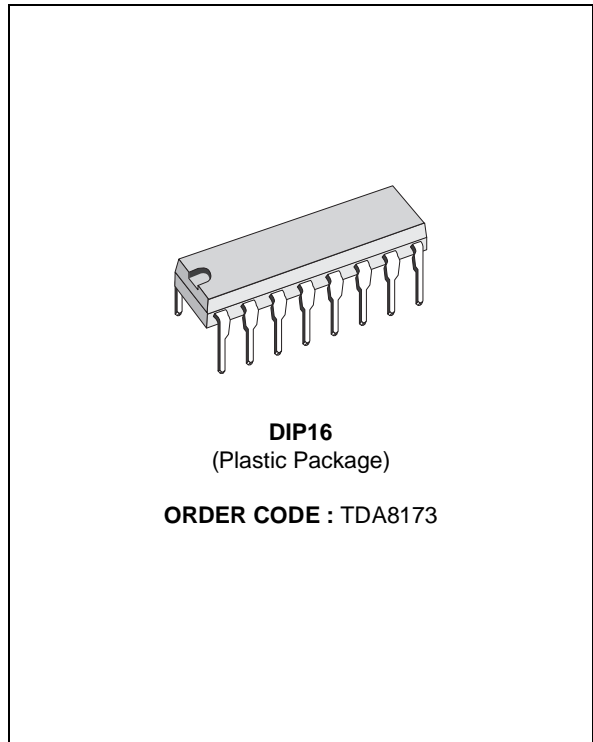


**TV VERTICAL DEFLECTION OUTPUT CIRCUIT**

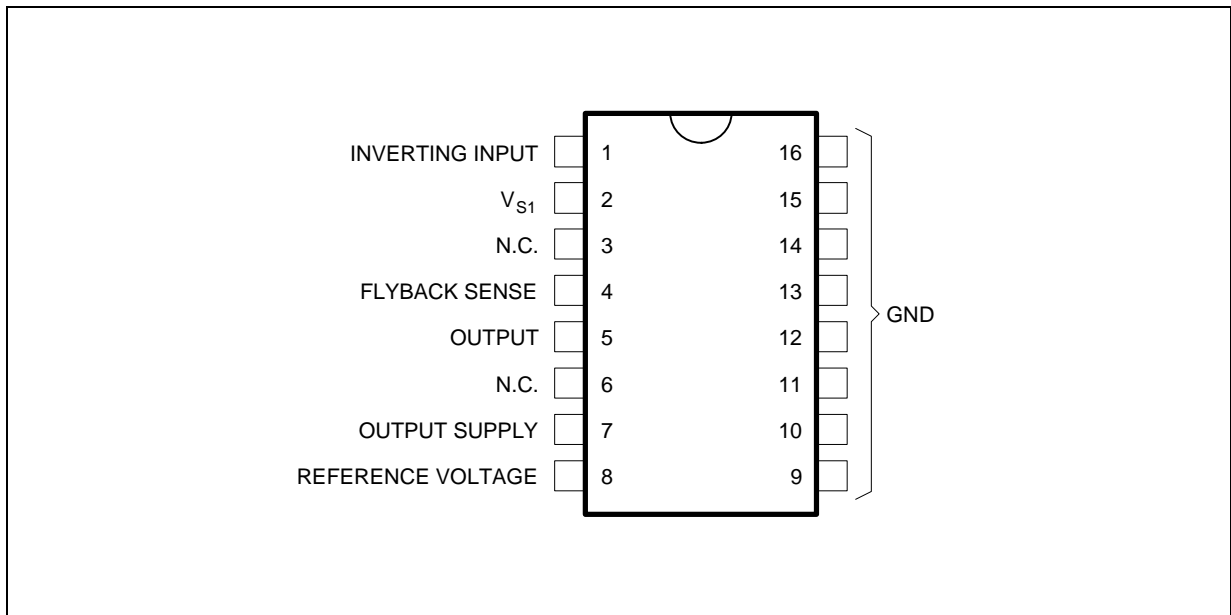
- POWER AMPLIFIER
- FLYBACK GENERATOR
- THERMAL PROTECTION
- REFERENCE VOLTAGE



**DESCRIPTION**

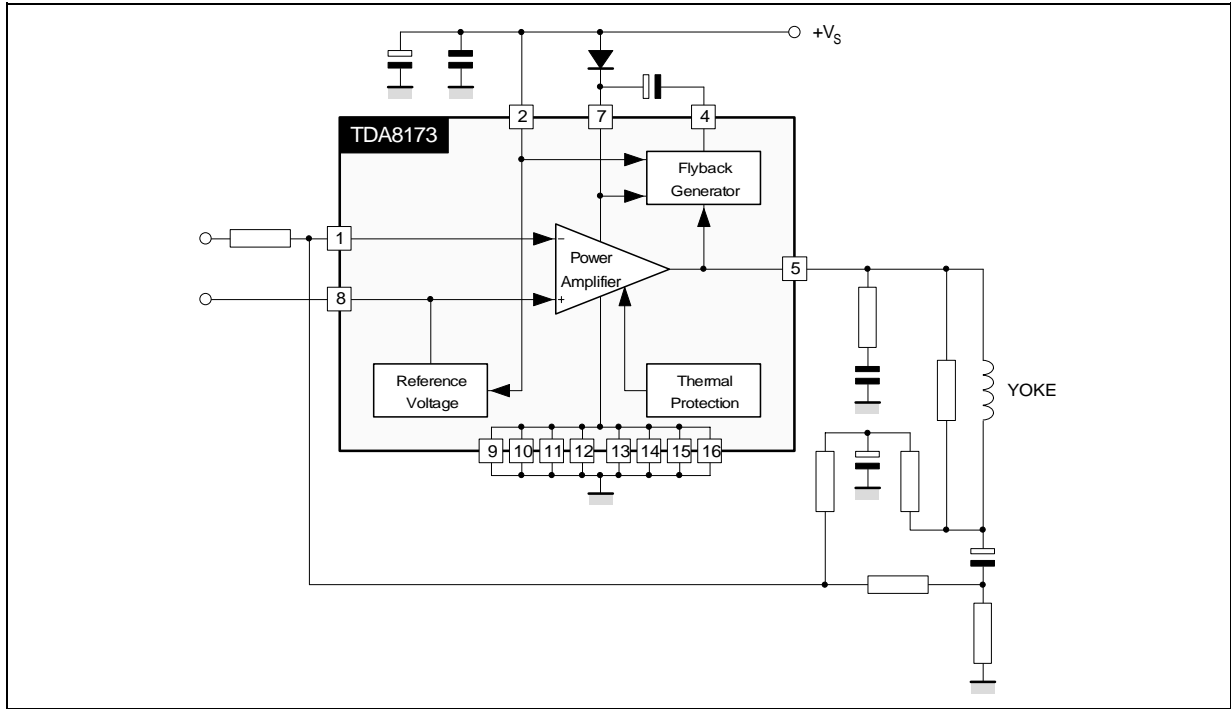
The TDA8173 is a monolithic integrated circuit in POWERDIP package. It is a high efficiency power booster for direct driving of vertical windings of TV yokes. It is intended for use in Color and B & W television sets as well as in monitors, and displays.

**PIN CONNECTIONS (top view)**



8173-01EPS

**BLOCK DIAGRAM**



8173-02.EPS

**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, $t \leq 10$ $\mu$ s	3	A
$I_o$	Output Peak Current at $f = 50$ or $60$ Hz, $t > 10$ $\mu$ s	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 $T_{case} = 60$ $^{\circ}$ C	6	W
$T_{stg}, T_j$	Storage and Junction Temperature	- 40 to 150	$^{\circ}$ C

8173-01.TBL

**THERMAL DATA**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Thermal Resistance Junction-case	Max. 15	$^{\circ}$ C/W
$R_{th(j-a)}$	Thermal Resistance Junction-ambient	Max. 70	$^{\circ}$ C/W

8173-02.TBL

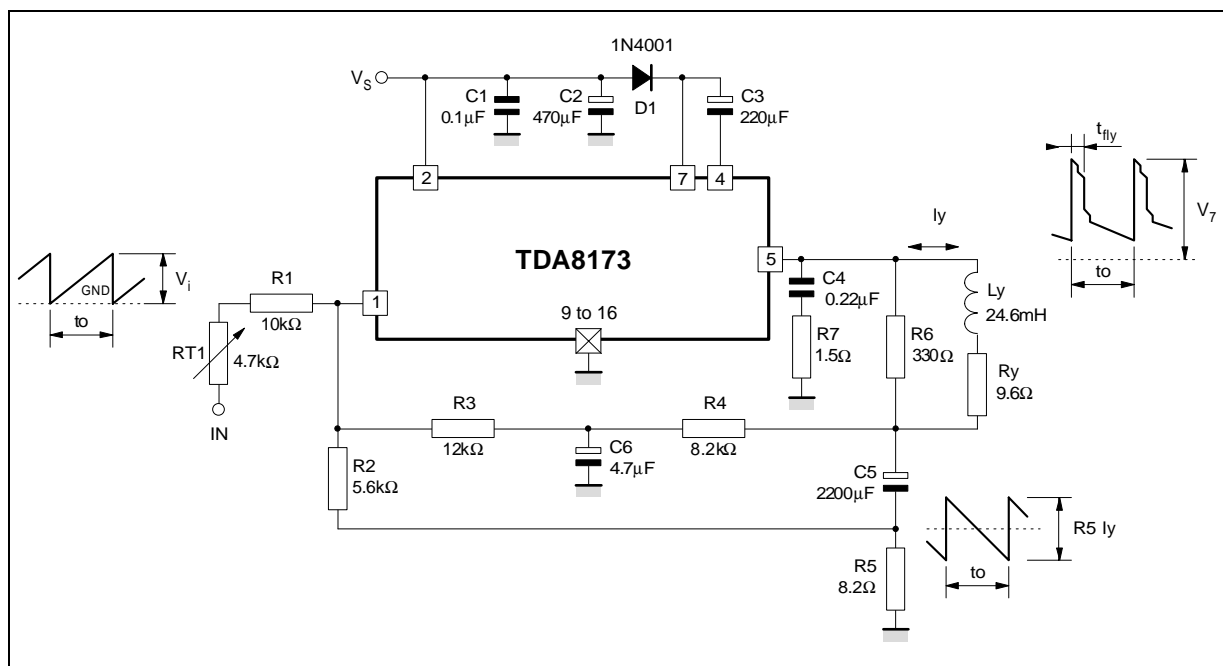
**ELECTRICAL CHARACTERISTICS**

(refer to the test circuits,  $V_s = 35V$ ,  $T_{amb} = 25^{\circ}C$  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	$\mu A$
$V_{4L}$	Pin 4 Saturation Voltage to GND	$I_4 = 20 mA$		1		V
$V_5$	Quiescent Output Voltage	$V_s = 35 V, R_a = 39 k\Omega$		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		$^{\circ}C$
$V_8$	Reference Voltage			2.2		V
$\frac{\Delta V_8}{\Delta V_s}$	Reference Voltage Drift versus Supply Voltage	$V_s = 15 \text{ to } 30 V$		1	2	mV

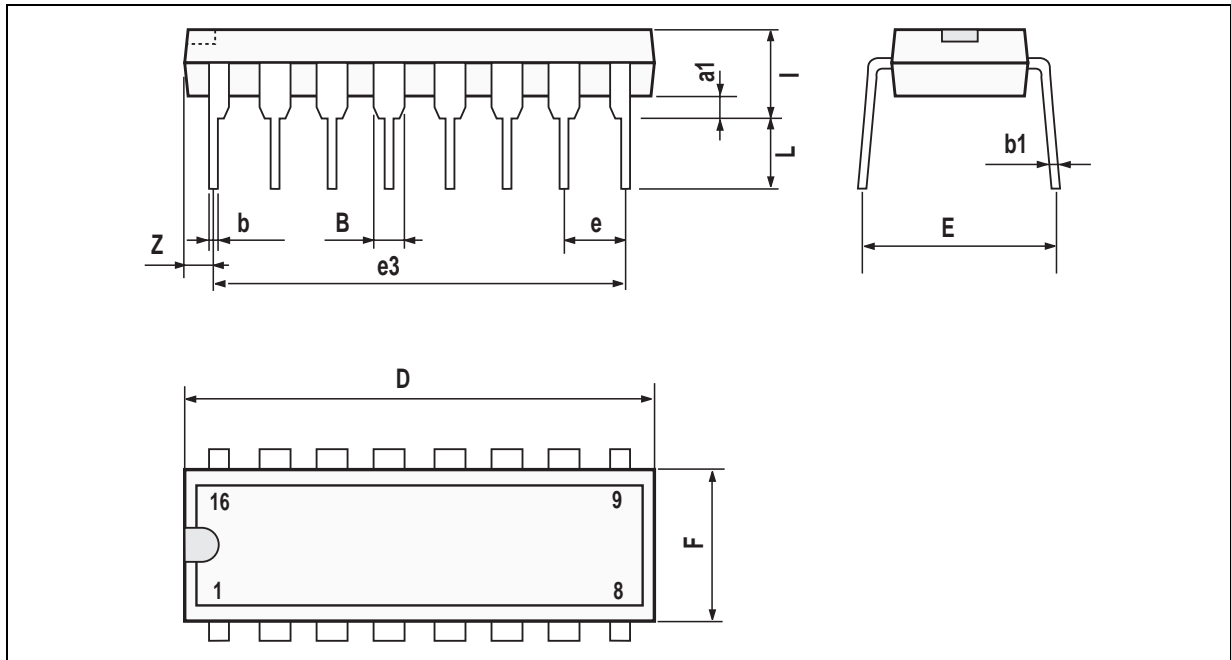
8173-03.TBL

**TEST CIRCUITS**



8173-03.EPS

**PACKAGE MECHANICAL DATA**  
16 PINS - PLASTIC DIP



PM-DIP16.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.51			0.020		
B	0.77		1.65	0.030		0.065
b		0.5			0.020	
b1		0.25			0.010	
D			20			0.787
E		8.5			0.335	
e		2.54			0.100	
e3		17.78			0.700	
F			7.1			0.280
i			5.1			0.201
L		3.3			0.130	
Z			1.27			0.050

DIP16.TBL

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