



SAW Components

Data Sheet X 9651 L





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X 9651 L

Bandpass Filter

44,00 MHz

Data Sheet

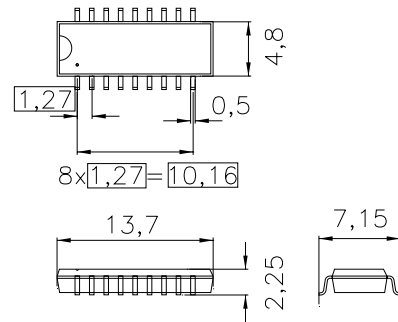
Standard

Duroplast package **DIP18D**

- DVB-DAVIC

Features

- Bandpass filter for digital cable TV with two channels
- Channel 1: 3dB bandwidth 1,2 MHz
- Channel 2: 3dB bandwidth 1,8 MHz
- Constant group delay
- **Surface Mounted Technology (SMT)**
- Standard IC small outline (SO) package



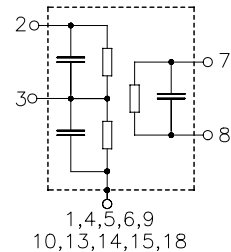
Terminals

- Tinned CuFe alloy

Dimensions in mm, approx. weight 0,5 g

Pin configuration

- 2 Input
- 3 Switching Input
- 7 Output
- 8 Output
- 1,4,5,6,9,10, 13,14,15,18 Chip carrier - ground
- 11,12,16,17 Not connected



Type	Ordering code	Marking and package according to	Packing according to
X 9651 L	B39440-X9651-L100	C61157-A2-A4	F61074-V8058-Z000

Maximum ratings

Operable temperature range	T_A	-25/+65	°C	
Storage temperature range	T_{stg}	-40/+85	°C	
DC voltage	V_{DC}	5	V	between any terminals
AC voltage	V_{pp}	10	V	between any terminals


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Characteristics of channel 1 (switching pin 3 connected to ground)

Reference temperature: $T_A = 25 (45) ^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

		min.	typ.	max.	
Center frequency (center between 3 dB points)	f_C	—	44,00	—	MHz
Insertion attenuation Reference level for the following data	α 44,06(44,00) MHz	14,0	15,5	17,0	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	—	0,8	—	MHz
$\alpha_{\text{rel}} \leq 3 \text{ dB}$	$B_{3\text{dB}}$	—	1,2	—	MHz
$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	2,4	—	MHz
Relative attenuation	α_{rel}				
Lower sidelobe 35,06 ... 42,66 (35,00 ... 42,60) MHz		34,0	39,0	—	dB
Upper sidelobe 45,36 ... 47,36 (45,30 ... 47,30) MHz		25,0	29,0	—	dB
47,36 ... 55,06 (47,30 ... 55,00) MHz		34,0	39,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
43,46 ... 44,66 (43,40 ... 44,60) MHz		—	50	—	ns
Impedance at 44,06 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	0,5 \parallel 13,7	—	k Ω \parallel pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	0,6 \parallel 6,8	—	k Ω \parallel pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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Characteristics of channel 2 (switching pin 3 connected to input pin 2)

Reference temperature: $T_A = 25 (45) \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$
 Terminating load impedance: $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

		min.	typ.	max.	
Center frequency (center between 3 dB points)	f_C	—	44,00	—	MHz
Insertion attenuation Reference level for the following data	α 44,06(44,00) MHz	12,8	14,3	15,8	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	—	1,6	—	MHz
$\alpha_{\text{rel}} \leq 3 \text{ dB}$	$B_{3\text{dB}}$	—	1,8	—	MHz
$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	2,7	—	MHz
Relative attenuation	α_{rel}				
Lower sidelobe					
35,06 ... 40,26 (35,00 ... 40,20) MHz		38,0	44,0	—	dB
40,26 ... 42,56 (40,20 ... 42,50) MHz		32,0	36,0	—	dB
Upper sidelobe					
45,56 ... 48,66 (45,50 ... 48,60) MHz		24,0	30,0	—	dB
48,66 ... 55,06 (48,60 ... 55,00) MHz		36,0	42,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
43,16 ... 44,96 (43,10 ... 44,90) MHz		—	50	—	ns
Impedance at 44,06 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	0,7 \parallel 19,0	—	k Ω \parallel pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	0,6 \parallel 6,9	—	k Ω \parallel pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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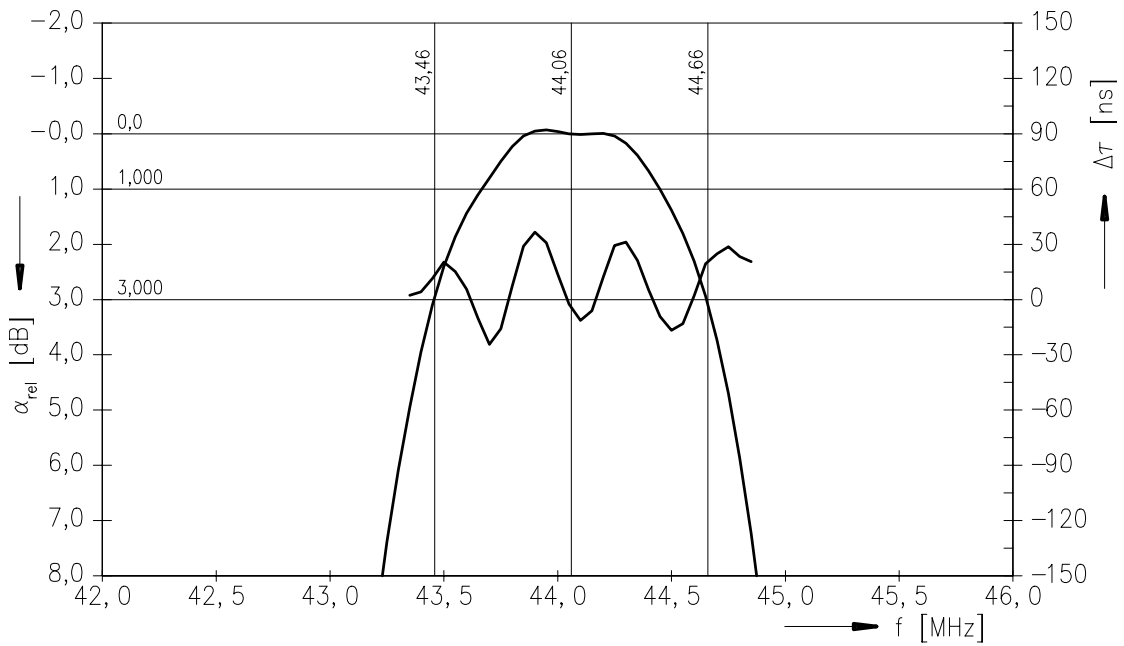
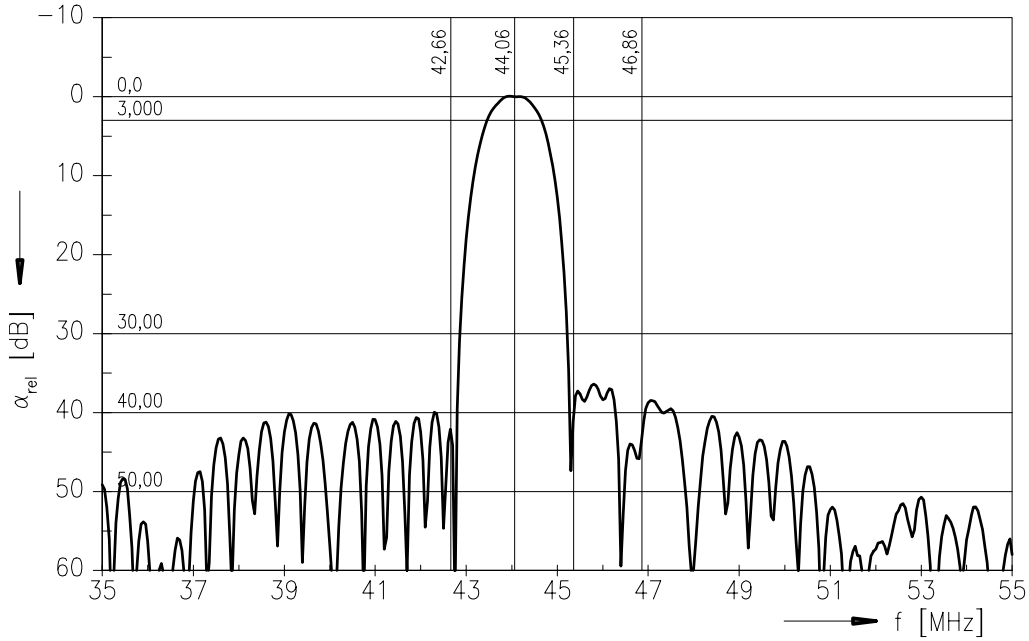
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Frequency response of channel 1





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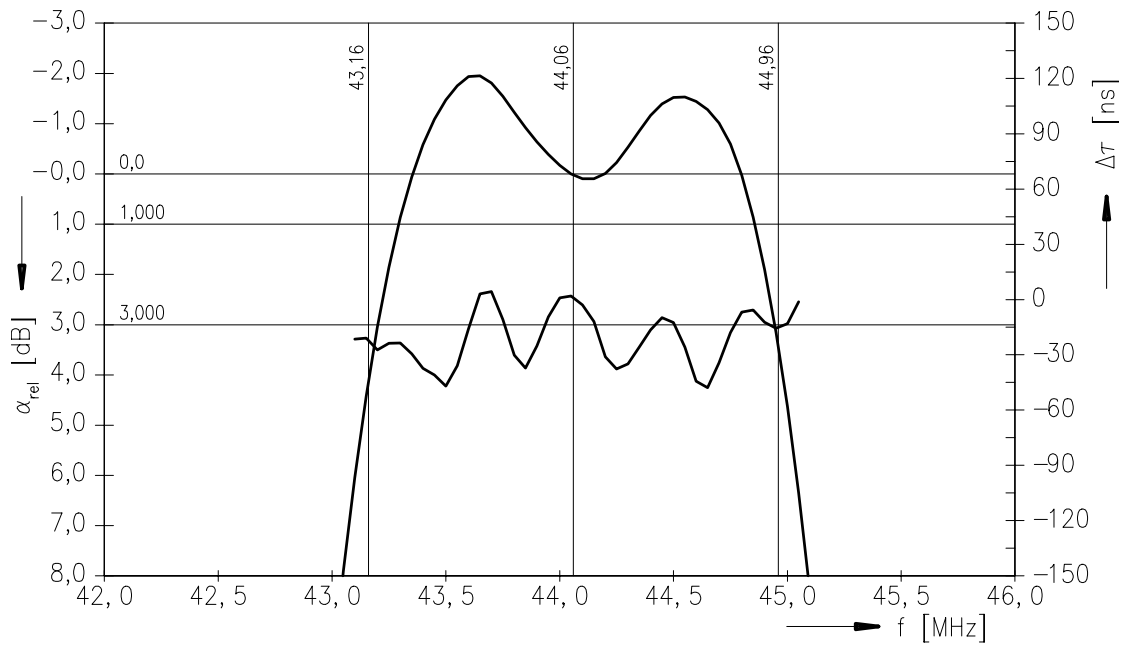
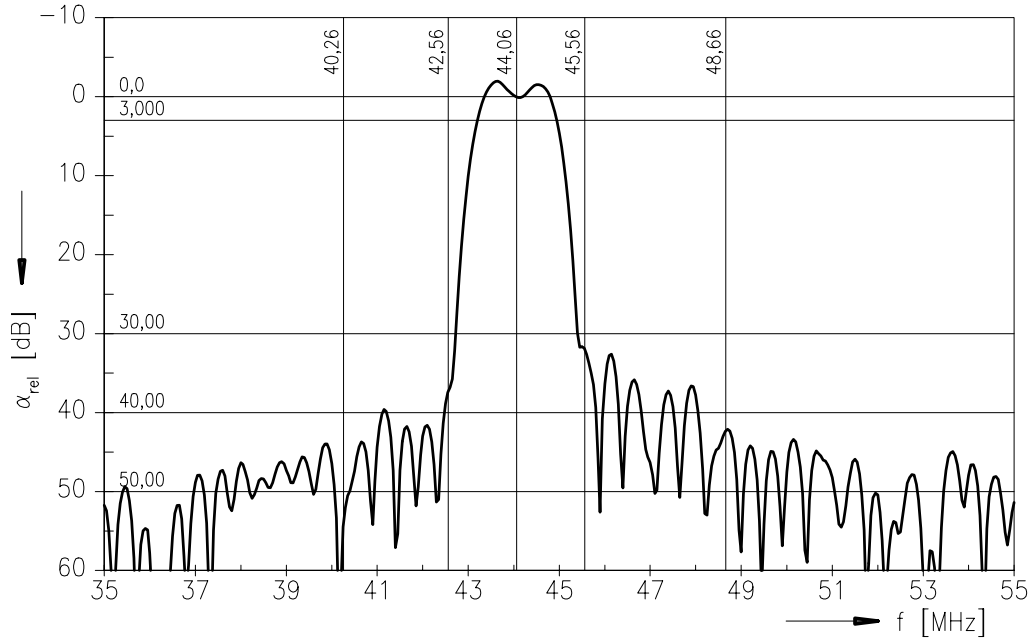
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Frequency response of channel 2





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