



SAW Components

SAW filter

MediaFLO

| | |
|-----------------------|------------------------|
| Series/type: | B9036 |
| Ordering code: | B39721B9036E910 |
| Date: | June 21, 2007 |
| Version: | 2.0 |

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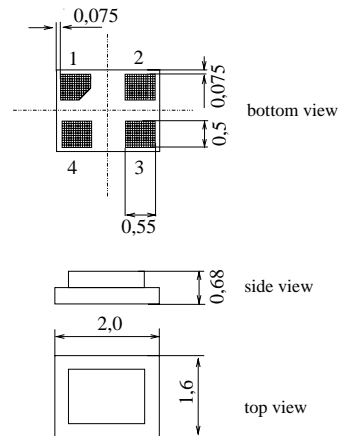
Application

- 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



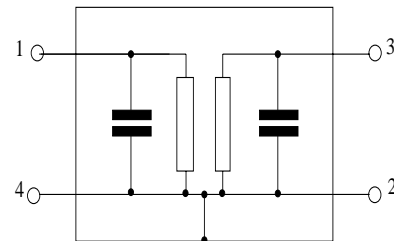
Features

- 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





Data sheet



Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω
 Terminating load impedance: Z_L = 50 Ω

| | | min. | typ. @ 25 °C | max. | |
|--------------------------------------|------------------|------|-----------------|------|---------------------------------|
| Center frequency | f _C | — | 719.0 | — | MHz |
| Maximum insertion attenuation | α _{max} | | | | |
| 716.5 ... 721.5 MHz | | — | 2.5 | 2.7 | dB _{INT} ¹⁾ |
| Amplitude ripple (p-p) | Δα | | | | |
| 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)

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

Where Loss(F_n) = 10^{(S₂₁indB)/20}

N = Number of frequency, insertion loss pairs



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719.0 MHz

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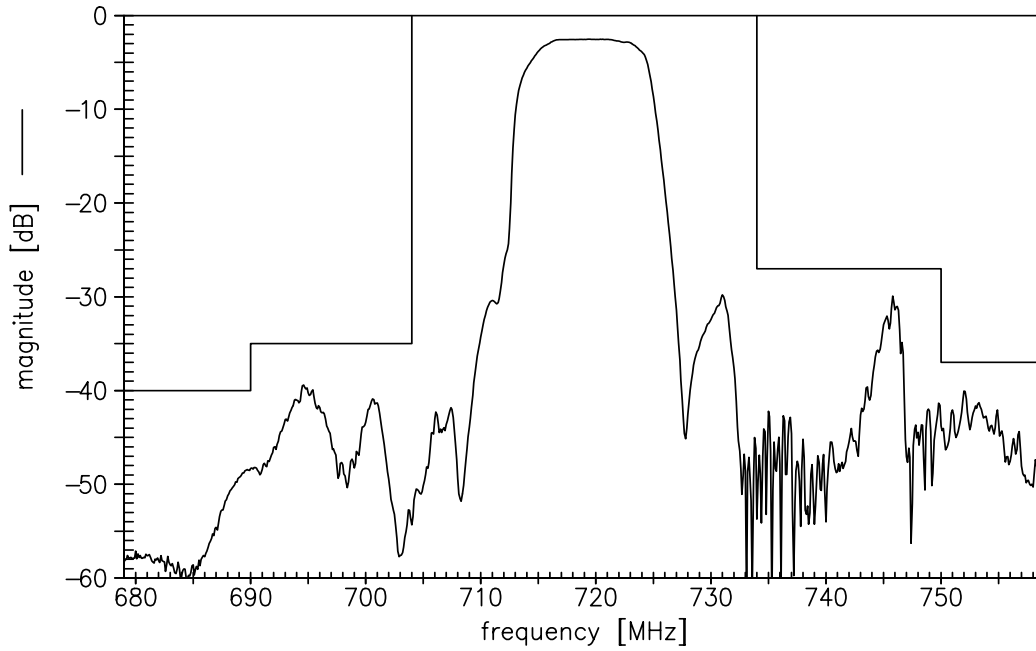
Maximum ratings

| | | | | |
|----------------------------|------------------|-------------------|-----|--------------------------|
| Operable temperature range | T | -40/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 3 | V | |
| ESD voltage | V _{ESD} | 100 ¹⁾ | V | machine model, 10 pulses |
| Input power at | | | | |
| 400.0 ... 500.0MHz | | | | |
| 824.0 ... 2500.0MHz | P _{IN} | 15 | dBm | CW |

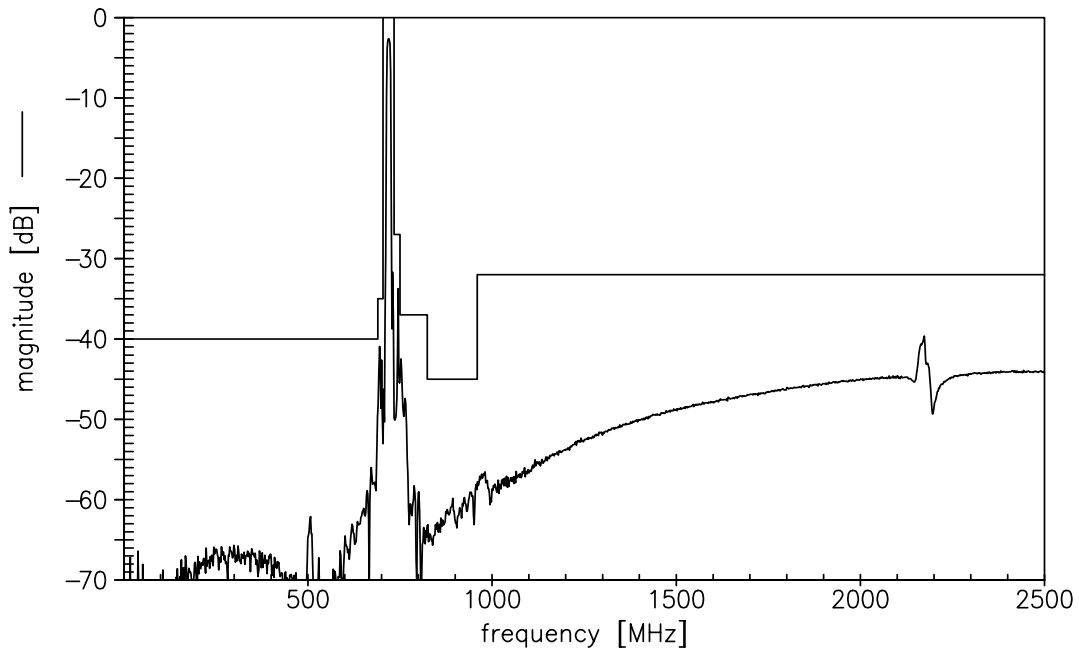
¹⁾ acc. to JEDEC22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)



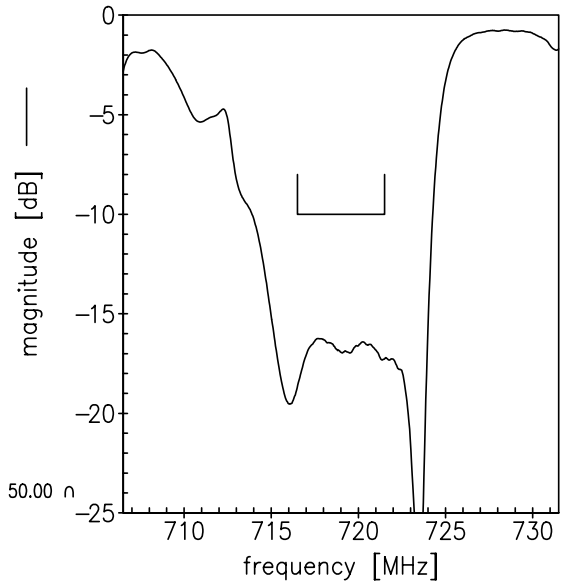
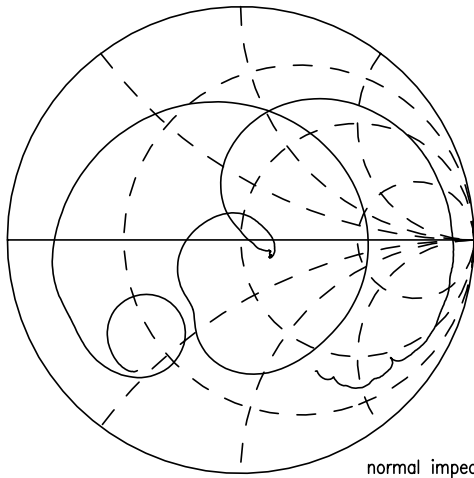
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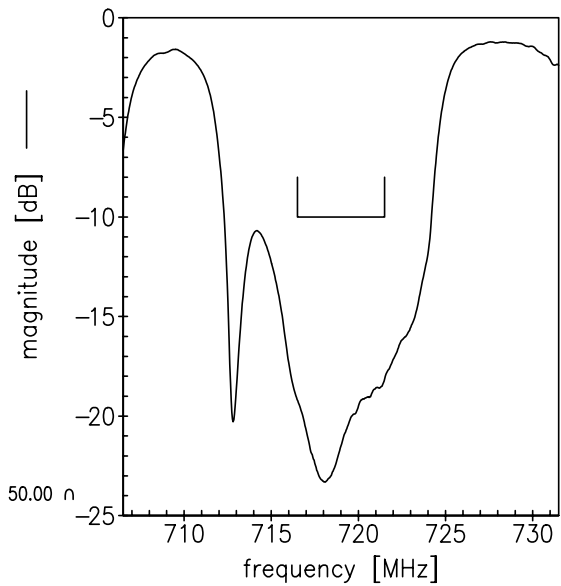
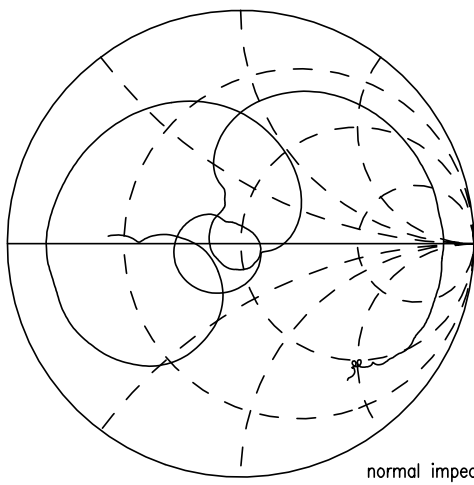


Smith charts

S_{11} function



S_{22} function



**SAW Components****B9036****SAW filter****719.0 MHz**

Data sheet

**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 maximum concentration values for certain hazardous substances in electrical and electronic equipment." |

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7 June 21, 2007



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