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NTE7177 **Integrated Circuit** **High Voltage CRT Driver for use in Color Monitors**

Description:

The NTE7177 is an integrated high voltage CRT driver circuit in an 11-Lead Staggered SIP type package designed for use in color monitor applications. This device contains three high input impedance, wide band amplifiers which directly drive the RGB cathodes of a CRT. The gain of each channel is internally set at -14.5 and can drive CRT capacitive loads as well as resistive loads presented by other applications, limited only by the package's power dissipation.

Features:

- Output Swing Capability:
 - $50V_{PP}$ for $V_{CC} = 80$
 - $40V_{PP}$ for $V_{CC} = 70$
 - $30V_{PP}$ for $V_{CC} = 60$
- Pinout Designed for Easy PCB Layout
- 1V to 7V Input Range
- Stable with 0pF – 20pF Capacitive Loads

Applications:

- CRT Driver for 1024 x 768 (Non-Interlaced) and SVGA Display Resolution Color Monitors
- Pixel Clock Frequency up to 80MHz

Absolute Maximum Ratings: (Note 1, Note 2)

Supply Voltage, V_{CC}	+95V
Bias Voltage, V_{BIAS}	+16V
Input Voltage, V_{IN}	$-0.5V$ to $V_{BIAS} + 0.5V$
Storage Temperature Range, T_{STG}	-65° to $+150^{\circ}C$
Lead Temperature (During soldering, < 10 sec.), T_L	2kV

Note 1. Absolute Maximum Ratings indicate limits beyond which damage to the device may occur.

Note 2. All Voltages are measured with respect to GND, unless otherwise specified.

Recommended Operating Characteristics: (Note 3, Note 4)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		60	–	85	V
Bias Voltage Range	V_{BIAS}		8	–	15	V
Input Voltage	V_{IN}		1	–	7	V
Case Temperature	T_C		–20	–	+100	°C

Note 3. Operating ratings indicate conditions for which the device is functional, but do not guarantee specific performance limits. For guaranteed specifications and 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. Do not operate the part without a heat sink.

Electrical Characteristics: ($V_{CC} = 80V$, $V_{BIAS} = 12V$, $V_{IN} = 3.3V$, $C_L = 8pF$, Output = $40V_{PP}$ at 1Mhz, $T_A = +25^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current (Per Channel)	I_{CC}	No Output Load	–	18	30	mA
Output Voltage	V_{OUT}	No Input Signal	45	50	55	V_{DC}
Rise Time	t_R	10% – 90%, $f = 1MHz$	–	9	–	nS
Fall Time	t_F	90% – 10%, $f = 1MHz$	–	9	–	nS
Voltage Gain	A_V		–13	–14.5	–16	V/V
Linearity Error	LE	Note 5	–	8	–	&
Gain Matching	ΔA_V	Note 6	–	1	–	dB

Note 5. Linearity Error is defined as the variation in small signal gain from +30V to +70V output with a 100mV AC, 10kHz input signal

Note 6. Calculated value from Voltage Gain test on each channel

Pin Configuration Diagram
(Front View)



