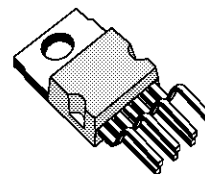


TV VERTICAL DEFLECTION OUTPUT CIRCUIT

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

DESCRIPTION

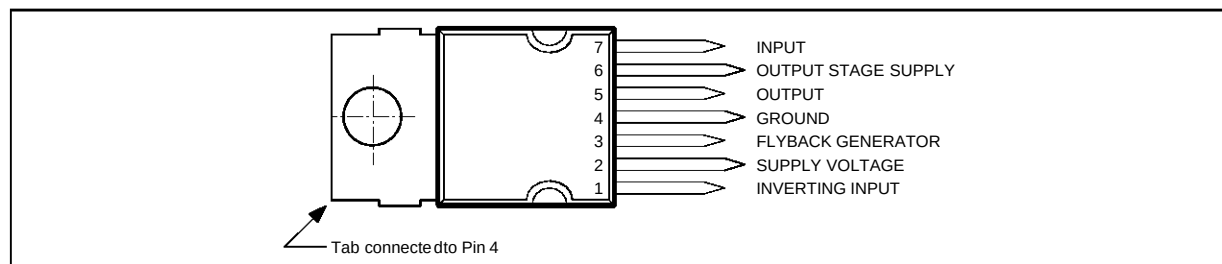
The TDA8175 is a monolithic integrated circuit in HEPTAWATT package. It is a high efficiency power booster for direct driving of vertical windings of TV yokes. It is intended for use in Color and B & W television sets as well as in monitors and displays.



HEPTAWATT
(Plastic Package)

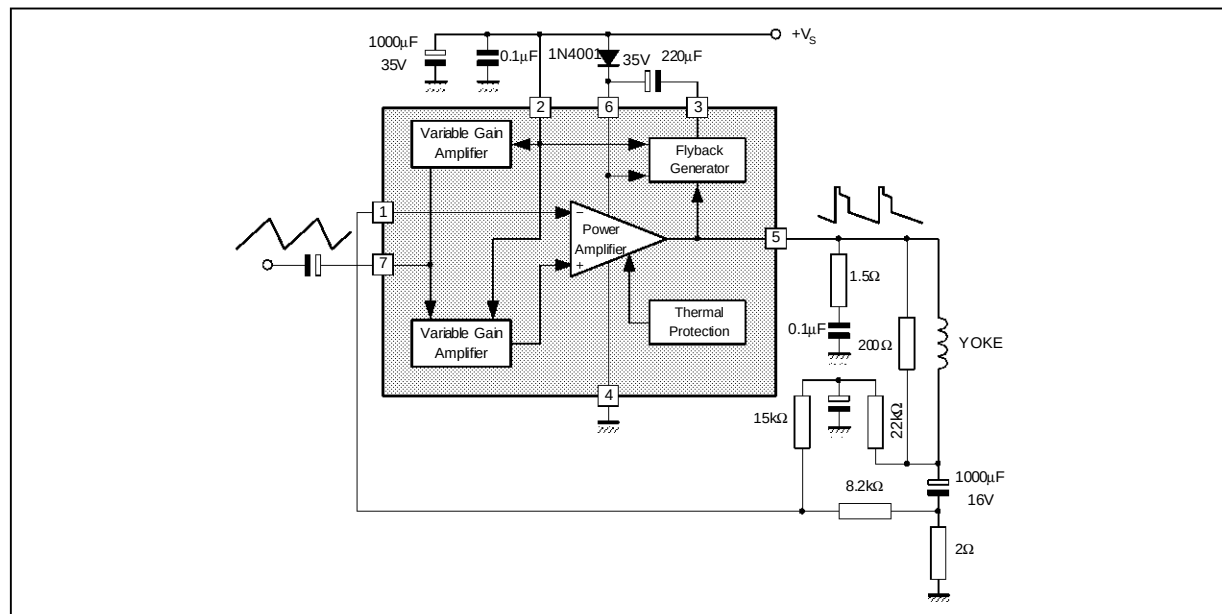
ORDER CODE : TDA8175

PIN CONNECTIONS



8175-01.EPS

BLOCK DIAGRAM



8175-02.EPS

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 : $f = 50$ or 60Hz , $t \leq 10\mu\text{s}$ $f = 50$ or 60Hz , $t > 10\mu\text{s}$	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 $f = 50$ or 60Hz , $t_{fly} \leq 1.5\text{ms}$	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	$^\circ\text{C}$

8175-01.TBL

THERMAL DATA

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

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
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
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		$\text{k}\Omega$
T_j	Junction Temperature for Thermal Shutdown			140		$^\circ\text{C}$

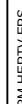
8175-03.TBL

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.

JERTV/ TPI

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

