



SAW Components

SAW filter

MediaFLO

Series/type: B9036
Ordering code: B39721B9036E910

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Version: 2.0

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B9036

SAW filter

719.0 MHz

Data sheet



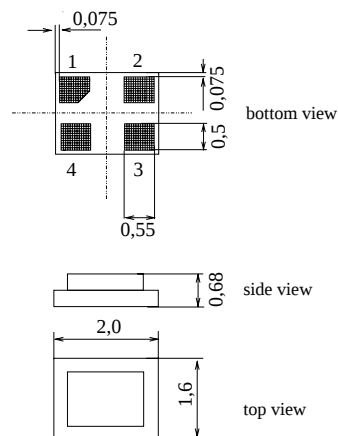
Application

- 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 Ω



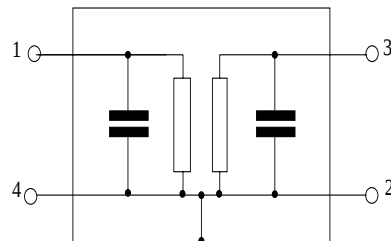
Features

- Package size 2.0 x 1.6 x 0.68 mm³
- 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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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.	
Center frequency	f_C	—	719.0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
716.5 ... 721.5 MHz		—	2.5	2.7	dB _{INT} ¹⁾
Amplitude ripple (p-p)	$\Delta\alpha$				
716.5 ... 721.5 MHz		—	0.3	2.0	dB
Return Loss (Input/Output)					
716.5 ... 721.5 MHz		9.4	13.0	—	dB
Group delay ripple (p-p)					
716.5 ... 721.5 MHz		—	30	80	ns
Attenuation	α				
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 _{INT}
710.0 ... 716.0 MHz		4.0	9.0	—	dB _{INT}
722.0 ... 728.0 MHz		4.0	9.0	—	dB _{INT}
728.0 ... 734.0 MHz		30.0	36.0	—	dB _{INT}
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_{INT} 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 _{stg}	−40/+85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	
Input power at				
400.0 ... 500.0MHz	P _{IN}	15	dBm	CW
824.0 ... 2500.0MHz				

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



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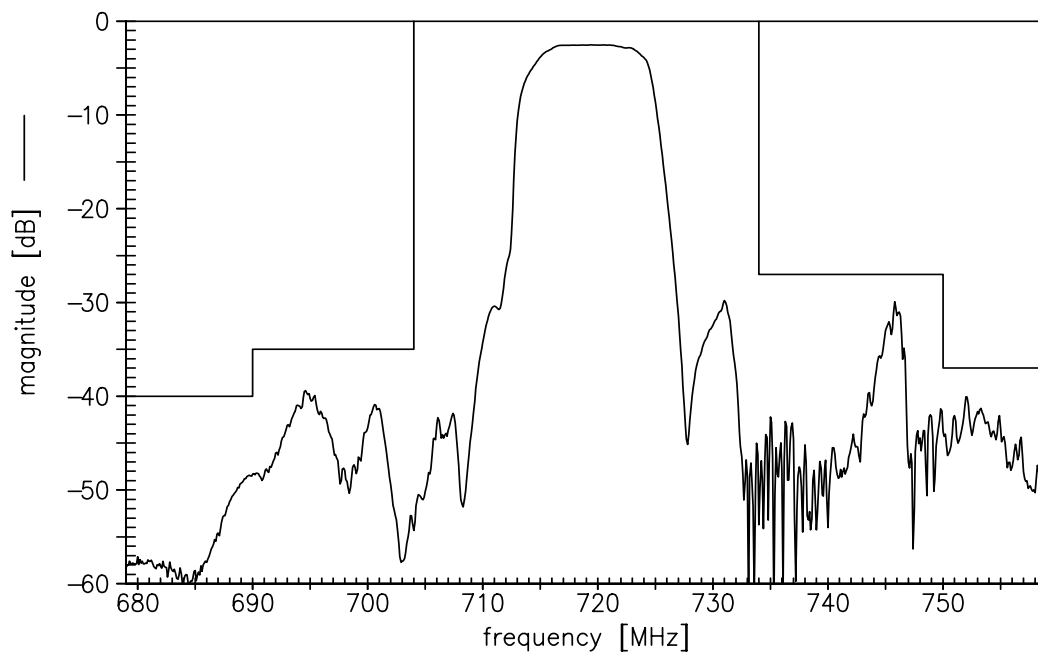
SAW filter

719.0 MHz

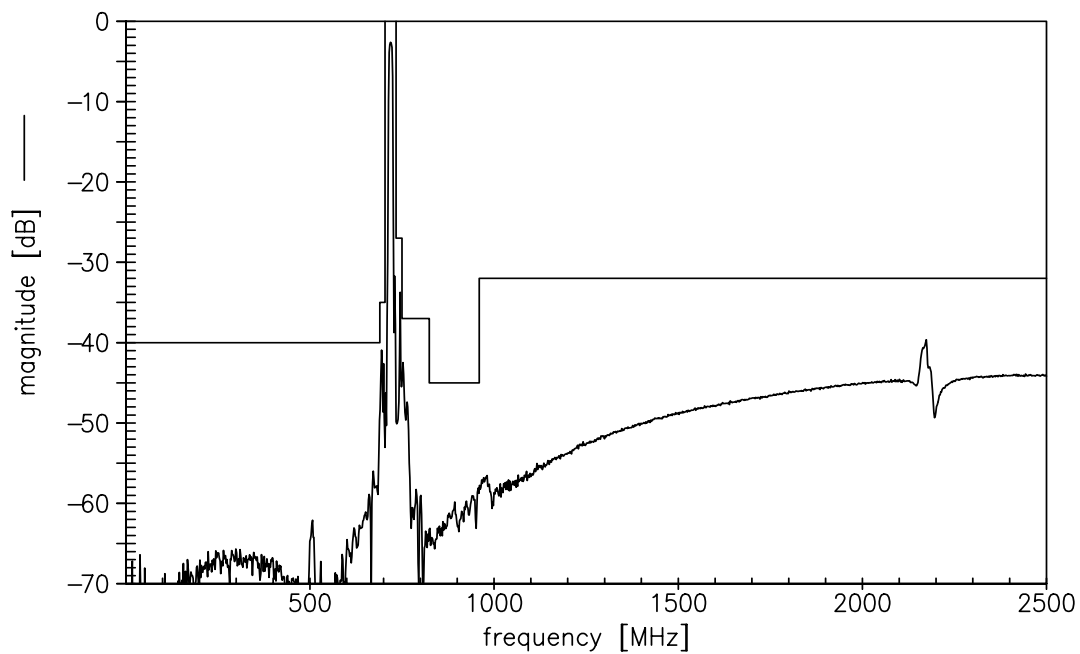
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Transfer function



Transfer function (wideband)





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SAW filter

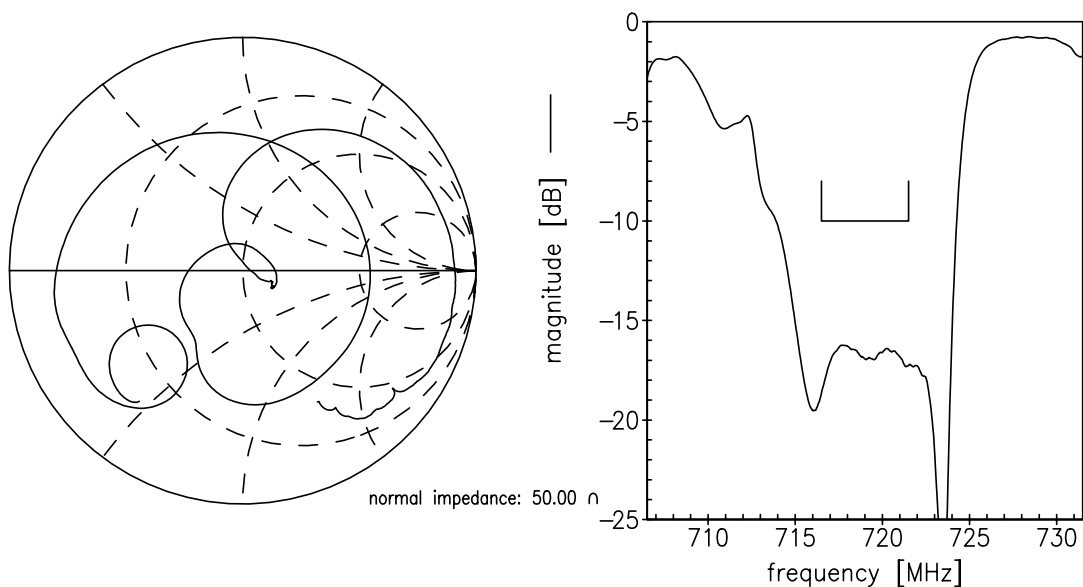
719.0 MHz

Data sheet

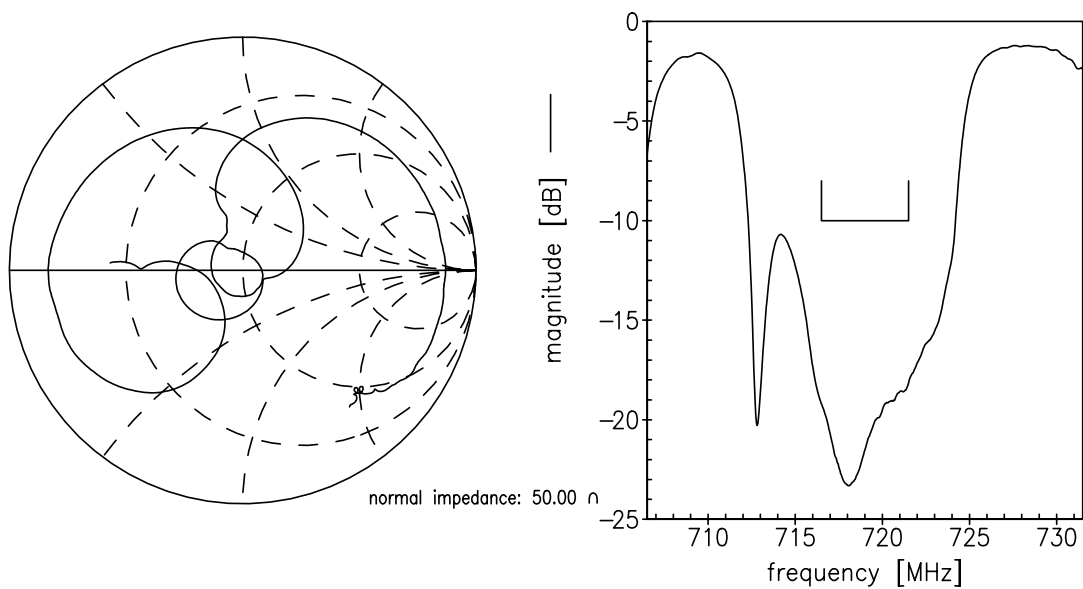


Smith charts

S_{11} function



S_{22} function



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**References**

Type	B9036
Ordering code	B39721B9036E910
Marking and package	C61157-A7-A105
Packaging	F61074-V8152-Z000
Date codes	L_1126
S-parameters	B9036_NB.s2p B9036_WB.s2p
Soldering profile	S_6001
RoHS compatible	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 maxi- mum concentration values for certain hazardous substances in electrical and electronic equipment."

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