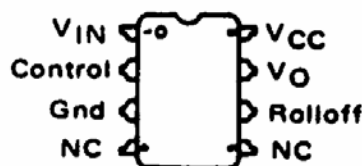
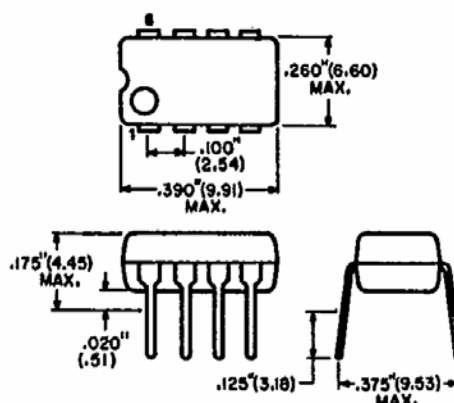


### ECG829

#### Electronic Attenuator

#### Features

- Designed for use in:  
DC operated volume control  
Compression and expansion amplifier applications
- Controlled by DC voltage or external variable resistor
- Silicon monolithic integrated circuit



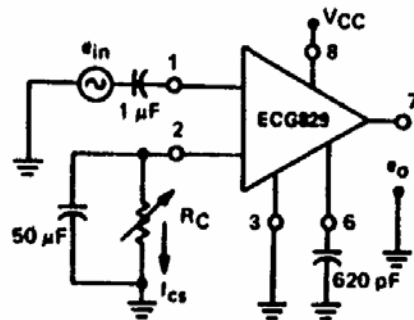
#### Maximum Ratings ( $T_A = +25^\circ\text{C}$ unless otherwise noted.)

Rating	Value	Unit
Power Supply Voltage	20	Vdc
Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $T_A = 25^\circ\text{C}$	1.2 10	Watt mW/ $^\circ\text{C}$
Operating Temperature Range	0 to $+75$	$^\circ\text{C}$

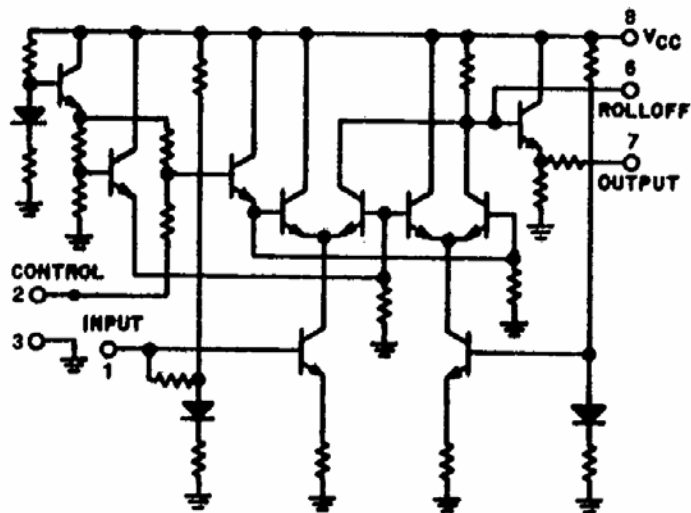
#### Electrical Characteristics ( $e_{in} = 100\text{mV}$ (RMS), $f = 1.0\text{kHz}$ , $R_1 = 0$ , $V_{CC} = 16\text{Vdc}$ , $T_A = +25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Min	Typ	Max	Units
Operating Power Supply Voltage	9.0		18	Vdc
Control Terminal Sink Current ( $e_{in} = 0$ )			2.0	mAdc
Maximum Input Voltage			0.5	V(RMS)
Voltage Gain	11	13		dB
Attenuation Range ( $R_C = 33\text{k}\Omega$ )	70	90		dB
Total Harmonic Distortion (Pin 2 Gnd) ( $e_{in} = 100\text{mV(RMS)}$ , $e_o = A_v \times e_{in}$ )		0.6	1.0	%

## Test Circuit

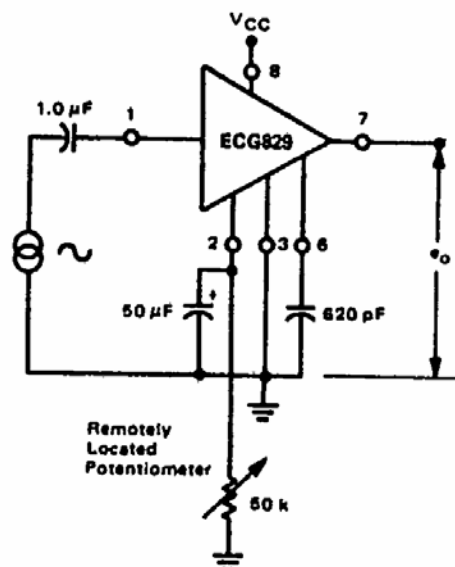


## Circuit Schematic



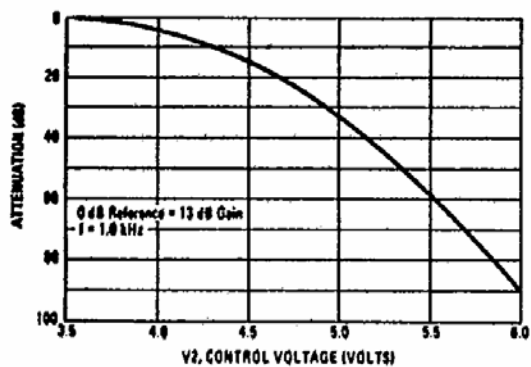
## Application

### Typical DC "Remote" Volume Control

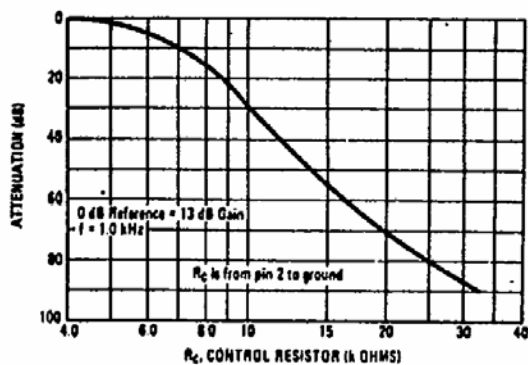


**Typical Electrical Characteristics ( $V_{CC} = 16\text{Vdc}$ ,  $T_A = +125^\circ\text{C}$  unless otherwise noted.)**

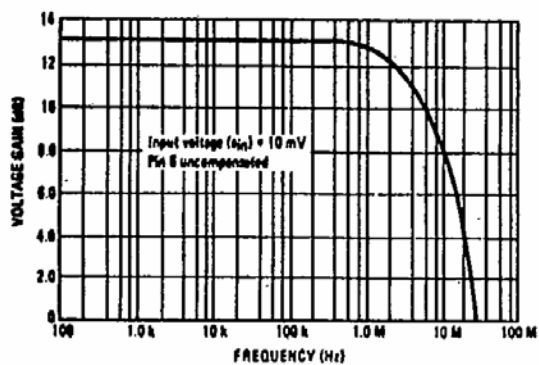
**Attenuation versus DC Control Voltage**



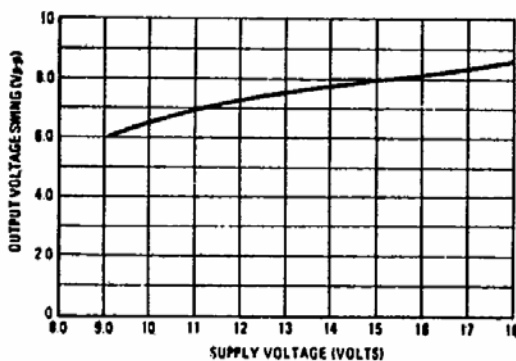
**Attenuation versus Control Resistor**



**Frequency Response**



**Output Voltage Swing**



**Total Harmonic Distortion**

