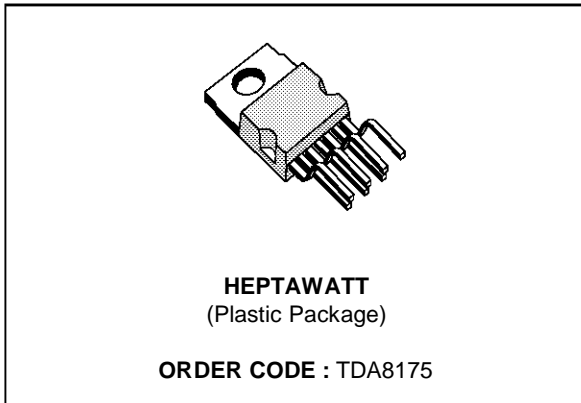


**TV VERTICAL DEFLECTION OUTPUT CIRCUIT**

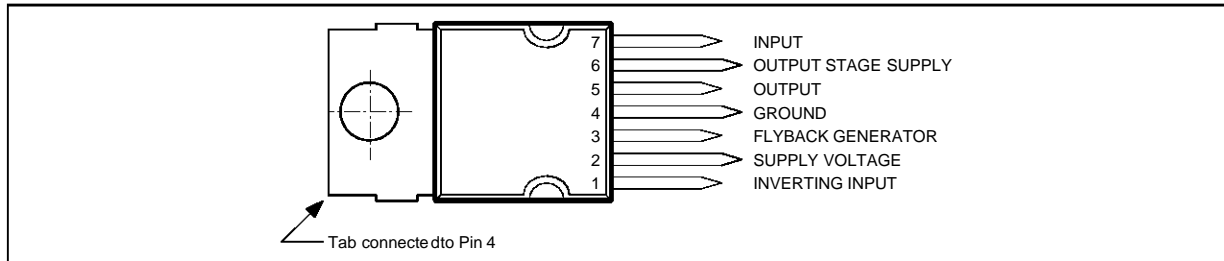
- POWER AMPLIFIER
- FLYBACK GENERATOR
- AUTOMATIC PUMPING COMPENSATION
- THERMAL PROTECTION
- REFERENCE VOLTAGE

**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.

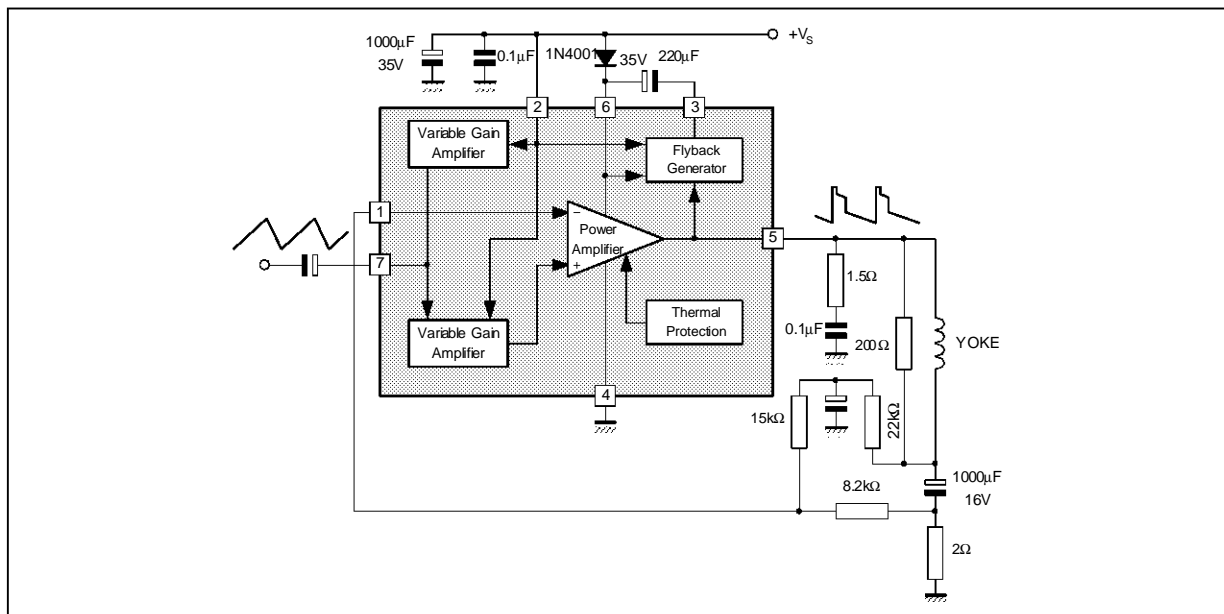


**PIN CONNECTIONS**



8175-01.EPS

**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>stg</sub>	Storage and Junction Temperature	-40, +150	°C

8175-01.TBL

**THERMAL DATA**

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

8175-02.TBL

**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.TBL

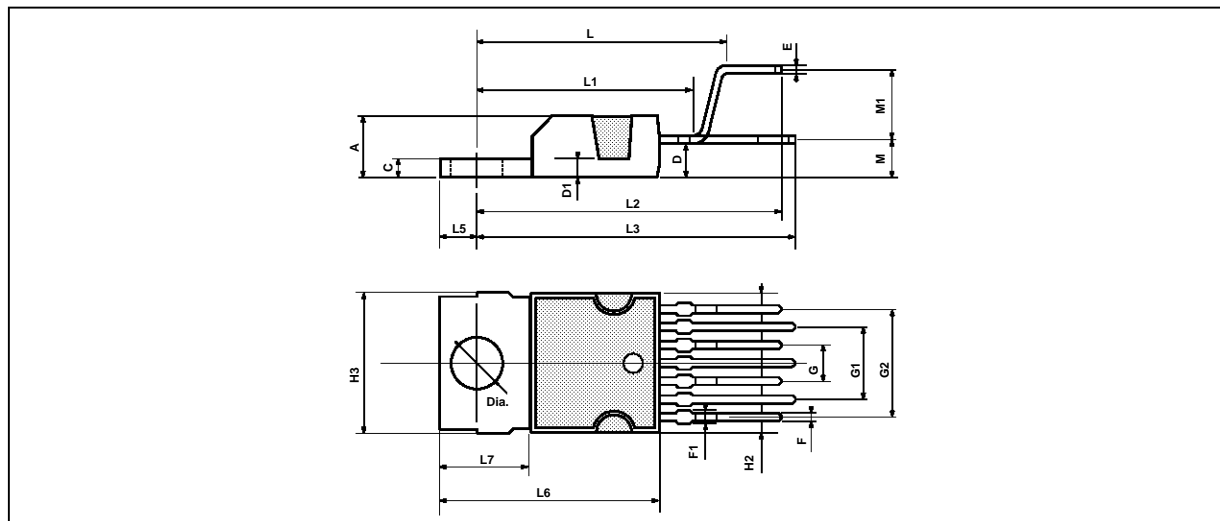
**THERMAL PROTECTION**

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.

## PACKAGE MECHANICAL DATA :9 PINS - PLASTIC HEPTAWATT



PM-HEPTV.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			4.8			0.189
C			1.37			0.054
D	2.4		2.8	0.094		0.110
D1	1.2		1.35	0.047		0.053
E	0.35		0.55	0.014		0.022
F	0.6		0.8	0.024		0.031
F1			0.9			0.035
G	2.41	2.54	2.67	0.095	0.100	0.105
G1	4.91	5.08	5.21	0.193	0.200	0.205
G2	7.49	7.62	7.8	0.295	0.300	0.307
H2			10.4			0.409
H3	10.05		10.4	0.396		0.409
L		16.97			0.668	
L1		14.92			0.587	
L2		21.54			0.848	
L3		22.62			0.891	
L5	2.6		3	0.102		0.118
L6	15.1		15.8	0.594		0.622
L7	6		6.6	0.236		0.260
M		2.8			0.110	
M1		5.08			0.200	
Dia.	3.65		3.85	0.144		0.152

HEPTV.TBL

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