Siemens Matsushita Components

SAW Components
Spectrum Shaping Filter

B2559
70,00 MHz

Data Sheet

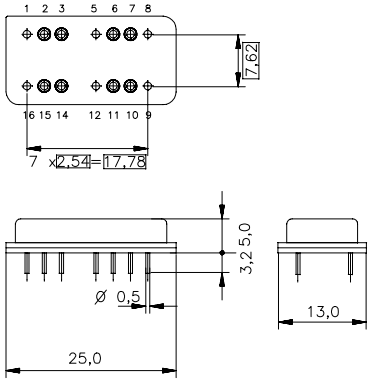
Metal package **DIP 16**

Features

- Spectrum shaping filter for digital radio systems
- High performance passband
- Constant group delay
- Hermetically sealed metal package

Terminals

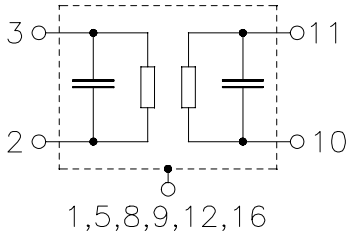
- Gold plated NiFeCo alloy



Dimensions in mm, approx. weight 4,2 g

Pin configuration

2	Input - ground
3	Input
10	Output - ground
11	Output
1, 5, 8, 9, 12, 16	Case - ground
6, 7, 14 15	Not connected



Type	Ordering code	Marking and Package according to	Packing according to
B2559	B39700-B2559-E110	C61157-A7-A11	F61064-V8013-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 40/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_S	15	dBm	source impedance 50 Ω

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Characteristics

Operating temperature: T = 25 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω
Group delay aperture 2,5 MHz

		min.	typ.	max.	
Center frequency (center between 6 dB points)	f_C	69,85	70,00	70,15	MHz
Insertion attenuation at f_C	α_C	—	34,0	36,0	dB
Deviation from theoretical frequency resp. [1]	$\Delta\alpha$				
f_C ... $f_C \pm f_Y$		—	±0,15	±0,25	dB
Deviation from theoretical phase response [2]	$\Delta\varphi$				
f_C ... $f_C \pm f_Y$		—	±0,5	—	˚
Relative attenuation (relative to α_C)	α_{rel}				
10,0 ... 47,0 MHz		40,0	45,0	—	dB
47,0 ... 54,1 MHz		32,0	34,0	—	dB
85,9 ... 93,0 MHz		32,0	34,0	—	dB
93,0 ... 110,0 MHz		40,0	45,0	—	dB
Reflected wave signal suppression 1,0 µs ... 4,0 µs after main pulse		55,0	60,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_C ... $f_C \pm f_Y$		—	3,0	4,0	ns
Nyquist frequency	f_Y	—	12,1	—	MHz
Roll-off factor	a	—	0,3	—	
Partitioning factor	p	—	0,5	—	
Phase coefficients					
	b_1	—	-0,014	—	˚/MHz^2
	b_2	—	-565,3	—	˚/MHz
	b_3	—	tbd	—	˚
Temperature coefficient of frequency	TC_f	—	– 87	—	ppm/K

1) and 2) see next page

1) Theoretical frequency response:

$$H(x) = (S(x)/\mathrm{sinc}(x*\pi/2))^p$$

$$S(x) = \begin{cases} 1 & \text{for } |x| \le 1-a \\ (1+\cos(\pi\cdot(|x|-1+a)/2a))/2 & \text{for } 1-a < |x| < 1+a \\ 0 & \text{for } 1+a \le |x| \end{cases}$$

$$x = (f-f_C)/f_Y$$

2) Theoretical phase response:

$$\mathrm{Phase}(f) = b_1*(f-f_C)^2+b_2*(f-f_C)+b_3$$

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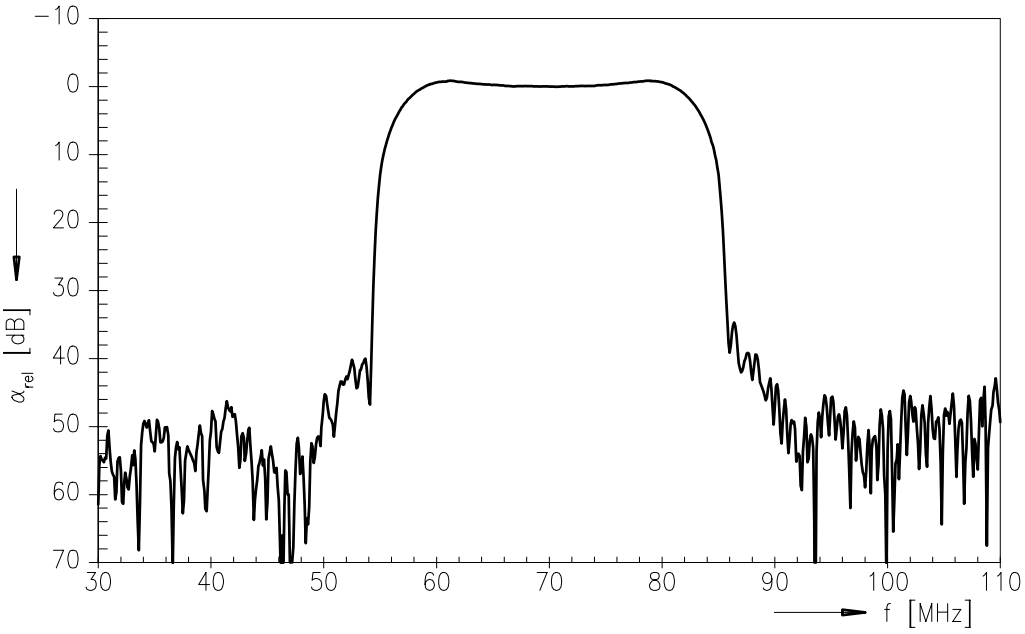
Normalized frequency response



Normalized frequency response