

# TEMIC

TELEFUNKEN Semiconductors

# TEA 8172

## TV Vertical Deflection Output Amplifier

**Technology:** Bipolar

### Features

- Output peak current,  $I_5 = 2\text{ A}$
- Flyback current, peak to peak,  $I_3 = 3\text{ A}$
- Thermal protection,  $T_j \geq 140^\circ\text{C}$

**Case:** 7 leads special plastic case

### Block diagram

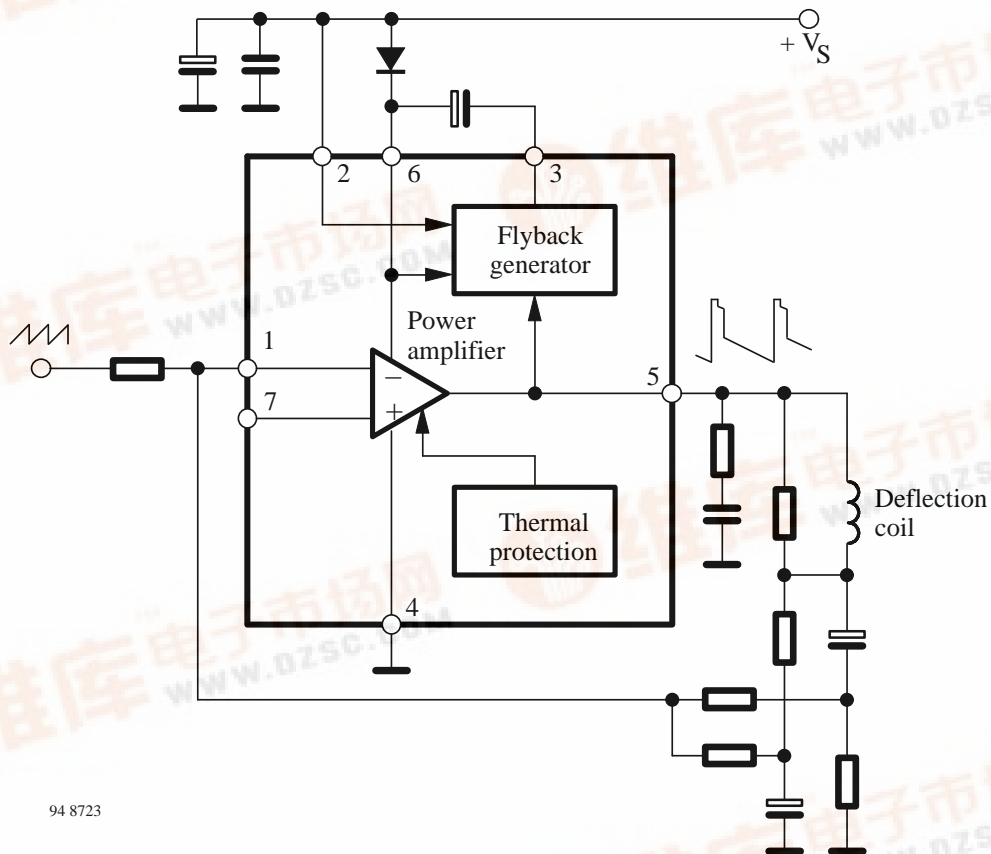


Figure 1 Block diagram

### 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	$V_S$	35	V
Flyback peak voltage Pins 5 and 6	$V_{5,6}$	60	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	$I_O$	2.5 3.0 2.0	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	$I_3$	3	A
Power dissipation, $T_{case} = 70^\circ\text{C}$	$P_{tot}$	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,  $T_{amb} = 25^\circ\text{C}$ , reference point Pin 4 (GND), see test circuits, unless otherwise specified

Parameters	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Quiescent current	$I_3 = 0, I_S = 0$ Pin 2	$I_2$		8	16	mA
	$I_3 = 0, I_S = 0$ Pin 6 figure 2	$I_6$		16	36	
Input quiescent current	$V_1 = 1$ V figure 3 Pin 1	$-I_1$		0.1	1	μA
Saturation voltage to GND	$I_3 = 20$ mA figure 4 Pin 3	$V_{3-4}$		1	1.5	V
Output voltage	$V_S = 35$ V, $R_f = 39$ kΩ figure 5 Pin 5	$V_5$		18		V
Saturation voltage to GND	$I_5 = 0.7$ A figure 6 Pin 5	$V_{5-4}$		0.7 1.0	1.0 1.4	V
	$I_5 = 1.2$ A figure 6					
Saturation voltage to supply	$I_5 = -0.7$ A $I_5 = -1.2$ A figure 7 Pin 5	$V_{5-6}$		1.3 1.6	1.8 2.2	V
Junction temperature for thermal shut down		$T_j$		140		°C

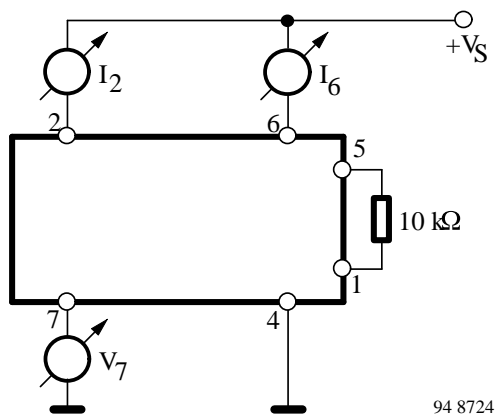


Figure 2

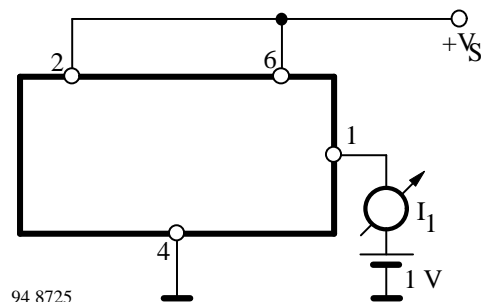


Figure 3

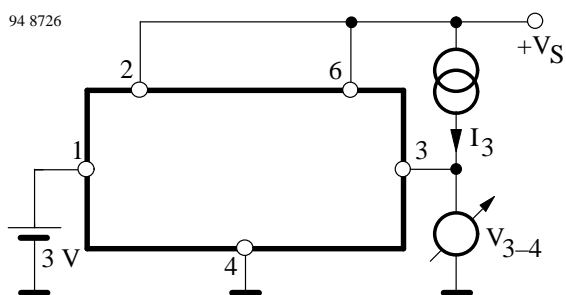


Figure 4

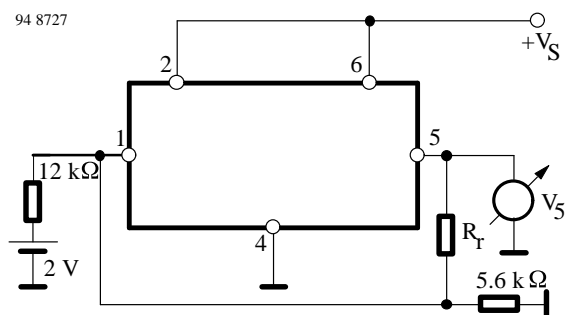


Figure 5

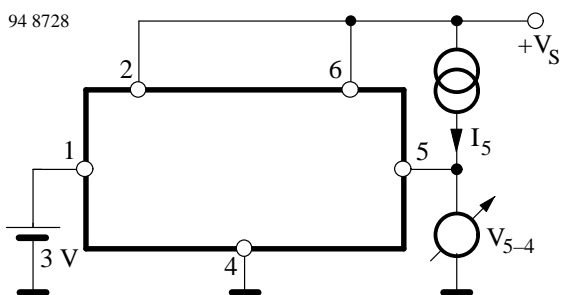


Figure 6

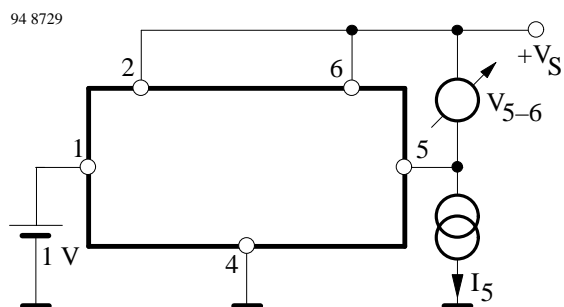


Figure 7

