

MC1380P

Advance Information

MONOLITHIC CLASS A AUDIO DRIVER

... designed to drive a germanium power transistor output stage in an auto radio. It permits direct-coupling to the output stage; this allows a wide tolerance on current gain and leakage current of the external output transistor when used within an external feedback loop.

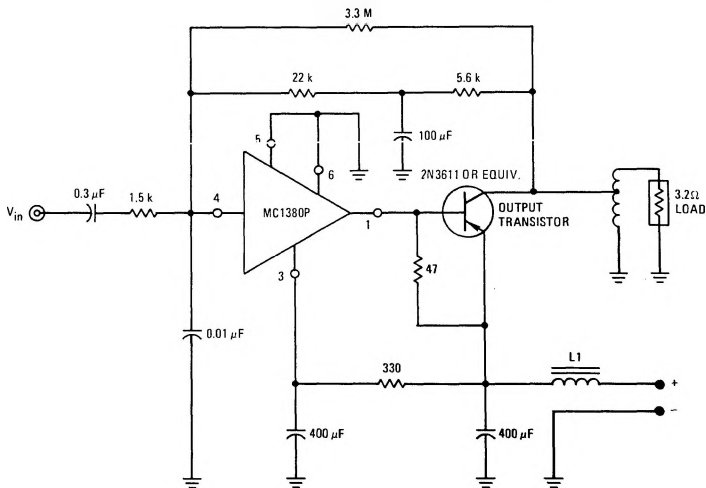
- High Gain (280 V/V typ)
- Good Output Current Capability (58 mA typ)

CLASS A AUDIO DRIVER
SILICON MONOLITHIC
INTEGRATED CIRCUIT



CASE 627
 PLASTIC PACKAGE

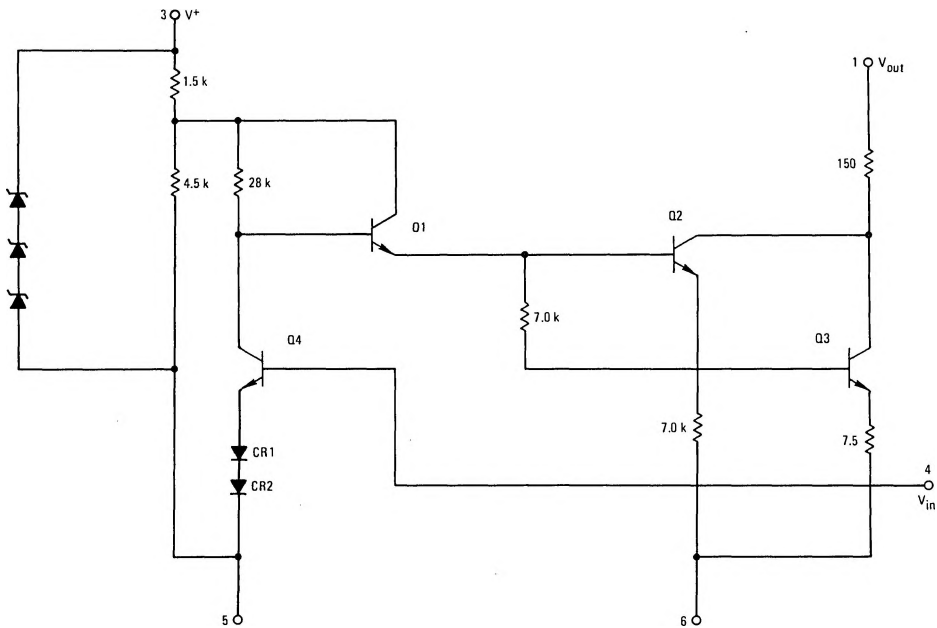
FIGURE 1 - TYPICAL APPLICATION ($V^+ = 13.6$ Vdc)



The typical sensitivity for full power out (5.0 W[rms]) is 35 mV[rms]. Actual sensitivity, load impedance, and the frequency response is dependent upon the individual design, e.g., transformer design and feedback components.

MC1380P (continued)

FIGURE 2 – CIRCUIT SCHEMATIC



MAXIMUM RATINGS ($T_A = +25^\circ\text{C}$ unless otherwise noted)

Rating	Value	Unit
Power Supply Voltage	+18	Vdc
Power Dissipation (Package Limitation) Derate above $T_A = +25^\circ\text{C}$	625 5.0	mW mW/ $^\circ\text{C}$
Operating Temperature Range	-40 to +75	$^\circ\text{C}$
Storage Temperature Range	-40 to +85	$^\circ\text{C}$

Maximum Ratings as defined in MIL-S-19500, Appendix A.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Min	Typ	Max	Unit
DC Input Voltage (Test per Figure 3)	1.9	—	2.5	Vdc
Open-Loop Voltage Gain (e_{iN} (ac input) - 100 μV (rms), $f = 1$ kHz at terminal No. 4) (Test per Figure 4)	130	—	—	V/V
Current Output Capability (Test per Figure 5)	30	—	—	mA
Leakage Current (Test per Figure 6)	—	—	10	mAdc

MC1380P (continued)

TEST CIRCUITS

FIGURE 3 – DC INPUT VOLTAGE

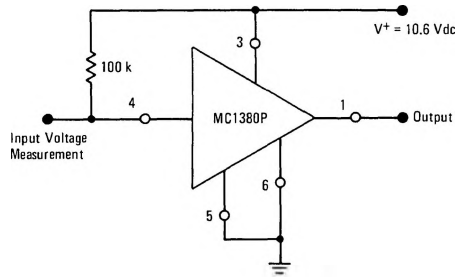


FIGURE 4 – OPEN-LOOP VOLTAGE GAIN

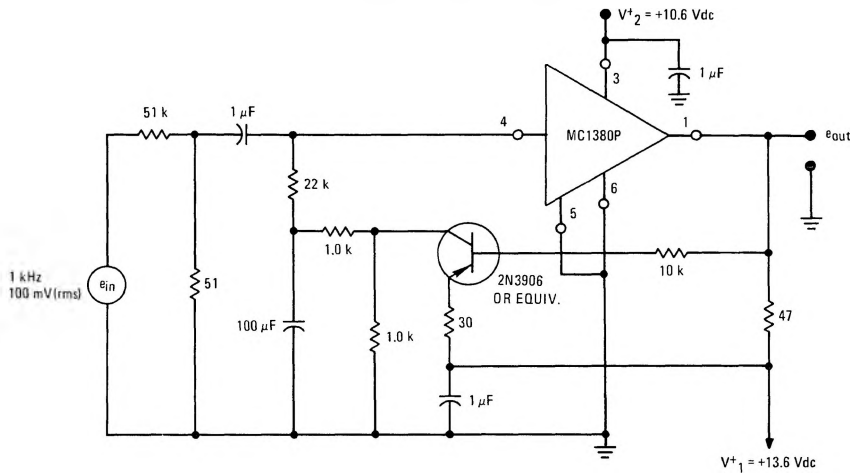


FIGURE 5 – OUTPUT CURRENT CAPABILITY

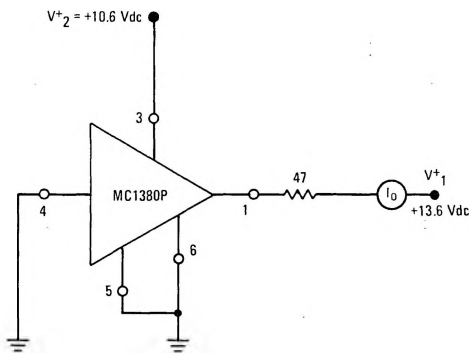


FIGURE 6 – LEAKAGE CURRENT

