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## NTE7188 Integrated Circuit TV & CRT Vertical Output with Bus Control Support

### Description:

The NTE7188 is a vertical deflection output IC in a 7-Lead Staggered TO220 type package designed for high image quality TV and CRT displays that supports the use of a bus control system signal-processing IC. The sawtooth waveform from the control system signal-processing IC can directly drive the deflection yoke (including the DC components). Since the NTE7188 provides a maximum deflection current of 1.8 A<sub>P-P</sub>, it is optimal for small and medium size CRTs.

### Features:

- Built-In Pump-Up Circuit for Low Power Dissipation
- Vertical Output Circuits
- Thermal Protection Circuit

### Absolute Maximum Ratings: (T<sub>A</sub> = +25°C unless otherwise specified)

Pump-Up Block Supply Voltage, +B2 max ..... 34V  
 Output Block Supply Voltage, +B6 max ..... 70V  
 Allowable Power Dissipation (Mounted on an arbitrarily large heat sink), P<sub>d</sub>max ..... 9W  
 Deflection Output Current, I<sub>5</sub>max ..... -1.5 to +1.5 A<sub>P-O</sub>  
 Thermal Resistance, Junction-to-Case, R<sub>thJC</sub> ..... 3°C/W  
 Operating Temperature Range, T<sub>opr</sub> ..... -20° to +85°C  
 Storage Temperature Range, T<sub>stg</sub> ..... -40° to +150°C

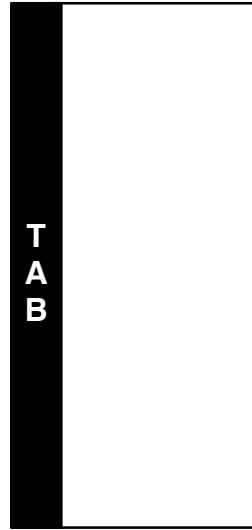
### Recommended Operating Conditions: (T<sub>A</sub> = +25°C unless otherwise specified)

Recommended Supply Voltage, +B2 ..... 24V  
 Operating Supply Voltage Range, +B2<sub>op</sub> ..... 16 to 33V  
 Deflection Output Current, I<sub>5P-P</sub> ..... To 1.8A<sub>P-P</sub>

### Electrical Characteristics: (T<sub>A</sub> = +25°C, +B2 = 24V unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Deflection Output Saturation Voltage (Lower)	V <sub>sat5-4</sub>	I <sub>5</sub> = 900mA	-	-	1.3	V
Deflection Output Saturation Voltage (Upper)	V <sub>sat6-5</sub>	I <sub>5</sub> = -900mA	-	-	3.2	V
Pump-up Charge Saturation Voltage	V <sub>sat3-4</sub>	I <sub>3</sub> = 20mA	-	-	1.8	V
Pump-up Discharge Saturation Voltage	V <sub>sat2-3</sub>	I <sub>3</sub> = 900mA	-	-	3.0	V
Idling Current	I <sub>dl</sub>		20	-	50	mA
Midpoint Voltage	V <sub>mid</sub>		11	12	13	V

**Pin Connection Diagram**  
(Front View)



- 7** Non-Inverting Input
- 6** Output Stage  $V_{CC}$
- 5** Vertical Output
- 4** GND
- 3** Pump Up Output
- 2**  $V_{CC}$
- 1** Inverting Input

