



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## NTE1684 Integrated Circuit TV Vertical Deflection Output Circuit

**Description:**

The NTE1684 is an integrated circuit in a 7-Lead SIP type package designed for use in TV vertical deflection output circuits.

**Features:**

- High Breakdown Voltage
- Low Power Consumption

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage, $V_{CC}$ .....	30V
Circuit Voltage, $V_{3-1}$ .....	0 to 60V
Circuit Voltage, $V_{4-1}$ .....	-1V to 6V
Circuit Voltage, $V_{5-1}$ .....	-1V to 3V
Supply Current, $I_{CC}$ .....	300mA
Circuit Current, $I_2, I_6$ .....	-1300 to 1300mA <sub>O-P</sub>
Power Dissipation, $P_D$ .....	6W
Operating Ambient Temperature Range, $T_{opr}$ .....	-20° to +70°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +150°C
Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	4°C/W

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Deflection Current	$I_{y(P-P)}$		1280	1380	1480	mA <sub>P-P</sub>
Deflection Current Linearity	$\Delta I_{y(+)}$		46	-	140	mA <sub>P-P</sub>
	$\Delta I_{y(-)}$		42	-	126	mA <sub>P-P</sub>
Deflection Current Change with Ambient Temperature	$\Delta I_y/T_A$	$T_A = -20^\circ$ to $+70^\circ\text{C}$	-1.5	-	+1.5	%
Center Voltage	$V_{MID}$		13.2	13.8	14.4	V
Flyback Pulse Amplitude	$V_{(FBP)}$		47	-	-	V
Static Circuit Current	$I_{CQ}$	$V_{3-1} = 24V, V_{7-1} = 24V, V_{5-1} = 0$	8	14	24	mA

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Transistor Saturation Voltage	$V_{3-2}$	$V_{3-1} = V_{7-1} = 24\text{V}$ , Pin2-1 = $56\Omega$ , $V_{4-1} = 0.3\text{V}$ , $V_{5-1} = 0$	-	2.6	3.6	V
	$V_{2-1}$	$V_{3-1} = V_{7-1} = 24\text{V}$ , Pin2-3 = $56\Omega$ , $V_{4-1} = 1.3\text{V}$ , $V_{5-1} = 0$	-	0.4	1.0	V
$Q_{21}$ Saturation Voltage	$V_{6-1}$	$V_{7-1} = 24\text{V}$ , Pin7-6 = $1.2\text{k}\Omega$ , $V_{5-1} = 0$ , $V_{4-1} = 2\text{V}$	-	-	0.5	V

**Pin Connection Diagram**  
(Front View)

