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捷多邦, 专业PCB打样工厂
24小时加急出货

TDA8178

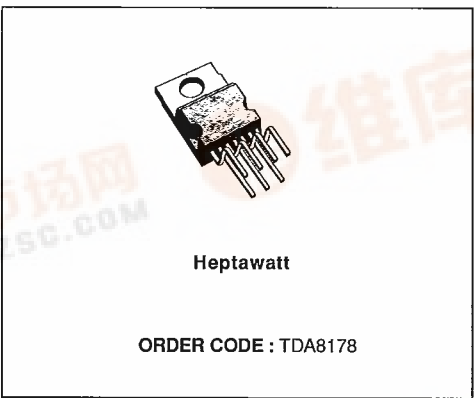
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TV VERTICAL DEFLECTION BOOSTER

ADVANCE DATA

- POWER AMPLIFIER
- FLYBACK GENERATOR (105V PEAK)
- THERMAL PROTECTION
- REFERENCE VOLTAGE
- CURRENT LIMITED TO GND



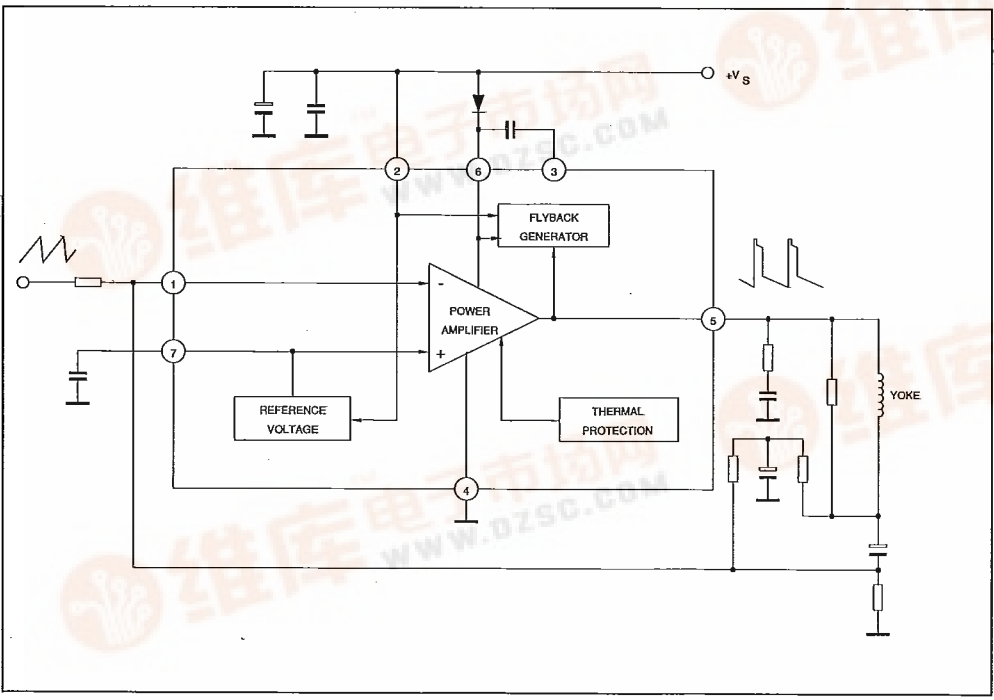
DESCRIPTION

Designed for Monitors and high performance TVs, the TDA8178 vertical deflection booster delivers fly-back voltages up to 105V.

The TDA8178 operates with supplies up to 50V and provides up to 2App output current drive to yoke.

The TDA8178 is offered in HEPTAWATT package.

BLOCK DIAGRAM



June 1989

This is advanced information on a new product now in development or undergoing evaluation. Details are subject to change without notice.

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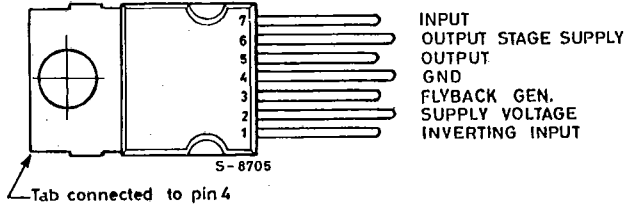
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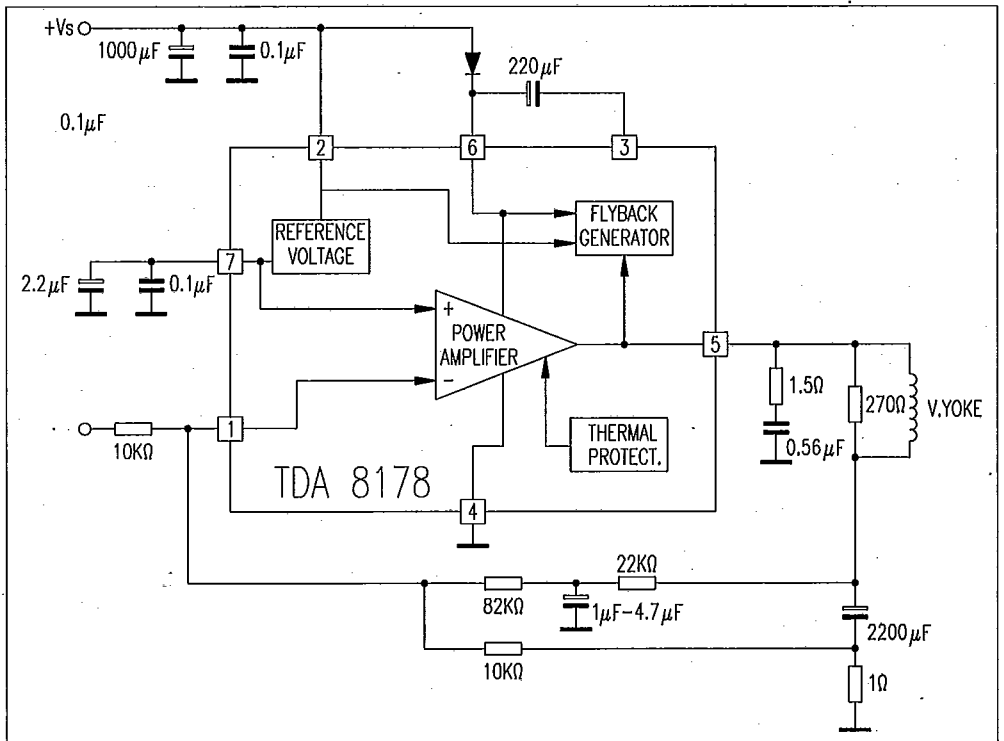
PIN CONNECTION (top view)

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APPLICATION CIRCUIT ($V_s = 50V$)



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ELECTRICAL CHARACTERISTICS(refer to the test circuits, $V_s = 48V$, $T_{amb} = 25^\circ C$, unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|---|--|------|-------|------|-----------------|
| V_s | Operating Supply Voltage Range | | 10 | | 48 | V |
| I_2 | Pin 2 Quiescent Current | $I_3 = 0$ $I_5 = 0$ | | 10 | 20 | mA |
| I_6 | Pin 6 Quiescent Current | $I_3 = 0$ $I_5 = 0$ | | 20 | 40 | mA |
| I_1 | Amplifier bias Current | $V_1 = 1V$ | | - 0.2 | - 1 | μA |
| V_3 | Pin 3 Saturation to GND | $I_3 = 20mA$ | | 1.3 | 1.8 | V |
| V_5 | Quiescent Output Voltage | $V_s = 48V$ $R_a = 3.9K\Omega$ | | 24.2 | | V |
| | | $V_s = 35V$ $R_a = 5.6K\Omega$ | | 17.5 | | |
| V_{5L} | Output Saturation Voltage to GND | $I_5 = 1A$ | | 1.2 | 1.5 | V |
| V_{5H} | Output Saturation Voltage to Supply | - $I_5 = 1A$ | | 2.2 | 2.6 | V |
| V_{D5-6} | Diode Forward Voltage between Pins 5-6 | $I_D = 1A$ | | 1.5 | | V |
| V_{D3-2} | Diode Forward Voltage between Pins 3-2 | $I_D = 1A$ | | 1.5 | | V |
| V_7 | Internal Reference | | 2.15 | 2.2 | 2.25 | V |
| $\Delta V_7/\Delta V_s$ | Reference Voltage Drift Versus V_s | $V_s = 10$ to $48V$ | | 1 | 2 | mV/V |
| K_T | Reference Voltage Drift Versus T_j | $K_T = \frac{\Delta V_7 \cdot 10^6}{\Delta T_j \cdot V_7}$ $T_j = 0$ to $125^\circ C$ | | 100 | 150 | ppm/ $^\circ C$ |
| R_1 | Input Resistance | | | 200 | | $K\Omega$ |
| T_j | Junction Temperature for Thermal Shutdown | | | 140 | | $^\circ C$ |

ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|------------|---|-------------|------------|
| V_s | Supply Voltage (pin 2) | 50 | V |
| V_5, V_6 | Flyback Peak Voltage | 105 | V |
| V_1, V_7 | Amplifier Input Voltage | + V_s | |
| I_o | Output Peak Current (non repetitive, $t = 2ms$) | 2 | A |
| I_o | Output Peak Current at $f = 50$ or $60Hz$ $t \leq 10\mu s$ | 2 | A |
| I_o | Output Peak Current at $f = 50$ or $60Hz$ $t > 10\mu s$ | 1.8 | A |
| I_3 | Pin 3 DC at $V_5 < V_2$ | 100 | mA |
| I_3 | Pin 3 Peak Flyback Current at $f = 50$ or $60Hz$, $t_{fly} \leq 1.5ms$ | 1.8 | A |
| P_{tot} | Total Power Dissipation at $T_{case} = 70^\circ C$ | 20 | W |
| T_{stg} | Storage Temperature | - 40 to 150 | $^\circ C$ |
| T_j | Junction Temperature | 0 to 150 | $^\circ C$ |

THERMAL DATA

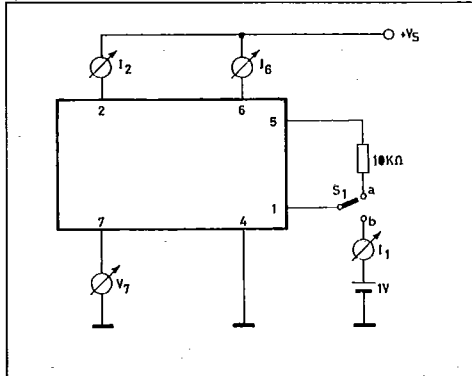
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| | | | | |
|---------------|----------------------------------|-----|---|------|
| $R_{th\ j-c}$ | Junction-case Thermal Resistance | Max | 3 | °C/W |
|---------------|----------------------------------|-----|---|------|

Figure 1 : DC Test Circuits.

Figure 1a : Measurement of I_1 ; I_2 ; I_6 ; V_7 ; $\Delta V_7/\Delta V_S$.



S1 : (a) I_2 and I_6 ; (b) I_1 .

Figure 1b : Measurement of V_{5H} .

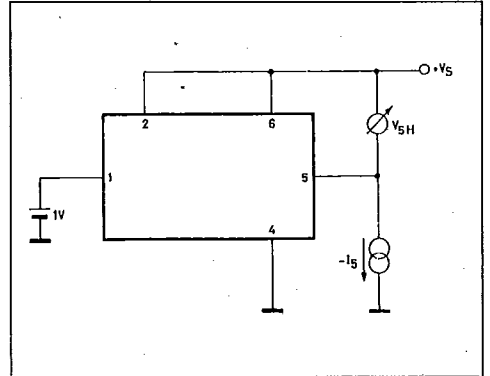
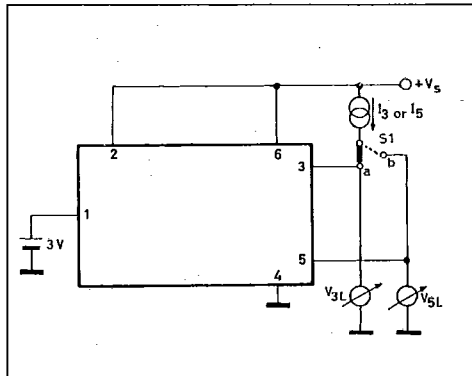
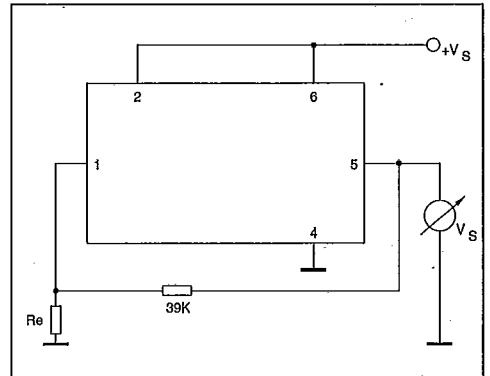


Figure 1c : Measurement of V_{3L} , V_{5L} .



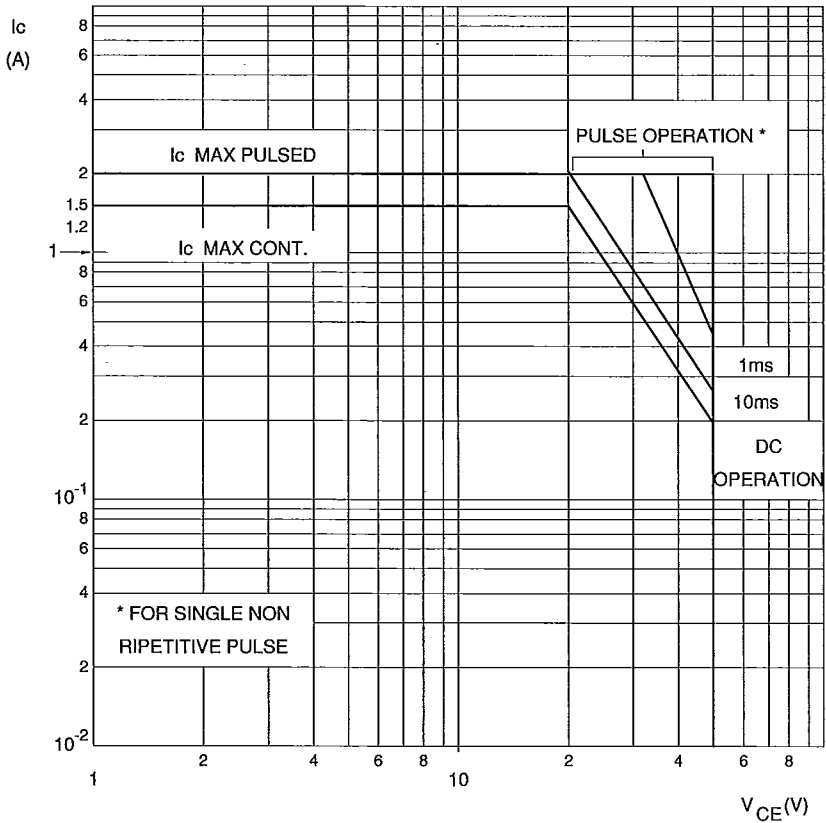
S1 : (a) V_{3L} ; (b) V_{5L} .

Figure 1d : Measurement of V_5 .



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Figure 2 : SOA of Each Output Power Transistor at 25°C amb.



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