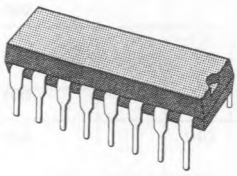
SGS-THOMSON MICROELECTRONICS

TDA8173

TV VERTICAL DEFLECTION OUTPUT CIRCUIT

- POWER AMPLIFIER
- FLYBACK GENERATOR
- THERMAL PROTECTION



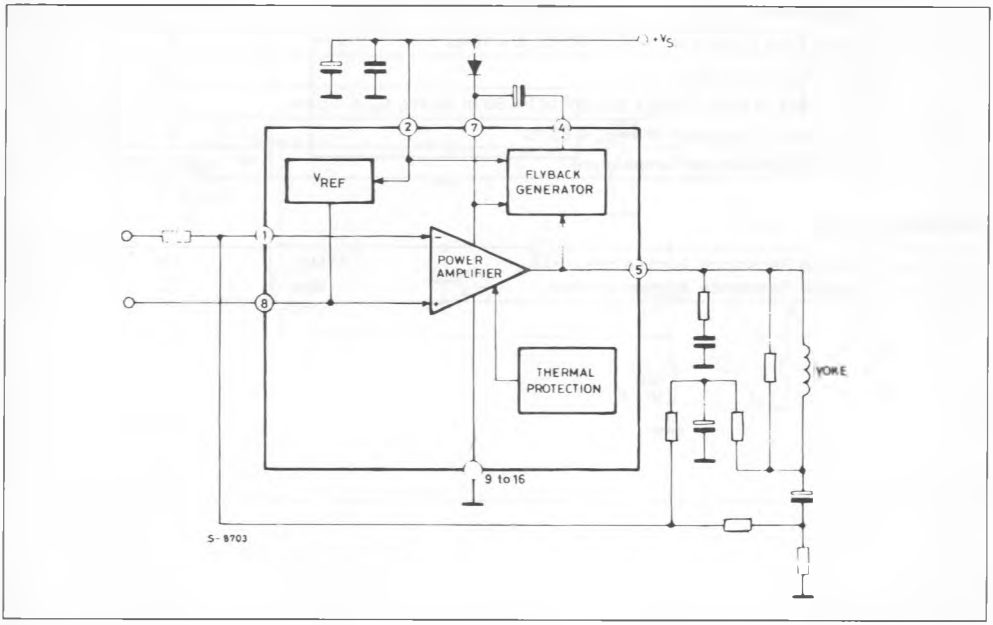
Dip – 16

ORDER CODE : TDA8173

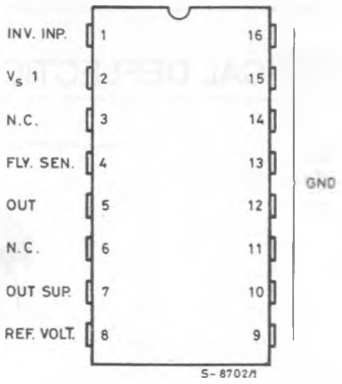
DESCRIPTION

The TDA8173 is a monolithic integrated circuit in POWERDIP 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.

BLOCK DIAGRAM



CONNECTION DIAGRAM (top view)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (pin 2)	35	V
V_5	Flyback Peak Voltage	60	V
V_4	Voltage at Pin 4	$+ V_s$	
V_1, V_8	Amplifier Input Voltage	$+ V_s$ $- 0.5$	V
I_o	Output Peak Current (non repetitive, t = 2 ms)	2.5	A
I_o	Output Peak Current at f = 50 or 60 Hz, $t \leq 10$ µs	3	A
I_o	Output Peak Current at f = 50 or 60 Hz, $t > 10$ µs	2	A
I_4	Pin 4 DC Current at $V_5 < V_2$	100	mA
I_4	Pin 4 Peak to Peak Flyback Current at f = 50 or 60 Hz, $t_{fly} \leq 1.5$ ms	3	A
P_{tot}	Total Power Dissipation at T_{case} = 60 °C	6	W
T_{stg}, T_j	Storage and Junction Temperature	– 40 to 150	°C

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-pins	Max	15	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	70	°C/W

ELECTRICAL CHARACTERISTICS

(refer to the test circuits, V_s = 35 V, T_{amb} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_2	Pin 2 Quiescent Current	$I = 0$ $I_5 = 0$		8	16	mA
I_7	Pin 7 Quiescent Current	$I = 0$ $I_5 = 0$		16	36	mA
I_1	Amplifier Input Bias Current	V_1 = 1 V		– 0.1	– 1	µA
V_{4L}	Pin 4 Saturation Voltage to GND*	I_4 = 20 mA		1		V
V_5	Quiescent Output Voltage	V_s = 35 V R_a = 39 kΩ		18		V
V_{5L}	Output Saturation Voltage to GND	I_5 = 1.2 A		1	1.4	V
		I_5 = 0.7 A		0.7	1	V
V_{5H}	Output Saturation Voltage to Supply	$-I_5$ = 1.2 A		1.6	2.2	V
		$-I_5$ = 0.7 A		1.3	1.8	V
T_j	Junction Temperature for Thermal Shut Down			140		°C
V_8	Reference Voltage			2.2		V
$\frac{\Delta V_8}{\Delta V_s}$	Reference Voltage Drift vs. Supply Voltage	V_s = 15 to 30 V		1	2	mV

TEST CIRCUITS