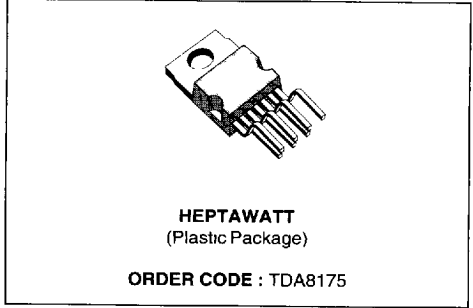


**TV VERTICAL DEFLECTION OUTPUT CIRCUIT**

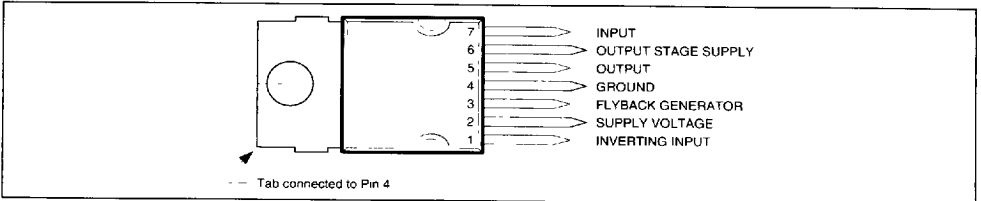
- POWER AMPLIFIER
- FLYBACK GENERATOR
- AUTOMATIC PUMPING COMPENSATION
- THERMAL PROTECTION
- REFERENCE VOLTAGE

**DESCRIPTION**

The TDA8175 is a monolithic integrated circuit in HEPTAWATT package. It is 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 sets as well as in monitors and displays.

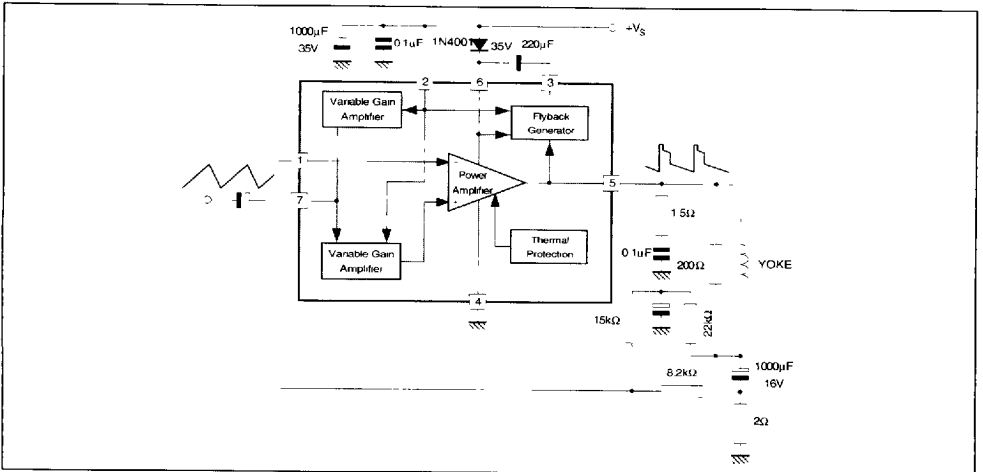


**PIN CONNECTIONS**



8175 01 1/15

**BLOCK DIAGRAM**



8175 02 EPS

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V <sub>S</sub>	Supply Voltage (Pin 2)	35	V
V <sub>5</sub> , V <sub>6</sub>	Flyback Peak Voltage	60	V
V <sub>3</sub>	Voltage at Pin 3	+V <sub>S</sub>	
V <sub>1</sub> , V <sub>7</sub>	Amplifier Input Voltage	+V <sub>S</sub>	
I <sub>O</sub>	Output Peak Current (non-repetitive, t = 2ms)	2.5	A
I <sub>O</sub>	Output Peak Current at : f = 50 or 60Hz, t ≤ 10μs f = 50 or 60Hz, t > 10μs	3 2	A A
I <sub>3</sub>	Pin 3 DC Current at V <sub>5</sub> < V <sub>2</sub>	100	mA
I <sub>3</sub>	Pin 3 Peak-to-peak Flyback Current at f = 50 or 60Hz, t <sub>fly</sub> ≤ 1.5ms	3	A
P <sub>tot</sub>	Total Power Dissipation at T <sub>case</sub> = 70°C	20	W
T <sub>J</sub> , T <sub>sig</sub>	Storage and Junction Temperature	-40, +150	°C

8175-01 TEL

## THERMAL DATA

Symbol	Parameter	Value	Unit
R <sub>th(j-c)</sub>	Junction-case Thermal Resistance	Max. 3	°C/W

8175-02 TEL

ELECTRICAL CHARACTERISTICS (V<sub>S</sub> = 35V, T<sub>amb</sub> = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>2</sub>	Pin 2 Quiescent Current			18	36	mA
I <sub>6</sub>	Pin 6 Quiescent Current			16	36	mA
I <sub>1</sub>	Amplifier Input Bias Current	V <sub>1</sub> = 1V		-0.1	-1	μA
V <sub>3</sub>	Pin 3 Saturation to GND	I <sub>3</sub> = 20mA		1	1.5	V
V <sub>5</sub>	Quiescent Output Voltage	V <sub>S</sub> = 35V, R <sub>a</sub> = 39kΩ		19		V
V <sub>5</sub>	Output Saturation Voltage to GND	I <sub>5</sub> = 1.2A I <sub>5</sub> = 0.7A		1 0.7	1.4 1	V V
V <sub>5</sub>	Output Saturation Voltage to Supply	-I <sub>5</sub> = 1.2A -I <sub>5</sub> = 0.7A		1.6 1.3	2.2 1.8	V V
V <sub>O</sub>	Ramp Amplitude versus Voltage Supply	22V < V <sub>S</sub> < 30V		4		%/V
G	AC Gain	V <sub>S</sub> = 26V	0.54	0.61	0.67	V
V <sub>O</sub>	DC Output Voltage Accuracy			8		%
V <sub>7</sub>	Internal Bias			2.7		V
R <sub>7</sub>	Input Resistance			50		kΩ
T <sub>J</sub>	Junction Temperature for Thermal Shutdown			140		°C

8175-03 TEL

## THERMAL PROTECTION

The thermal protection circuit intervenes when the die temperatures reaches 150°C and turns-off the output power device.

## PUMPING COMPENSATION

The device incorporates a special preamplifier, the gain of which varies with changes in supply voltage. This function allows perfect compensation of height variations caused by changes in brightness.