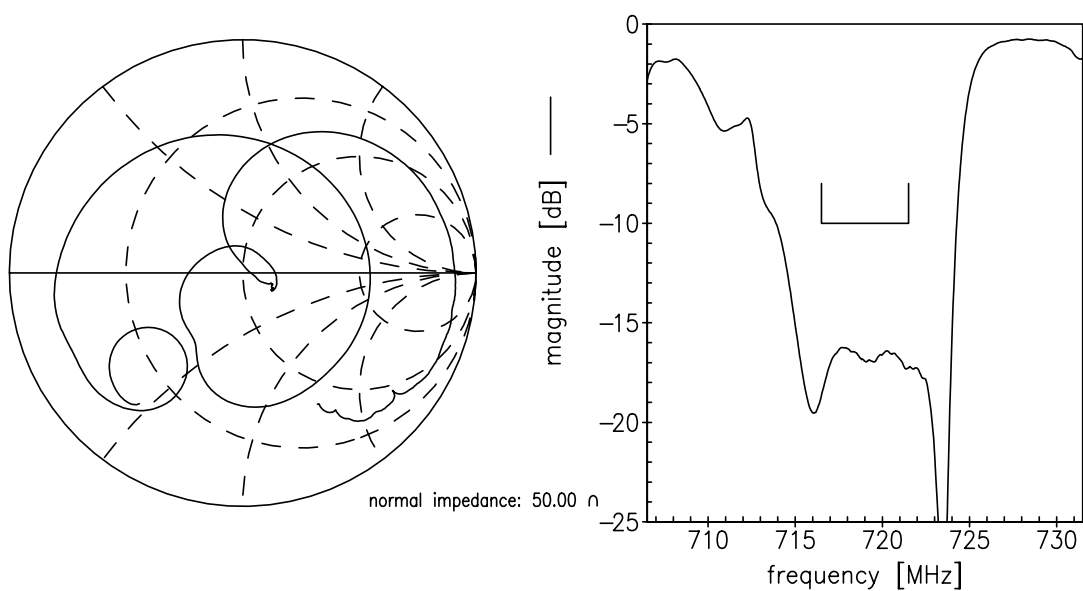
### Transfer function



### Transfer function (wideband)



Please read *cautions and warnings* and *important notes* at the end of this document.





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<b>SAW filter</b>	<b>719.0 MHz</b>
<b>Data sheet</b>	<b>SMD</b>

## References

<b>Type</b>	B9036
<b>Ordering code</b>	B39721B9036E910
<b>Marking and package</b>	C61157-A7-A105
<b>Packaging</b>	F61074-V8152-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9036_NB.s2p B9036_WB.s2p
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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