



SAW Components

SAW filter

MediaFLO

Series/type:	B7739
Ordering code:	B39711B7739K710
Date:	May 16, 2006
Version:	2.0



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B7739

SAW filter

707.0 MHz

Data sheet



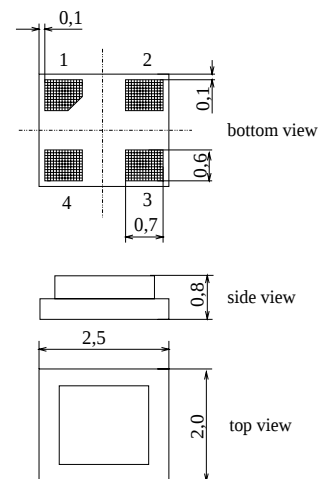
Application

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



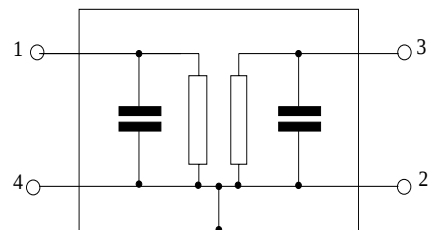
Features

- Package size 2.5 x 2.0 x 0.8 mm³
- Package code DCS4H
- RoHS compatible
- Approximate weight 0.015 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 °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	—	707.0	—	MHz
Maximum insertion attenuation	α _{max}				
704.5 ... 709.5 MHz		—	2.6	3.0	dB _{INT} ¹⁾
Amplitude ripple (p-p)	Δα				
704.5 ... 709.5 MHz		—	0.4	2.0	dB
Return Loss (Input/Output)					
704.5 ... 709.5 MHz		10.0	16.0	—	
Group delay ripple (p-p)					
704.5 ... 709.5 MHz		—	20	80	ns
Attenuation	α				
0.1 ... 678.0 MHz		40.0	46.0	—	dB
678.0 ... 692.0 MHz		35.0	40.0	—	dB
692.0 ... 698.0 MHz		30.0	40.0	—	dB _{INT}
698.0 ... 704.0 MHz		4.5 ²⁾	9.5	—	dB _{INT}
710.0 ... 716.0 MHz		4.5 ³⁾	9.0	—	dB _{INT}
716.0 ... 722.0 MHz		30.0	36.0	—	dB _{INT}
722.0 ... 738.0 MHz		29.0	34.0	—	dB
738.0 ... 812.0 MHz		40.0	45.0	—	dB
812.0 ... 948.0 MHz		45.0	50.0	—	dB
948.0 ... 2500.0 MHz		32.0	37.0	—	dB

¹⁾ dB_{INT} is integrated rejection (see formula below)

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

Where Loss(F_n) = 10^{(S₂₁indB)/20}

N = Number of frequency, insertion pairs

²⁾ 7.0dB_{INT} at 25°C

³⁾ 7.0dB_{INT} at 25°C



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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	P _{IN}	15	dBm	CW
400.0 ... 500.0MHz				
800.0 ... 2500.0MHz				

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



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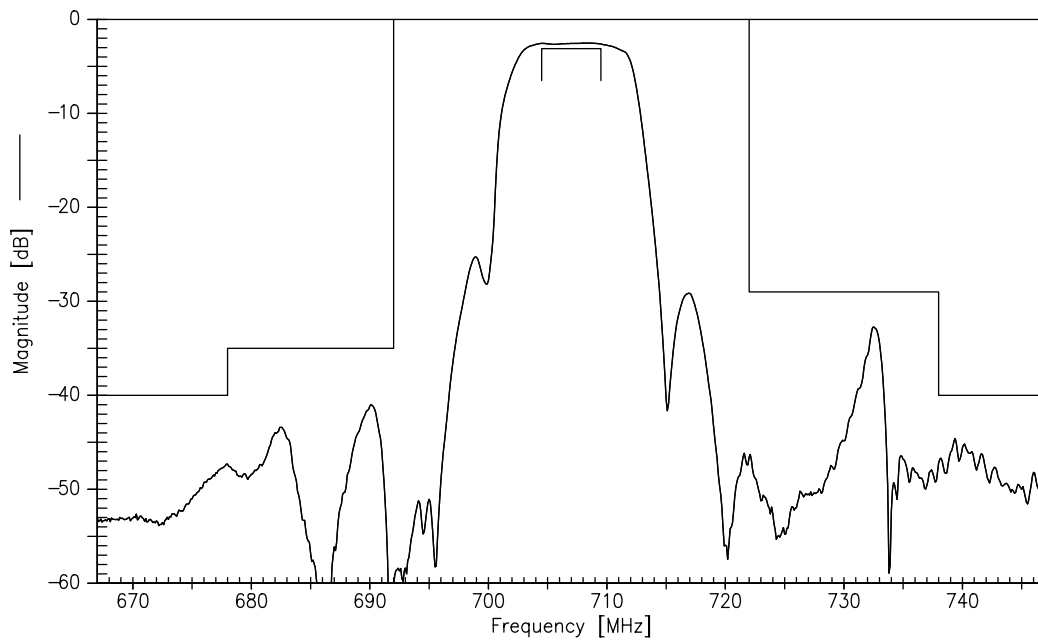
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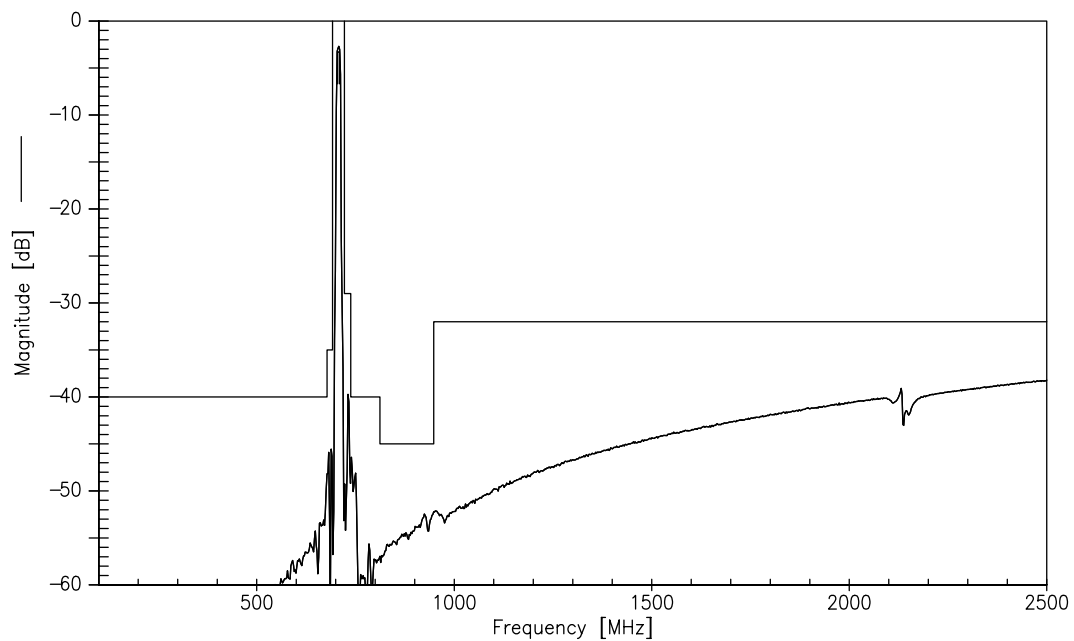
Data sheet



Transfer function



Transfer function (wideband)



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



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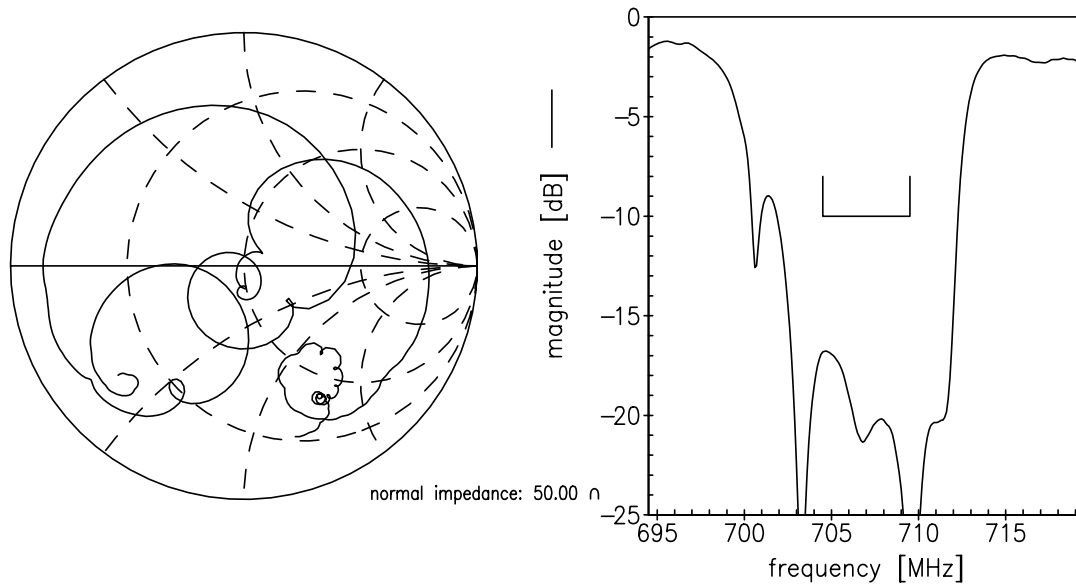
707.0 MHz

Data sheet

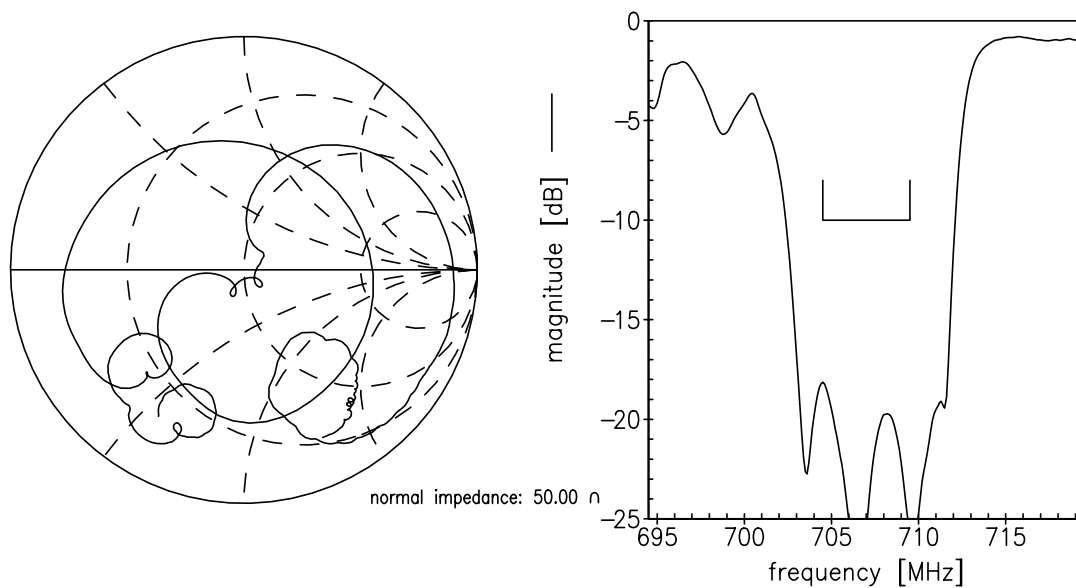


Smith charts

S_{11} function



S_{22} function



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**References**

Type	B7739
Ordering code	B39711B7739K710
Marking and package	C61157-A7-A80
Packaging	F61074-V8189-Z000
Date codes	L_1126
S-parameters	B7739_NB.s2p B7739_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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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