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## NTE1788 Integrated Circuit TV Vertical Deflection Output Circuit

**Description:**

The NTE1788 is a monolithic integrated circuit in 7-Lead Staggared SIP type package and is designed for use as a high efficiency power booster for direct driving of vertical windings of TV yokes. It is intended for use in color and B & W television as well as in monitors and displays.

**Features:**

- Power Amplifier
- Flyback Generator
- Thermal Protection

**Absolute Maximum Ratings:**

Supply Voltage (Pin2), $V_S$ .....	35V
Flyback Peak Voltage, $V_5, V_6$ .....	60V
Voltage at Pin3, $V_3$ .....	+ $V_S$
Amplifier Input Voltage, $V_1, V_7$ .....	+ $V_S$
Output Peak Current, $I_O$	
(Non Repetitive, $t = 2ms$ ) .....	-0.5A to +2.5A
( $f = 50$ or $60Hz$ , $t \leq 10\mu s$ ) .....	3A
( $f = 50$ or $60Hz$ , $t > 10\mu s$ ) .....	2A
Pin3 DC Current ( $V_5 < V_2$ ), $I_3$ .....	100mA
Pin3 Peak to Peak Flyback Current ( $f = 50$ or $60Hz$ , $t_{fly} \leq 1.5ms$ ), $I_3$ .....	3A
Total Power Dissipation ( $T_C = +90^\circ C$ ), $P_{tot}$ .....	20W
Junction Temperature Range, $T_J$ .....	-40° to 150°C
Storage Temperature Range, $T_{stg}$ .....	-40° to 150°C
Thermal Resistance, Junction to Case, $R_{\theta JC}$ .....	+3°C/W

**Electrical Characteristics:** ( $V_S = 35V$ ,  $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_2$	$I_3 = 0, I_5 = 0$	-	8	16	mA
	$I_6$	$I_3 = 0, I_5 = 0$	-	16	36	mA
Amplifier Input Bias Current	$I_1$	$V_1 = 1V, V_7 = 2V$	-	-0.1	-1.0	$\mu A$
		$V_1 = 2V, V_7 = 1V$	-	-0.1	-1.0	$\mu A$
Pin3 Saturation Voltage to GND	$V_{3L}$	$I_3 = 20mA$	-	1.0	1.5	V
Quiescent Output Voltage	$V_5$	$V_5 = 35V, R_a = 39k\Omega$	-	18	-	V
Output Saturation Voltage to GND	$V_{5L}$	$I_5 = 1.2A$	-	1.0	1.4	V
		$I_5 = 0.7A$	-	0.7	1.0	V
Output Saturation Voltage to Supply	$V_{5H}$	$-I_5 = 1.2A$	-	1.6	2.2	V
		$-I_5 = 0.7A$	-	1.3	1.8	V
Junction Temperature for Thermal Shut Down	$T_j$		-	140	-	$^\circ C$

**Pin Connection Diagram**  
(Front View)

