

## **D51 Series**

Telephone Message &

Circuit Noise Measurement

## C-Message Response

## Description

The D51 is designed specifically to provide the Cmessage 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,  $\pm 1$ db approximation to the theoretical C-message weighting function from 60 Hz to 5.0 kHz.

## Applications

Telephone Message Circuit Noise Measurement

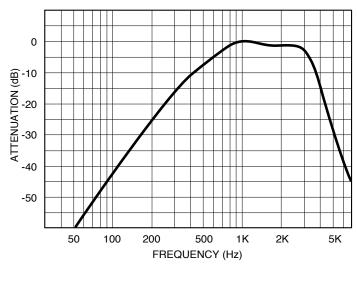
**Theoretical Frequency Response** 

Test Equipment

## PARCYBERCY DB Wardenergy DB/HZ - Bakit PREDURCY DB/HZ DB - Bakit DB - Bakit DB - Bakit DB - Bakit DB - Bakit

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



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# **D51 Series**

## **Specifications**

 $(25^{\circ}C \text{ and } Vs \pm 15 \text{ Vdc})$ 

### **Analog Input Characteristics**

Impedance	10 k $\Omega$ min.
Source Impedance <sup>1</sup>	600 $\Omega$ max.
Bias Current <sup>2</sup>	0
Voltage Range	± 10 V peak
Maximum Safe Voltage	± Vs

### **Analog Output Characteristics**

Impedance (Closed Loop)	< 1 Ω typ.
	10 $\Omega$ max.
Linear Operating Range	± 10 V
Maximum Current <sup>3</sup>	± 2 mA
Offset Voltage	± 5 mV
Offset Temp. Coeff.	50 μV / °C
Noise <sup>4</sup>	<b>50</b> μVrмs

0 ± 0.1 dB @ 1 kHz

Gain (non-inverting)

### Power Supply (±Vs)

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

#### Temperature

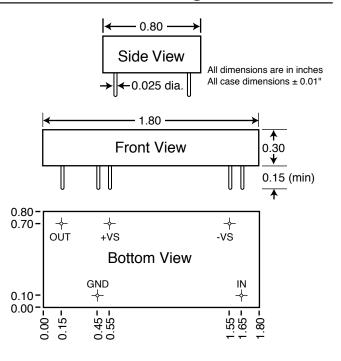
Operating	0 to + 70 °C
Storage	- 25 to + 85 °C

#### Notes:

1. Maximum allowable series input resistance if gain accuracy's are to be maintained.

- 2. Capacitor coupled.
- 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



We hope the information given here will be helpful. The information is based on data and our best knowledge, and we consider the information to be true and accurate. Please read all statements, recommendations or suggestions herein in conjunction with our conditions of sale which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations or suggestions, nor do we intend them as a recommendation for any use which would infringe any patent or copyright. PR-00D51-02