

## TV Vertical Deflection Output Amplifier

**Technology:** Bipolar

### Features

- Output peak current,  $I_5 = 2.5 \text{ A}$
- Flyback current, peak to peak,  $I_3 = 4 \text{ A}$
- Thermal protection,  $T_j \geq 140^\circ\text{C}$

**Case:** 7 leads special plastic case

### Block diagram

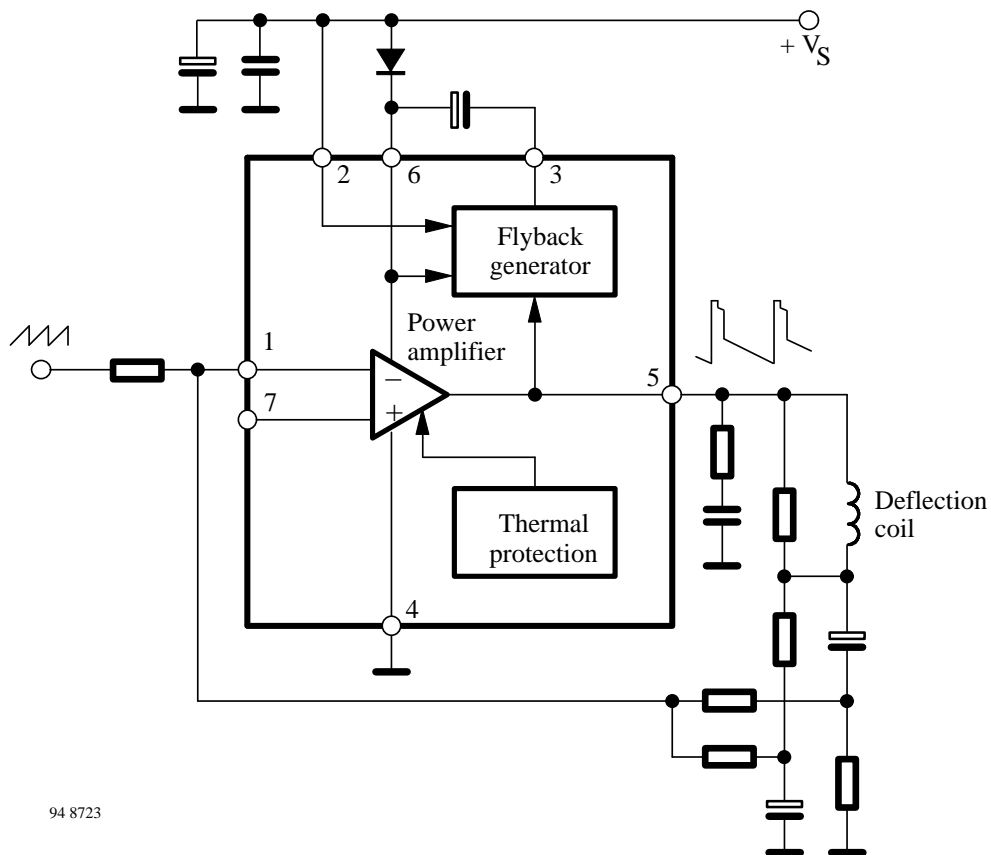


Figure 1 Block diagram

### Pin Configuration

Pin	Function
1	Inverted input
2	Supply voltage
3	Flyback generator
4	Ground

Pin	Function
5	Output
6	Output stage supply
7	Non inverted input

### Absolute Maximum Ratings

Parameters	Symbol	Value	Unit
Supply voltage Pin 2	$V_S$	40	V
Flyback peak voltage Pins 5 and 6	$V_{5,6}$	70	V
Voltage at pin 3	$V_3$	$V_S$	V
Input voltage Pins 1 and 7	$V_{1,7}$	$V_S$	V
Output peak current: t = 2 ms, non repetitive f = 50/60 Hz, t < 10 $\mu$ s f = 50/60 Hz, t > 10 $\mu$ s Pin 5	$I_O$	3 3.5 2.5	A
DC current at pin 3, @ $V_5 < V_2$	$I_3$	100	mA
Flyback current peak to peak, f = 50/60 Hz, $t_{fly} \leq 1.5$ ms Pin 3	$I_3$	4	A
Power dissipation, $T_{case} = 70^\circ\text{C}$	$P_{tot}$	20	W
Storage temperature	$T_{stg}$	- 40 to + 150	$^\circ\text{C}$
Junction temperature	$T_j$	- 40 to + 150	$^\circ\text{C}$

### Thermal Resistance

Parameters	Symbol	Maximum	Unit
Junction case	$R_{thJC}$	3	K/W

### Electrical Characteristics

$V_S = 35$  V,  $T_{amb} = 25^\circ\text{C}$ , (see test circuits)

Parameters	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Quiescent current	$I_3 = 0, I_S = 0$ Pin 2	$I_2$		15	20	mA
	$I_3 = 0, I_S = 0$ Pin 6 figure 2	$I_6$		30	45	
Input quiescent current	$V_1 = 1$ V Pin 1 figure 3	$-I_1$		0.5	1	$\mu\text{A}$
Saturation voltage to GND (Pin 4)	$I_3 = 20$ mA Pin 3 figure 4	$V_{3-4}$		0.5	1.1	V
Output voltage	$V_S = 35$ V, $R_f = 39$ k $\Omega$ Pin 5 figure 5	$V_5$		18		V
Saturation voltage to GND (Pin 4)	$I_5 = 1.2$ A Pin 5 $I_5 = 2.0$ A figure 6	$V_{5-4}$		0.35	0.7	V
				0.6	1.1	
Saturation voltage to supply (Pin 6)	$I_5 = -1.2$ A Pin 5 $I_5 = -2.0$ A figure 7	$V_{5-6}$		1 1.2	1.5 1.8	V
Junction temperature for thermal shut down		$T_j$		140		$^\circ\text{C}$

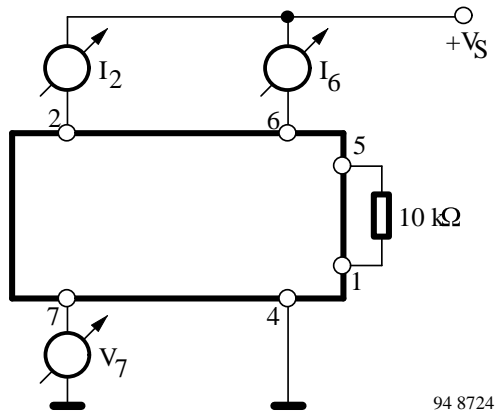


Figure 2

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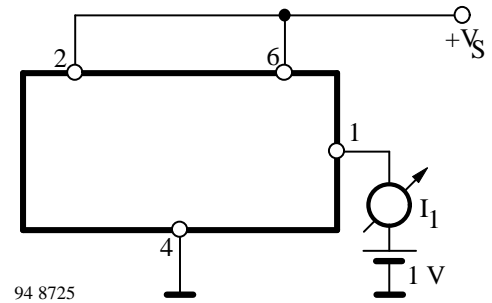


Figure 3

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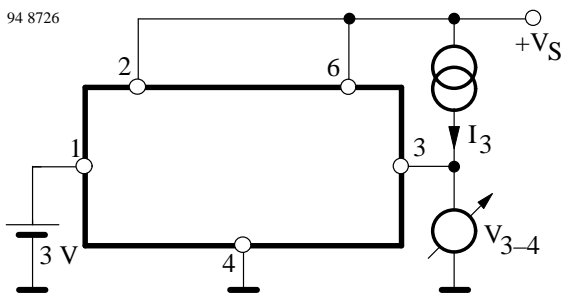


Figure 4

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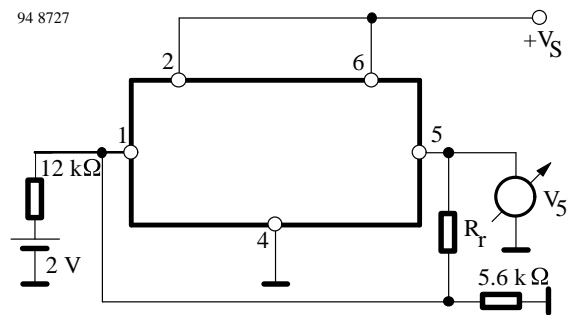


Figure 5

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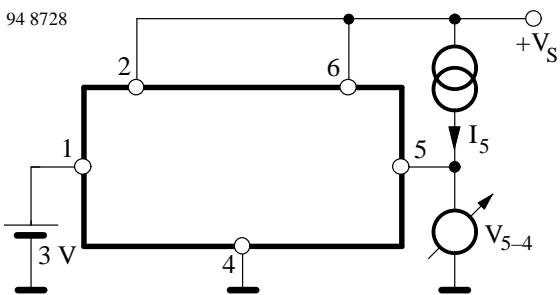


Figure 6

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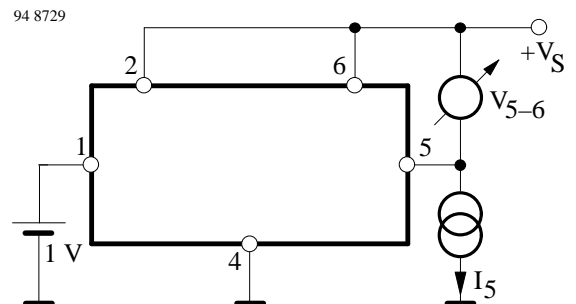
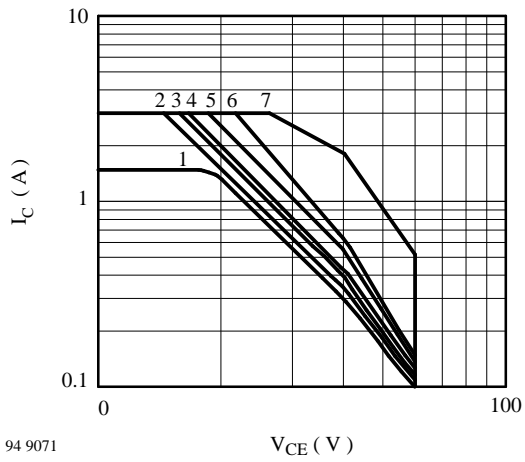


Figure 7

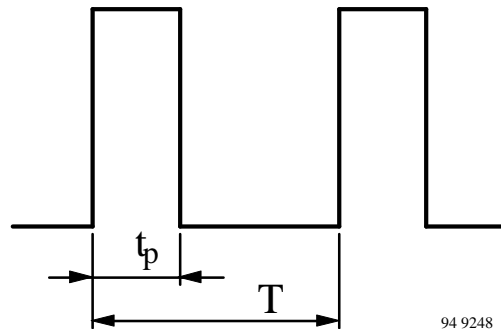
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## TDA 4173



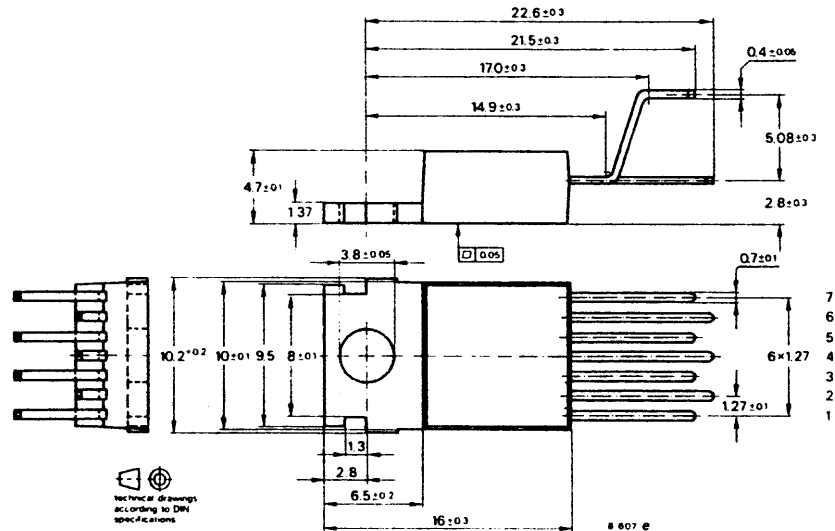
Typical SOAR curves  
 $I_C = I_5, V_{CE} = V_5$  and  
 $I_C = -I_5, V_{CE} = V_6 - V_5$

Curve no.	$t_p$	$t_p : T$
1	DC	
2	10 ms	1 : 2
3	10 ms	1 : 4
4	1 ms	1 : 2
5	1 ms	1 : 4
6	1 ms	1 : 20
7	0.2 ms	1 : 10



## Dimensions in mm

Package: 7 leads special plastic case



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## OZONE DEPLETING SUBSTANCES POLICY STATEMENT

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1. Meet all present and future national and international statutory requirements and
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

Of particular concern is the control or elimination of releases into the atmosphere of these substances which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) will severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

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- (1) Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
- (2) Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA and
- (3) Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

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