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NTE7176 **Integrated Circuit** **High Voltage CRT Driver for Color Monitor**

Description:

The NTE7176 is an intergrated high voltage CRT driver circuit designed for use in color monitor applications. The IC contains three high input impedance, wide band amplifiers which directly drive the RGB cathodes of a CRT. Each channel has its gain internally set to -14 and can drive CRT capacitive loads as well as resistive loads present in other applications, limited only by the package's power dissipation. The IC packaged in an industry standard 9-lead TO-220 molded plastic power package.

Features:

- Dissipates Approximately 50% Less Power than NTE7177
- 0V to 5V Input Range
- Stable with 0pF-20pF Capacitive Loads and Inductive Peaking Networks
- Convenient TO-220 Staggered Lead Package Style

Applications:

- 1024 x 768 Displays up to 70Hz Refresh
- Pixel Clock Frequencies up to 75MHz
- Monitors Using Video Blanking

Absolute Maximum Ratings: (Note 1, Note 2)

Supply Voltage, V_{CC}	+90V
Bias Voltage, V_{BB}	+16V
Input Voltage, V_{IN}	0V to 6V
Storage Temperature Range, T_{STG}	-65° to $+150^{\circ}\text{C}$
Lead Temperature (During soldering < 10 sec.), T_L	$+300^{\circ}\text{C}$
ESD Tolerance	
Human Body Model	2kV
Machine Model	250V

Note 1. Absolute Maximum Ratings indicate limites 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)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		60	–	85	V
Bias Voltage	V_{BB}		8	–	15	V
Input Voltage	V_{IN}		0	–	5	V
Output Voltage	V_{OUT}		15	–	75	V
Case Temperature	T_C		–20	–	+115	°C

Note 3. Operating ratings indicate conditions for which the device is functional, but do not guarantee 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.

Electrical Characteristics: ($V_{CC} = +80V$, $V_{BB} = +12V$, $V_{IN} = +2.7V_{DC}$, $C_L = 8pF$, Output = $40V_{PP}$ at 1MHz, $T_C = +50^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC}	Per Channel, No Input Signal, No Output Load	–	8	–	mA
Bias Current	I_{BB}	All Three Channels	–	12	–	mA
DC Output Voltage	V_{OUT}	No AC Input Signal, $V_{IN} = 1.2V$	62	65	68	V_{DC}
DC Voltage Gain	A_V	No AC Input Signal	–12	–14	–16	–
Gain Matching	ΔA_V	No AC Input Signal, Note 4	–	1.0	–	dB
Linearity Error	LE	No AC Input Signal, Note 4, Note 5	–	8	–	%
Rise Time	t_R	10% to 90%, Note 6	–	9	–	ns
Fall Time	t_F	90% to 10%, Note 6	–	11	–	ns
Overshoot	OS	Note 6	–	1	–	%

Note 4. Calculated value from Voltage Gain test on each channel

Note 5. Linearity Error is the variation in dc gain from $V_{IN} = 1.0V$ to $V_{IN} = 4.5V$

Note 6. Input from signal generator: $t_R, t_f < 1ns$

Pin Connection Diagram
(Front View)



