MFC6040

ELECTRONIC ATTENUATOR

Advance Information

ELECTRONIC ATTENUATOR

- Designed for use in:
  - DC Operated Volume Control
  - Compression and Expansion Amplifier Applications
- Controlled by DC Voltage or External Variable Resistor
- Economical 6-Lead Plastic Package

ELECTRONIC ATTENUATOR

Silicon Monolithic
Functional Circuit

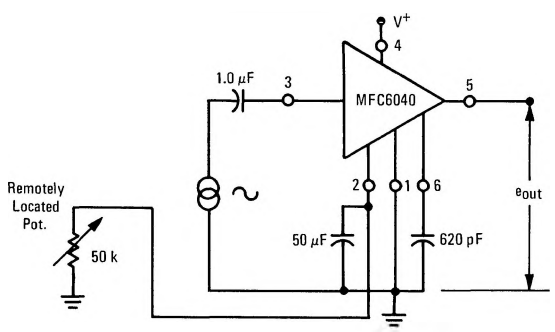
CASE 643A

PLASTIC PACKAGE

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Power Supply Voltage	V^+	21	Vdc
Power Dissipation @ T_A = 25°C (Package Limitation)	P_D	1.0	Watt
Derate above T_A = 25°C	$1/\theta_{JA}$	10	mW/°C
Operating Temperature Range	T_A	-10 to +75	°C

FIGURE 1 – TYPICAL DC "REMOTE" VOLUME CONTROL



See Packaging Information Section for outline dimensions.

ELECTRICAL CHARACTERISTICS (e_{in} = 100 mV, f = 1.0 kHz, R1 = 0, V^+ = 16 Vdc, T_A = 25°C unless otherwise noted)

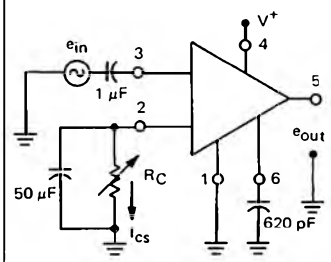
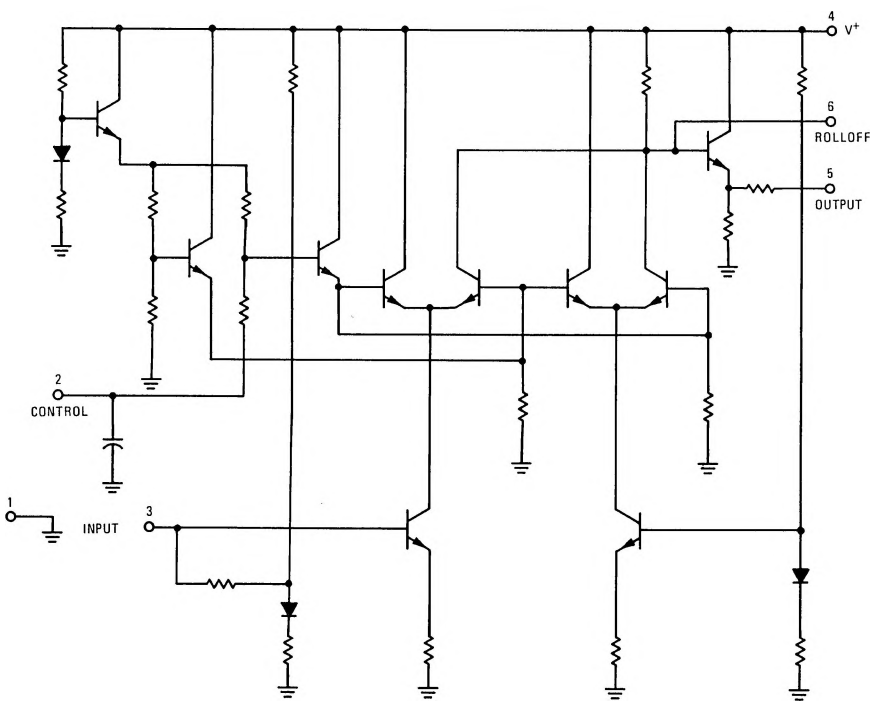
Circuit	Characteristic	Symbol	Min	Typ	Max	Unit
	Operating Power Supply Voltage	V^+	9.0	–	18	Vdc
	Control Terminal Sink Current (e_{in} = 0)	I_{cs}	–	–	2.0	mAdc
	Maximum Input Voltage	e_{in}	–	–	0.5	V(rms)
	Voltage Gain	A_V	11	13	–	dB
	Attenuation Range (R_C = 33 k ohms)		70	90	–	dB
	Total Harmonic Distortion (e_{in} = 100 mV, e_o = 100 mV)	THD	–	0.6	1.0	%

FIGURE 2 – CIRCUIT SCHEMATIC



TYPICAL ELECTRICAL CHARACTERISTICS

(V^+ = 16 Vdc, T_A = 25°C unless otherwise noted)

FIGURE 3 – ATTENUATION versus DC CONTROL VOLTAGE

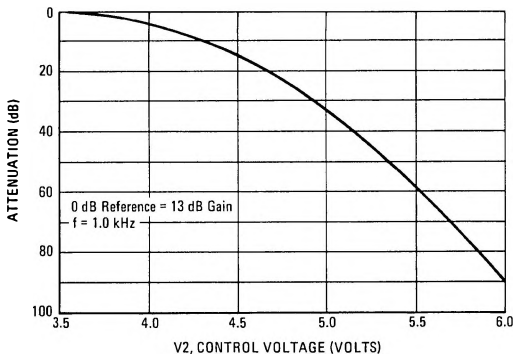


FIGURE 4 – ATTENUATION versus CONTROL RESISTOR

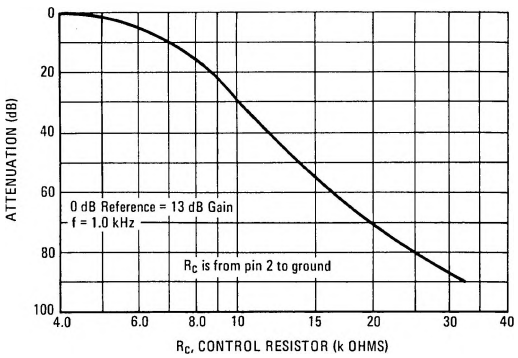


FIGURE 5 – FREQUENCY RESPONSE

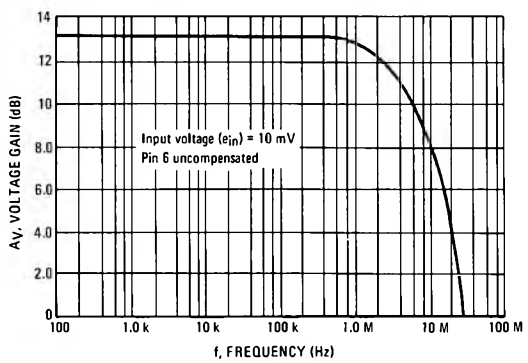


FIGURE 6 – OUTPUT VOLTAGE SWING

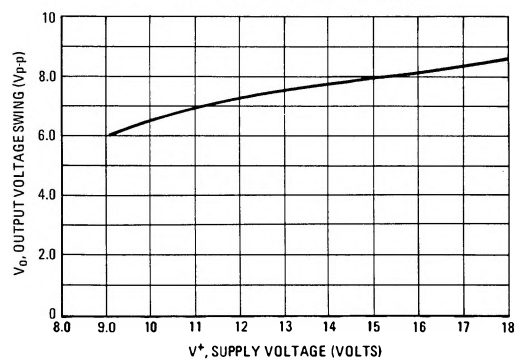


FIGURE 7 – TOTAL HARMONIC DISTORTION