FREQUENCY DEVICES™, INC.

D51 Series

Telephone Message & Circuit Noise Measurement

C-Message Response

Description

The D51 is designed specifically to provide the C-message weighting frequency response specified in Bell System Technical Reference 41009 for telephone message circuit noise measurement. The theoretical C-message characteristic simulates the perceived response of the human ear to telephone noise.

The D51 filter provides a close, ±1db approximation to the theoretical C-message weighting function from 60 Hz to 5.0 kHz.

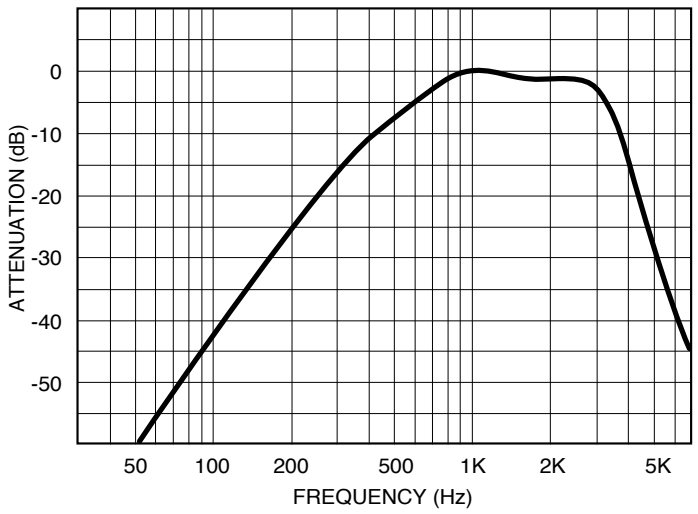
Applications

- Telephone Message Circuit Noise Measurement
- Test Equipment

Theoretical Frequency Response

Frequency Hz	Attenuation dB	Tolerance ±dB
60	55.7	1
100	42.5	1
200	25.0	1
300	16.5	1
400	11.4	1
500	7.5	1
600	4.7	1
700	2.7	1
800	1.5	1
900	0.6	1
1000	0.0	0.1
1200	0.2	1
1300	0.5	1
1500	1.0	1
1800	1.3	1
2000	1.3	1
2500	1.4	1
2800	1.9	1
3000	2.5	1
3300	5.2	1
3500	7.6	1
4000	14.5	1
4500	21.5	1
5000	28.5	1

Frequency Response Curve



1784 Chessie Lane, Ottawa, IL 61350 • Tel: 800/252-7074, 815/434-7800 • FAX: 815/434-8176
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Specifications
(25°C and Vs ± 15 Vdc)

Analog Input Characteristics

Impedance	10 kΩ min.
Source Impedance[1]	600 Ω max.
Bias Current[2]	0
Voltage Range	± 10 V peak
Maximum Safe Voltage	± Vs

Analog Output Characteristics

Impedance (Closed Loop)	< 1 Ω typ. 10 Ω max.
Linear Operating Range	± 10 V
Maximum Current[3]	± 2 mA
Offset Voltage	± 5 mV
Offset Temp. Coeff.	50 µV / °C
Noise[4]	50 µVRMS

Gain (non-inverting) 0 ± 0.1 dB @ 1 kHz

Power Supply (±Vs)

Rated Voltage	± 15 Vdc
Operating Range	± 5 to ± 18 Vdc
Maximum Safe Voltage	± 18 Vdc
Quiescent Current	± 1.5 mA typ. ± 2.0 mA max.

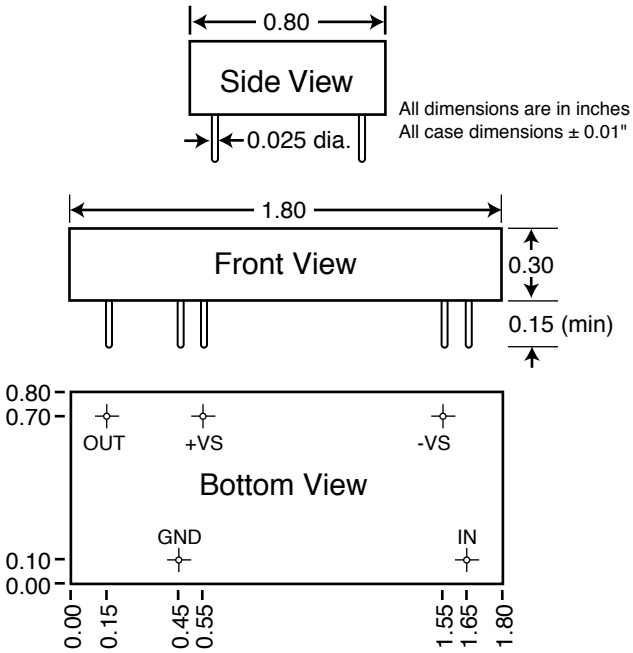
Temperature

Operating	0 to + 70 °C
Storage	- 25 to + 85 °C

Notes:

1. Maximum allowable series input resistance if gain accuracy's are to be maintained.
2. Capacitor coupled.
3. Output is short circuit protected to common. DO NOT CONNECT TO ±Vs.
4. DC to 50 kHz excluding DC offset with input grounded.

Pin-Out and Package Data
Ordering Information



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