



SAW Components

Data Sheet X 7251 D

Data Sheet

EPCOS



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X 7251 D

Bandpass Filter

36,17 MHz

Data Sheet

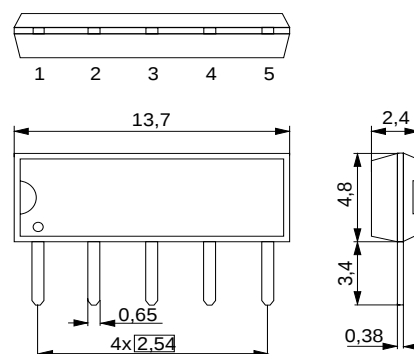
Duroplast package **SIP5D**

Features

- IF filter for digital TV
- Switchable between two bandwidths
- Optimized for cascade of two devices
- Standard IC package

Terminals

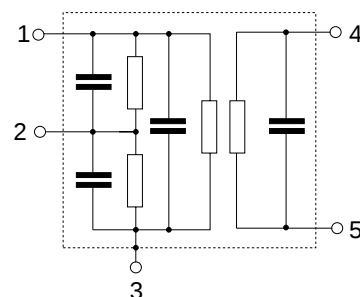
- Tinned CuFe alloy



Dimensions in mm, approx. weight 0,5 g

Pin configuration

- | | |
|---|-----------------------|
| 1 | Input |
| 2 | Switching input |
| 3 | Chip carrier – ground |
| 4 | Output |
| 5 | Output |



Type	Ordering code	Marking and package according to	Packing according to
X 7251 D	B39362-X7251-N201	C61157-A1-A21	F61074-V8049-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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Data Sheet

Characteristics of channel 1 (switching pin 2 connected to ground)

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

		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	36,17 MHz	19,5	21,0	22,5	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 1,5\text{ dB}$	$B_{1,5\text{dB}}$	7,4	7,7	8,0	MHz
$\alpha_{\text{rel}} \leq 3\text{ dB}$	$B_{3\text{dB}}$	7,7	8,0	8,3	MHz
$\alpha_{\text{rel}} \leq 15\text{ dB}$	$B_{15\text{dB}}$	8,6	8,9	9,2	MHz
$\alpha_{\text{rel}} \leq 30\text{ dB}$	$B_{30\text{dB}}$	8,8	9,4	10,0	MHz
Relative attenuation	α_{rel}				
Lower sidelobe	25,00 ... 31,15 MHz	35,0	41,0		dB
Upper sidelobe	41,15 ... 42,00 MHz	31,0	37,0		dB
	42,00 ... 45,00 MHz	37,0	44,0		dB
Reflected wave signal suppression					
1,1 μs ... 6,0 μs after main pulse (test pulse 250 ns, carrier frequency 36,17 MHz)		42,0	50,0	—	dB
Feedthrough signal suppression					
1,3 μs ... 1,2 μs before main pulse (test pulse 250 ns, carrier frequency 36,17 MHz)		—	50,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
32,25 ... 40,05 MHz		—	50	—	ns
Impedance at 36,17 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1,7 $\parallel$ 17,3	—	k Ω $\parallel$ pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,4 $\parallel$ 4,3	—	k Ω $\parallel$ pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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Characteristics of channel 2 (switching pin 2 connected to pin 1)

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

		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	36,17 MHz	19,5	21,0	22,5	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 1,5\text{ dB}$	$B_{1,5\text{dB}}$	6,4	6,7	7,0	MHz
$\alpha_{\text{rel}} \leq 3\text{ dB}$	$B_{3\text{dB}}$	6,7	7,0	7,3	MHz
$\alpha_{\text{rel}} \leq 15\text{ dB}$	$B_{15\text{dB}}$	7,7	8,0	8,3	MHz
$\alpha_{\text{rel}} \leq 30\text{ dB}$	$B_{30\text{dB}}$	7,9	8,5	9,1	MHz
Relative attenuation	α_{rel}				
Lower sidelobe	25,00 ... 31,55 MHz	35,0	41,0		dB
Upper sidelobe	40,75 ... 45,00 MHz	33,0	38,0		dB
Reflected wave signal suppression					
1,1 μs ... 6,0 μs after main pulse (test pulse 250 ns, carrier frequency 36,17 MHz)		42,0	50,0	—	dB
Feedthrough signal suppression					
1,3 μs ... 1,2 μs before main pulse (test pulse 250 ns, carrier frequency 36,17 MHz)		—	50,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
32,75 ... 39,55 MHz		—	50	—	ns
Impedance at 36,17 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1,5 $\parallel$ 20,9	—	k Ω $\parallel$ pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,4 $\parallel$ 4,3	—	k Ω $\parallel$ pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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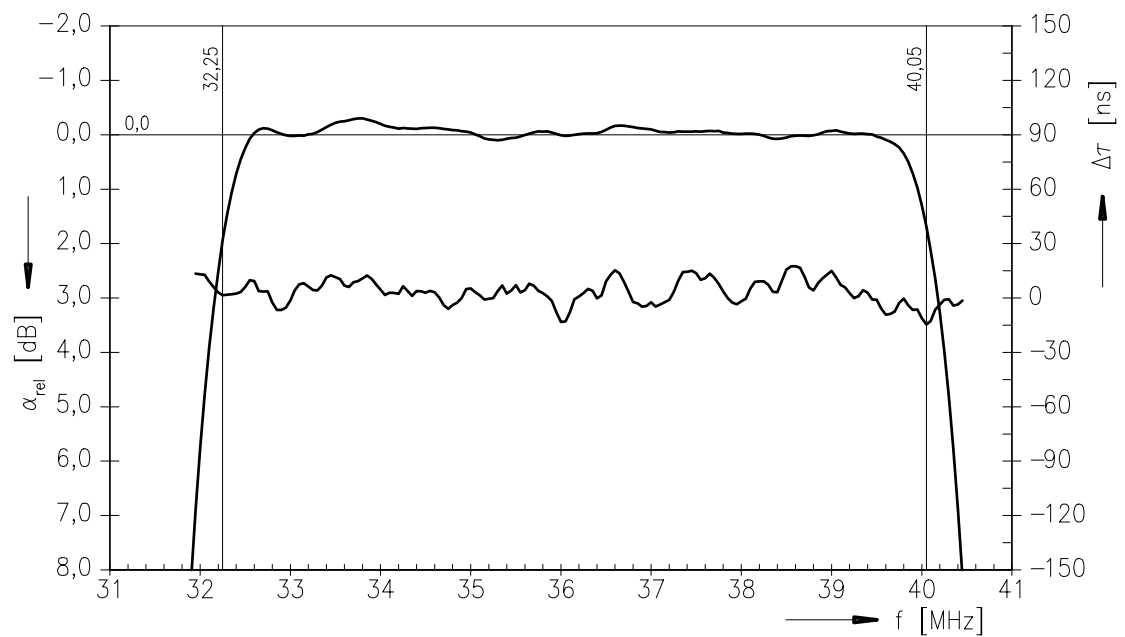
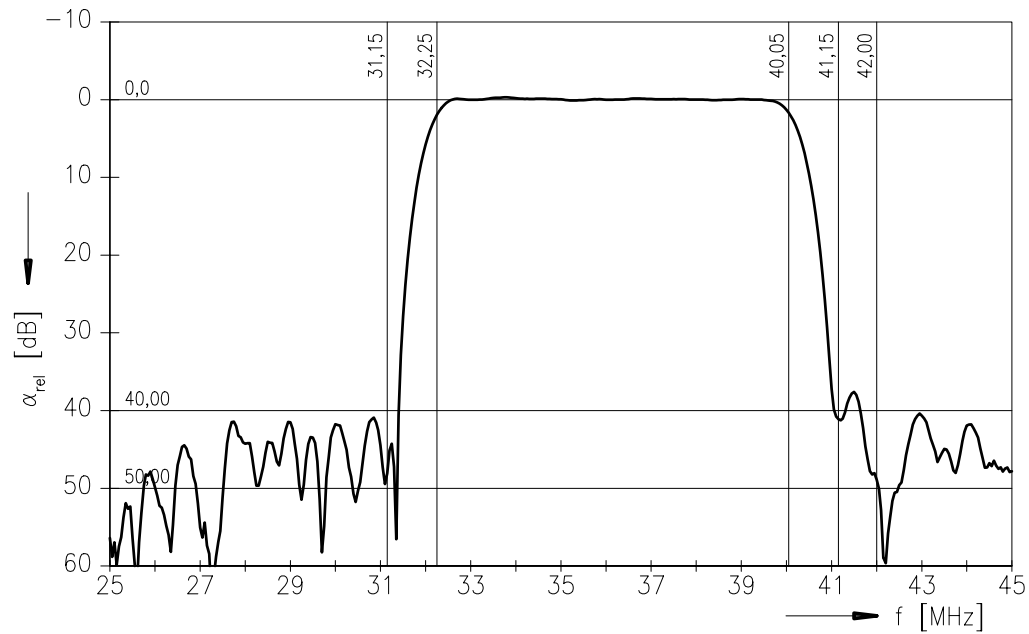
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Frequency response of channel 1





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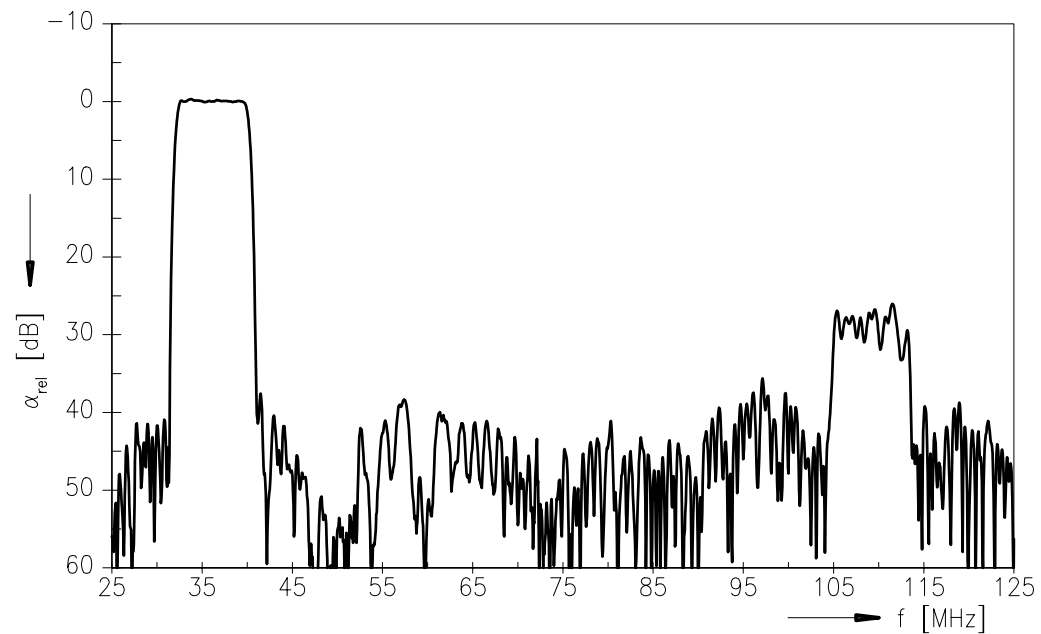
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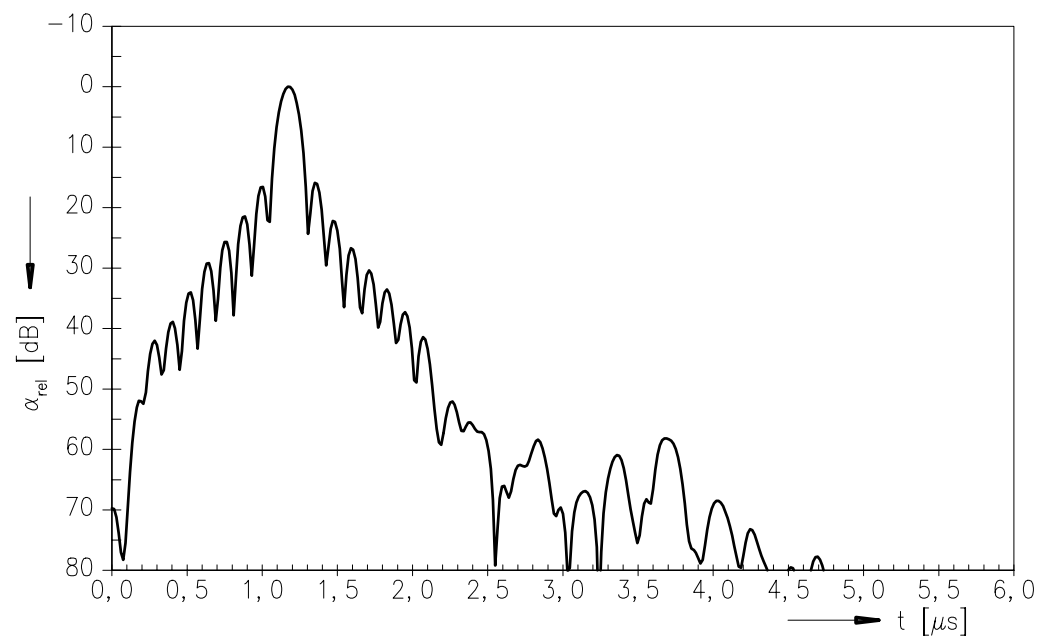
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Frequency response of channel 1



Time domain response of channel 1





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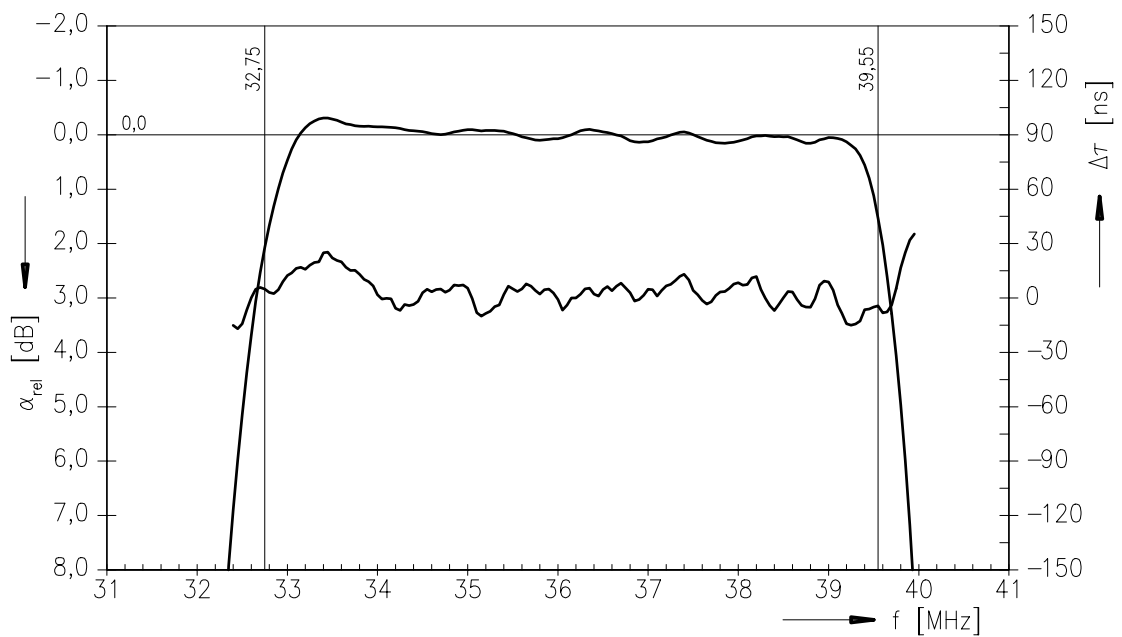
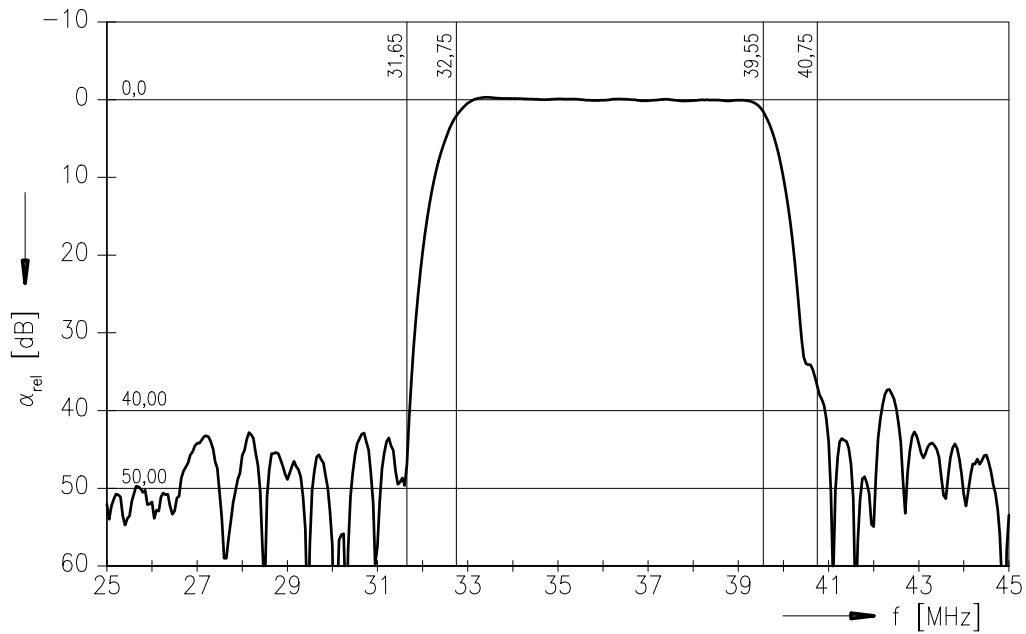
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Data Sheet

Frequency response of channel 2





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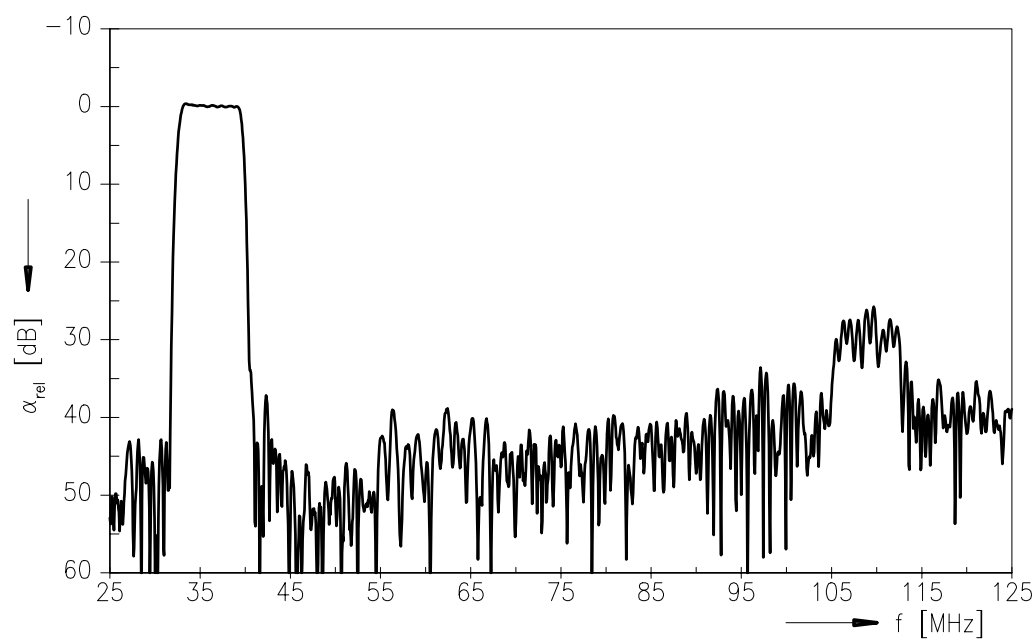
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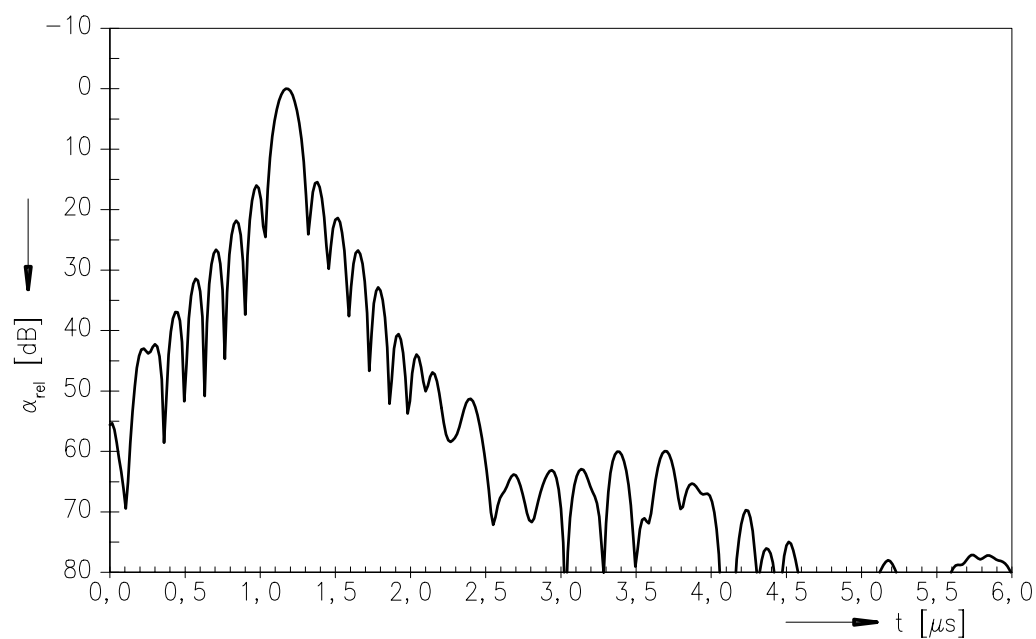
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Frequency response of channel 2



Time domain response of channel 2





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