



SGS-THOMSON
MICROELECTRONICS

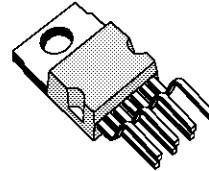
TDA8175

TV VERTICAL DEFLECTION OUTPUT CIRCUIT

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

DESCRIPTION

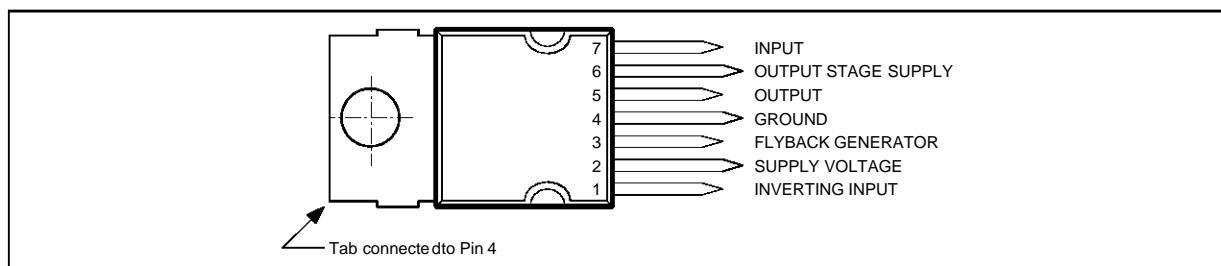
The TDA8175 is a monolithic integrated circuit in HEPTAWATT package. It is a high efficiency power booster for direct driving of vertical windings of TV yokes. It is intended for use in Color and B & W television sets as well as in monitors and displays.



HEPTAWATT
(Plastic Package)

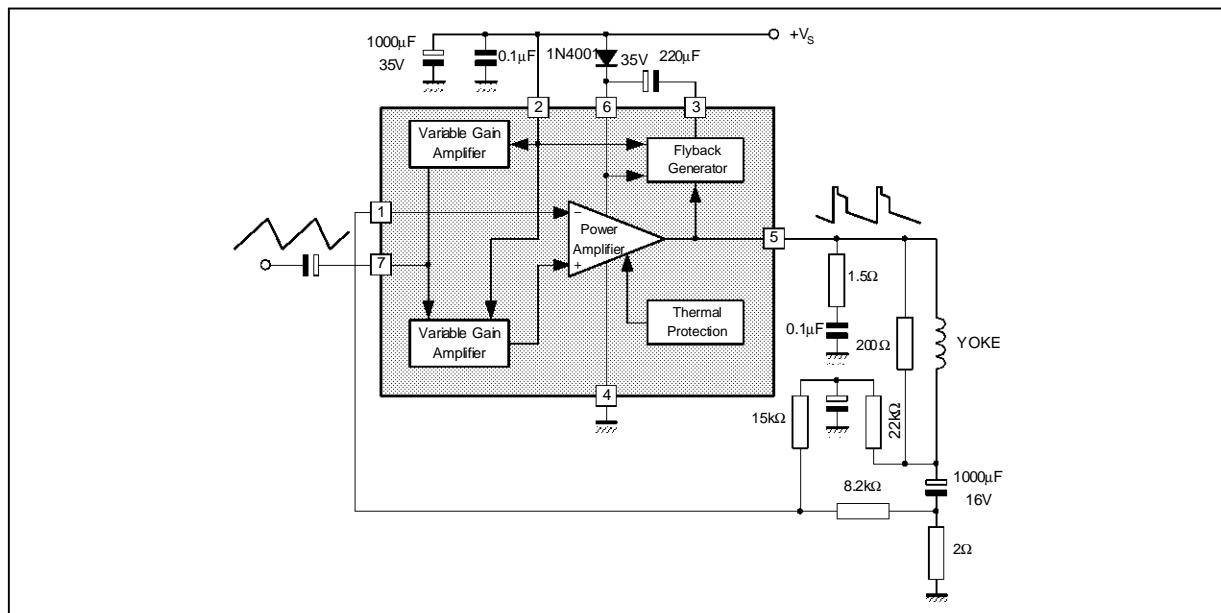
ORDER CODE : TDA8175

PIN CONNECTIONS



8175-01.EPS

BLOCK DIAGRAM



8175-02.EPS

TDA8175

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (Pin 2)	35	V
V_5, V_6	Flyback Peak Voltage	60	V
V_3	Voltage at Pin 3	+ V_S	
V_1, V_7	Amplifier Input Voltage	+ V_S	
I_O	Output Peak Current (non-repetitive, $t = 2\text{ms}$)	2.5	A
I_O	Output Peak Current at : $f = 50 \text{ or } 60\text{Hz}, t \leq 10\mu\text{s}$ $f = 50 \text{ or } 60\text{Hz}, t > 10\mu\text{s}$	3 2	A A
I_3	Pin 3 DC Current at $V_5 < V_2$	100	mA
I_3	Pin 3 Peak-to-peak Flyback Current at $f = 50 \text{ or } 60\text{Hz}, t_{fly} \leq 1.5\text{ms}$	3	A
P_{tot}	Total Power Dissipation at $T_{case} = 70^\circ\text{C}$	20	W
T_j, T_{stg}	Storage and Junction Temperature	-40, +150	°C

8175-01.TBL

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case Thermal Resistance	Max.	3 °C/W

8175-02.TBL

ELECTRICAL CHARACTERISTICS ($V_S = 35\text{V}$, $T_{amb} = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_2	Pin 2 Quiescent Current			18	36	mA
I_6	Pin 6 Quiescent Current			16	36	mA
I_1	Amplifier Input Bias Current	$V_1 = 1\text{V}$		-0.1	-1	μA
V_3	Pin 3 Saturation to GND	$I_3 = 20\text{mA}$		1	1.5	V
V_5	Quiescent Output Voltage	$V_S = 35\text{V}, R_a = 39\text{k}\Omega$		19		V
V_5	Output Saturation Voltage to GND	$I_5 = 1.2\text{A}$ $I_5 = 0.7\text{A}$		1 0.7	1.4 1	V
V_5	Output Saturation Voltage to Supply	$-I_5 = 1.2\text{A}$ $-I_5 = 0.7\text{A}$		1.6 1.3	2.2 1.8	V
V_o	Ramp Amplitude versus Voltage Supply	$22\text{V} < V_S < 30\text{V}$		4		%/V
G	AC Gain	$V_S = 26\text{V}$	0.54	0.61	0.67	V
V_o	DC Output Voltage Accuracy			8		%
V_7	Internal Bias			2.7		V
R_7	Input Resistance			50		kΩ
T_j	Junction Temperature for Thermal Shutdown			140		°C

8175-03.TBL

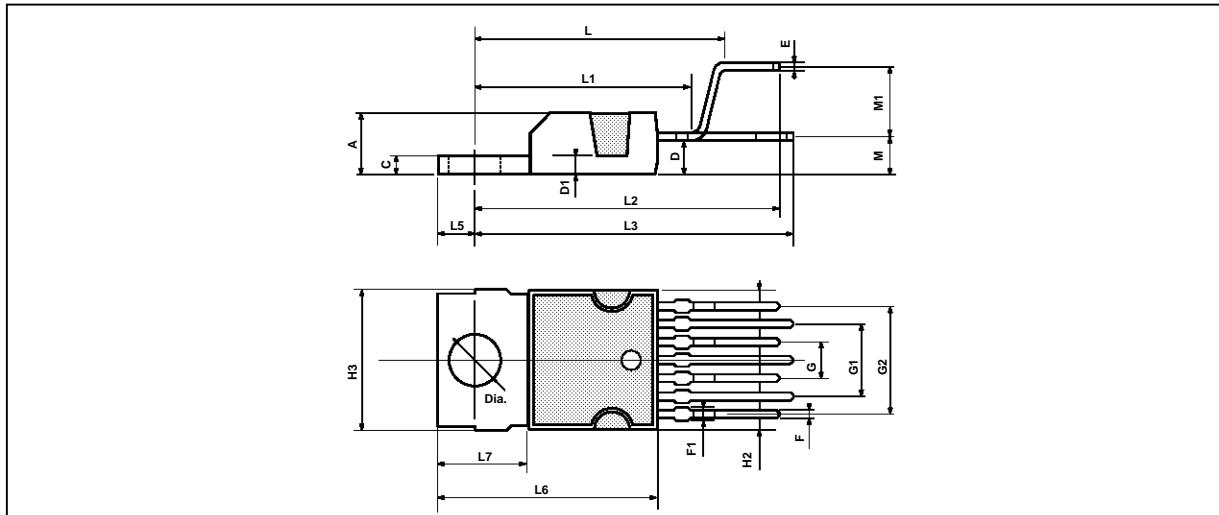
THERMAL PROTECTION

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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