

LM2480

80V Triple Bias Clamp

General Description

The LM2480 driver is an Integrated 80V triple bias clamp circuit for DC recovery of each of the AC coupled outputs of a CRT driver. It is well matched with the DAC outputs of the LM126X family of pre-amplifiers. Each amplifier has its gain internally set to -18. The IC is packaged in an industry standard 8 lead molded DIP package.

Features

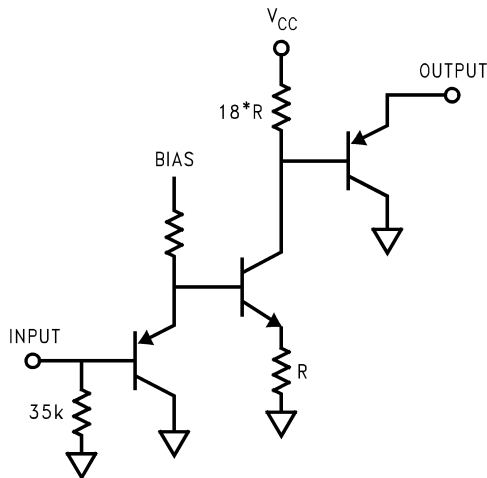
- Wide range integrated triple bias clamp
- High input impedance

- Single supply operation
- Matched to the LM126X family of preamplifiers

Recommended Applications

- CRT monitors requiring DC restoration at the cathodes

Block Diagrams



20008301

FIGURE 1. Simplified Schematic (One Channel)

Package Pinout

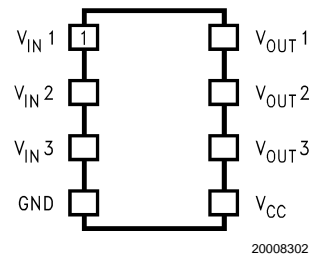


FIGURE 2. LM2480 Package Pinout
 Order Number LM2480NA
 NS Package Number: N08E

Absolute Maximum Ratings (Note 1)

If Military/Aerospace specified devices are required, please contact the National Semiconductor Sales Office/Distributors for availability and specifications.

Supply Voltage, V_{CC}	+90V
Input Voltage, V_{IN}	0V to 5V
Storage Temperature Range, T_{STG}	-65°C to +150°C
Lead Temperature (Soldering, <10sec.)	300°C
ESD Tolerance	

Machine Model 200V

Human Body Model 2KV

Limits of Operating Ranges (Note 3)

V_{CC}	70V to 85V
V_{OUT}	10V to V_{CC}
Ambient Temperature Range, T_A	0 to 70°C

DC CLAMP ELECTRICAL CHARACTERISTICS TARGETS AND LIMIT

Unless otherwise noted: $V_{CC} = +80V$, $V_{IN} = 2.25V_{DC}$, $T_A = 25^\circ C$.

Symbol	Spec Parameter	Conditions	Min	Typ	Max	Units
I_{CC}	Supply Current	All channels		2.1	3.5	mA
V_{OUT}	DC Output Voltage		42	46	50	V_{DC}
$V_{OUT-Range}$	Output Voltage Range	V_{IN} Range = 1.0V - 4.0V		53		V
V_{OUTSAT}	Max Saturation Limit	$V_{IN} = 4.0V$		16		V_{DC}
A_V	DC Voltage Gain		-16	-18	-20	
LE	Linearity Error	See Note 1		5		%
R_{IN}	Input Resistance			34K		Ω

Note 1: Linearity Error is the variation in DC gain from $V_{IN} = 1.0V$ to $V_{IN} = 4.0V$.

Note 2: Absolute Maximum Ratings indicate limits beyond which damage to the device may occur.

Note 3: Operating Ratings indicate conditions for which the device is functional, but do not guarantee specific performance limits. For guaranteed specifications and the test conditions, see the Electrical Characteristics. The guaranteed specifications apply only for the test conditions listed. Some performance characteristics may change when the device is not operated under the listed test conditions.

Note 4: All voltages are measured with respect to GND, unless otherwise specified.

Test Circuit

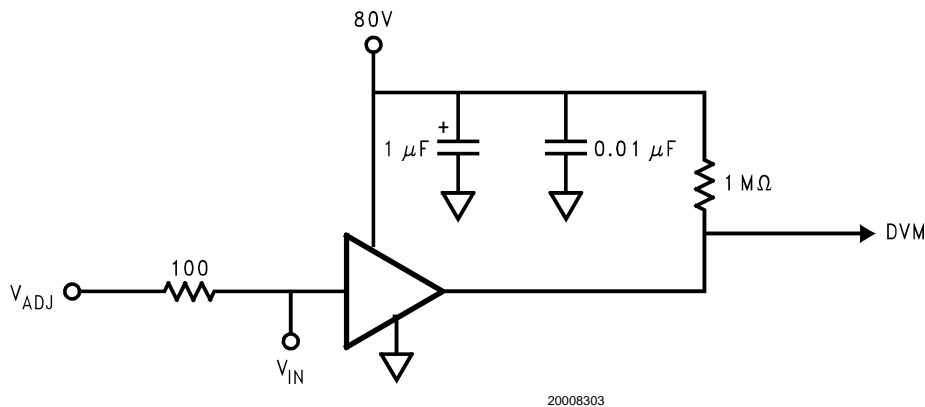


FIGURE 3. Test Circuit (One Channel)

Figure 3 shows the test circuit for evaluation of the LM2480 Clamp Amplifier. A high impedance VM (>100M Ω) is used for DC measurements at the output.