TDA 4173

TV Vertical Deflection Output Amplifier

Technology: Bipolar

Features

- Output peak current, I_5 = 2.5 A
- Flyback current, peak to peak, I_3 = 4 A
- Thermal protection, $T_j \geq 140°C$

Case: 7 leads special plastic case

Block diagram

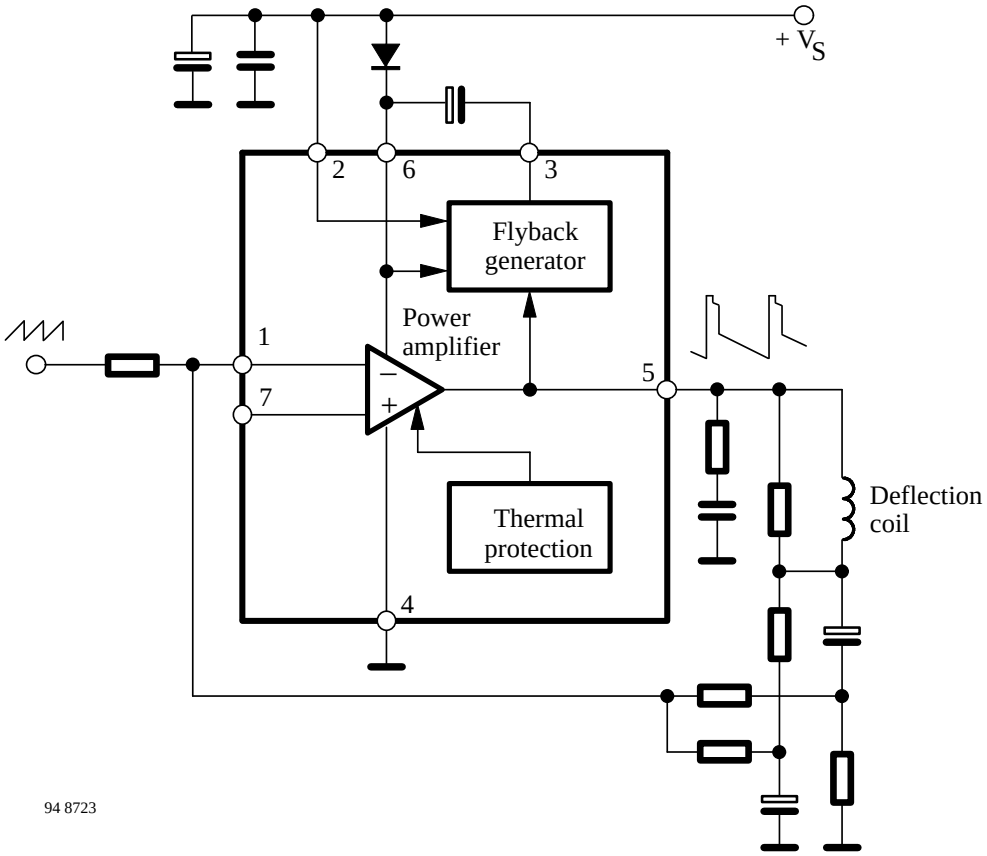


Figure 1 Block diagram

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 µs f = 50/60 Hz, t > 10 µs	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°C		P_{tot}	20	W
Storage temperature		T_{stg}	– 40 to + 150	°C
Junction temperature		T_j	– 40 to + 150	°C

Thermal Resistance

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

Electrical Characteristics

V_S = 35 V, T_{amb} = 25°C, (see test circuits)

Parameters	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Quiescent current	I_3 = 0, I_S = 0 Pin 2 I_3 = 0, I_S = 0 Pin 6 figure 2	I_2 I_6		15 30	20 45	mA
Input quiescent current	V_1=1 V Pin 1 figure 3	$-I_1$		0.5	1	µA
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_r=39 kΩ figure 5 Pin 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 0.6	0.7 1.1	V
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		°C

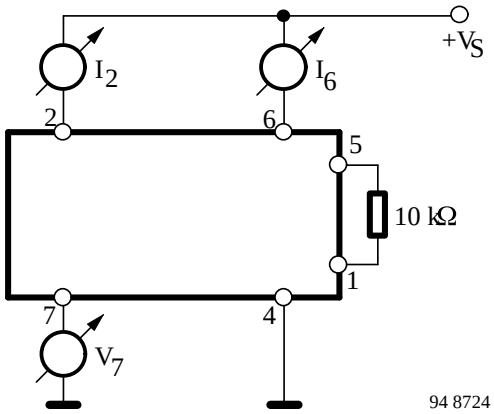


Figure 2

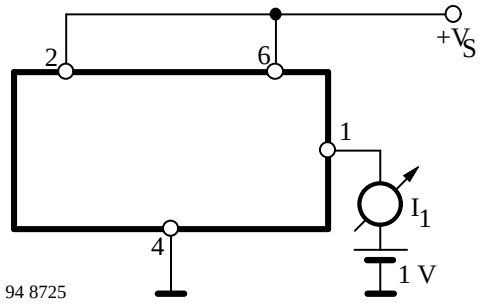


Figure 3

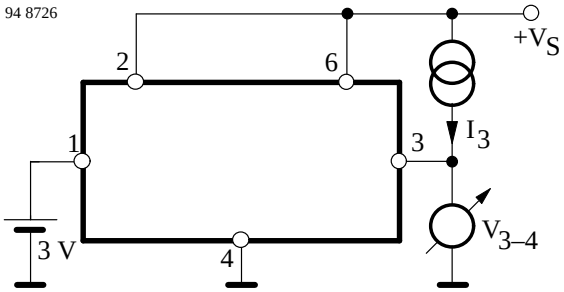


Figure 4

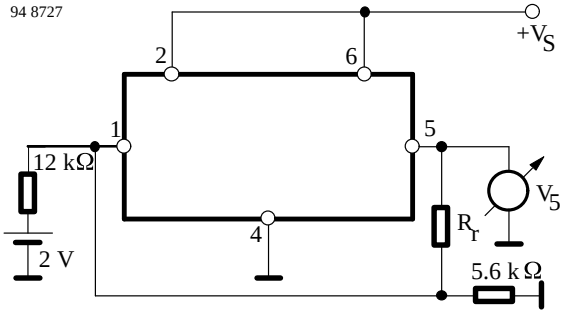


Figure 5

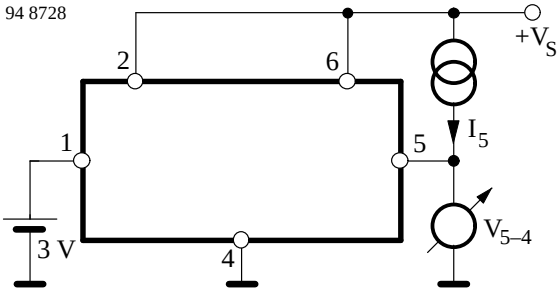


Figure 6

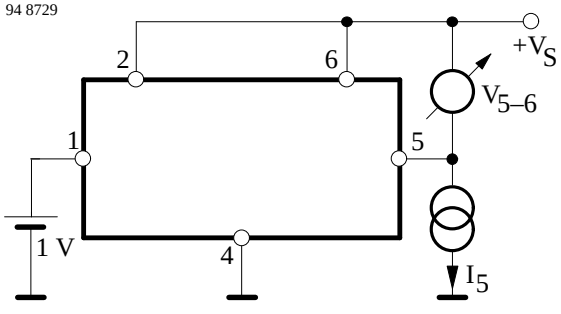
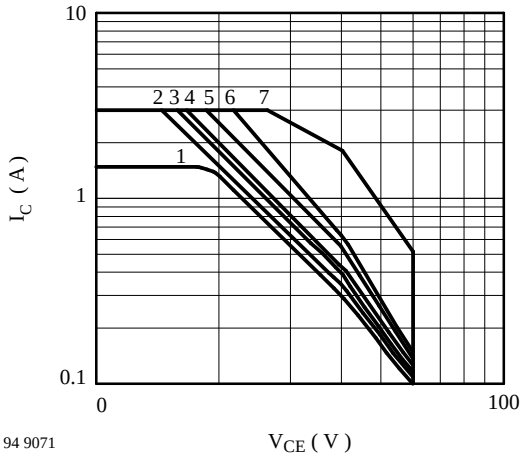
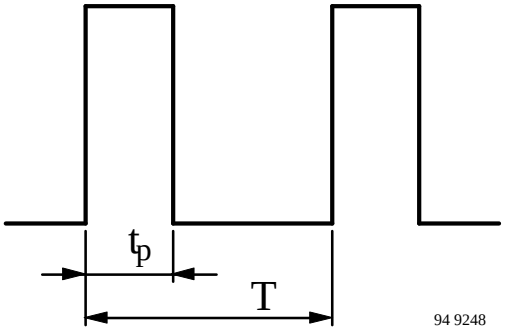


Figure 7



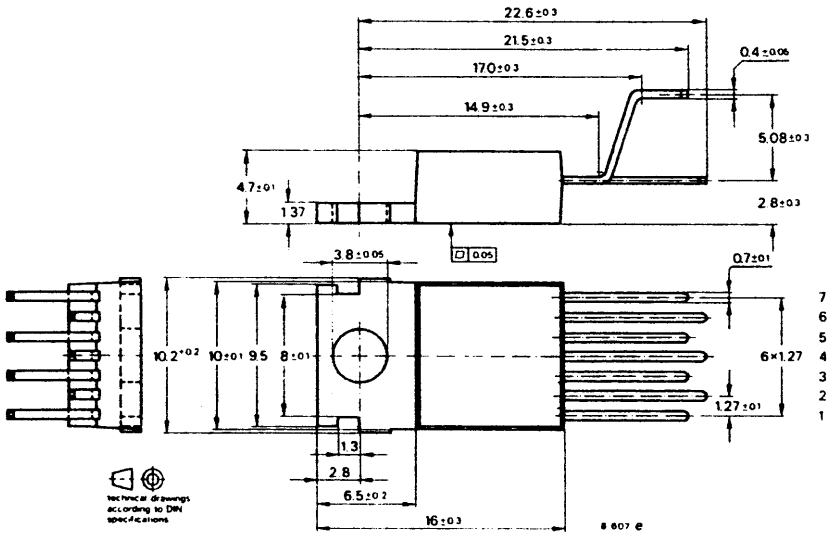
Typical SOAR curves
$I_C = I_5$, $V_{CE} = V_5$ and
$I_C = -I_5$, $V_{CE} = V_6 - V_5$

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



TEMIC TELEFUNKEN microelectronic GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax Number: 49 (0)7131 67 2423

OZONE DEPLETING SUBSTANCES POLICY STATEMENT

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

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.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of any ODSs listed in the following documents that all refer to the same substances:

(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.

TEMIC can certify that our semiconductors are not manufactured with and do not contain ozone depleting substances.