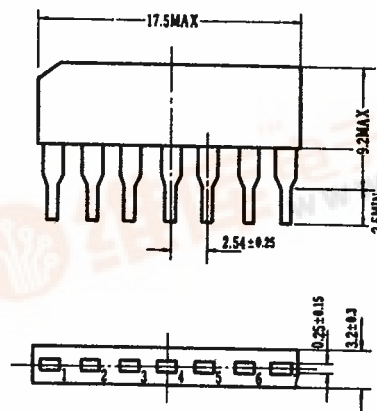




- Various High Quality Pre-Amplifier
- Voltage Amplifier Applications
- Low Noise : $V_{NI} = 1.0 \mu V_{rms}$ (Typ.)
- High Open Loop Voltage Gain :
 $G_{V(1)} = 92 \text{ dB}$ (Typ.)
- Low Distortion : $KF = 0.1\%$ (Max.)
 $V_{OUT} = 7 V_{rms}$, $G_{V(2)} = 40 \text{ dB}$,
 $f = 1 \text{ kHz}$

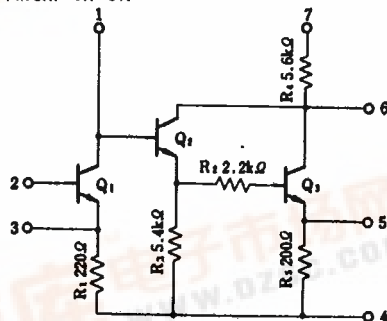


MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

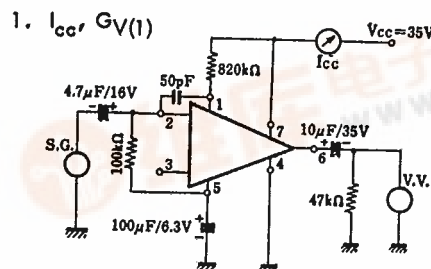
| Characteristic | Symbol | Rating | Unit |
|--------------------------|-----------|------------|------------------|
| Supply Voltage | V_{cc} | 42 | V |
| Power Dissipation (Note) | P_D | 400 | mW |
| Operating Temperature | T_{opr} | -30 to 75 | $^\circ\text{C}$ |
| Storage Temperature | T_{sfg} | -55 to 125 | $^\circ\text{C}$ |

Note: Derated above $T_a = 25^\circ\text{C}$ in the proportion of 4 mW/ $^\circ\text{C}$.

Equivalent Circuit



Test Circuit

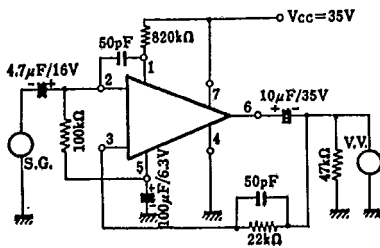


ELECTRICAL CHARACTERISTICS ($V_{CC} = 35\text{ V}$, $T_a = 25^\circ\text{C}$)

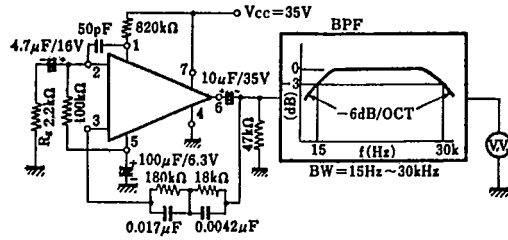
| Characteristic | Symbol | Test Circuit | Test Condition | Min. | Typ. | Max. | Unit |
|-----------------------------------|----------|--------------|--|------|------|------|---------------------|
| Supply Current | I_{CC} | 1 | $V_{IN} = 0$ | -- | 3.5 | 6.0 | mA |
| Voltage Gain (1) (Open Loop) | $G_V(1)$ | 1 | $V_{IN} = -85\text{ dBm}$ $f = 1\text{ kHz}$ | 87 | 92 | -- | dB |
| Voltage Gain (2) (Closed Loop) | $G_V(2)$ | 2 | $V_{OUT} = 7\text{ V}_{rms}$ $f = 1\text{ kHz}$ | 38 | 40 | 42 | dB |
| Maximum Output Voltage | V_{OM} | 2 | $f = 1\text{ kHz}$ $KF = 0.1\%$ (below) | 7.0 | -- | -- | V_{rms} |
| Equivalent Input Noise Voltage | V_{NI} | 3 | $R_g = 2.2\text{ k Ohms}$ RIAA (Compensated) 1 kHz θ Gain Converted with $G_V(1\text{ kHz})$ | -- | 1.0 | 1.5 | μV_{rms} |

Test Circuits (Continued)

2. $G_V(2)$, V_{OM}



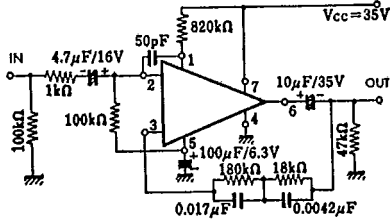
3. V_{NI}



Application Circuit

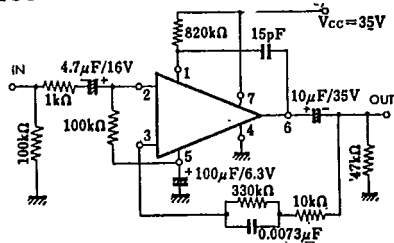
4. (RIAA, $G_V = 40\text{ dB}$, $f = 1\text{ kHz}$)

Typical Magnetic Phono Pre-Amplifier using ECG1085

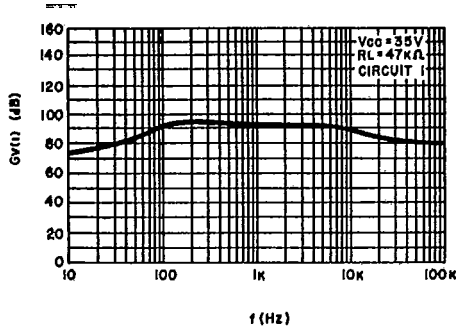


5. (NAB 9.5 cm/sec, $G_V = 40\text{ dB}$, $f = 1\text{ kHz}$)

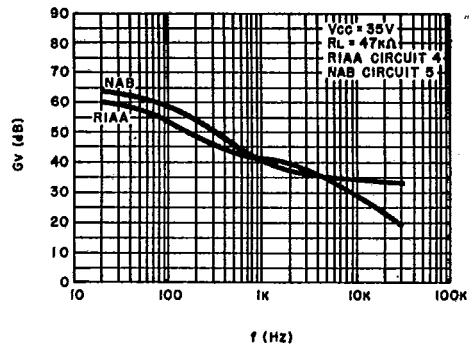
Typical Tape Recorder Pre-Amplifier using ECG1085



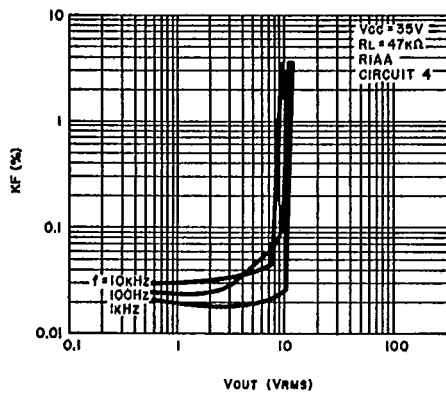
$G_V(1) - f$



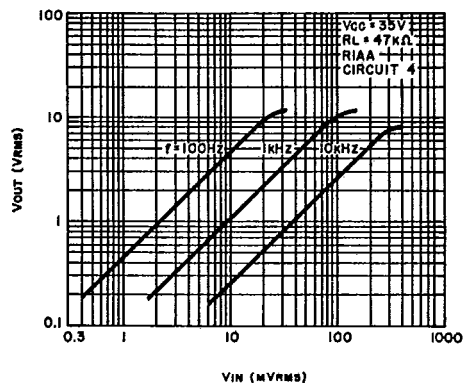
$G_V - f$



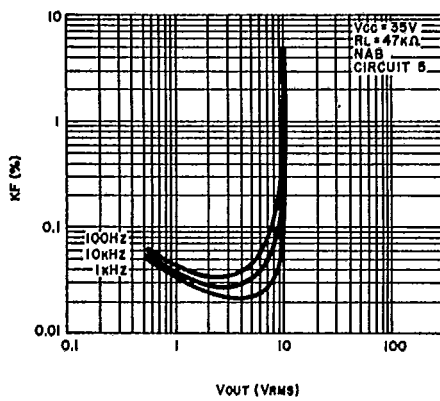
$KF - V_{OUT}$



$V_{OUT} - V_{IN}$



$KF - V_{OUT}$



$V_{OUT} - V_{IN}$

