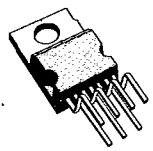
SGS-THOMSON MICROELECTRONICS

TDA8179

TV VERTICAL DEFLECTION BOOSTER

ADVANCE DATA

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



HEPTAWATT

ORDER CODE : TDA8179

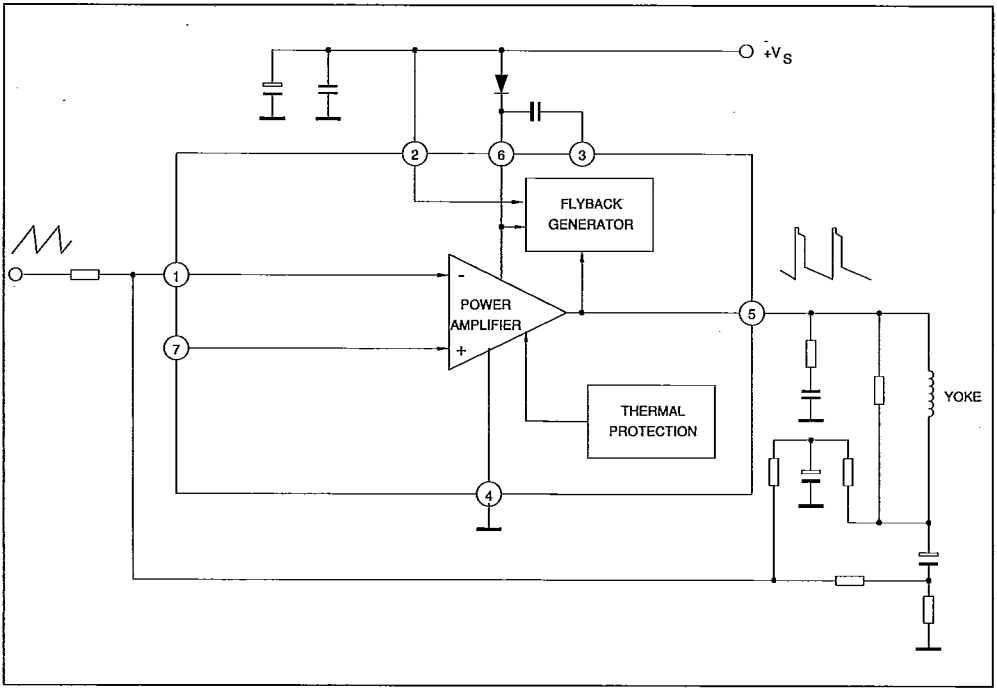
DESCRIPTION

Designed for Monitors and high performance TVs, the TDA8179 vertical deflection booster delivers flyback voltages up to 105V.

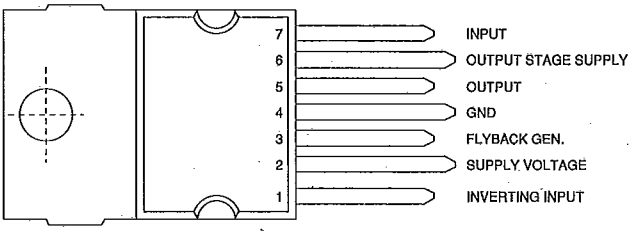
The TDA8179 operates with supplies up to 50V and provides up to 2App output current to drive to yoke.

The TDA8179 is offered in HEPTAWATT package.

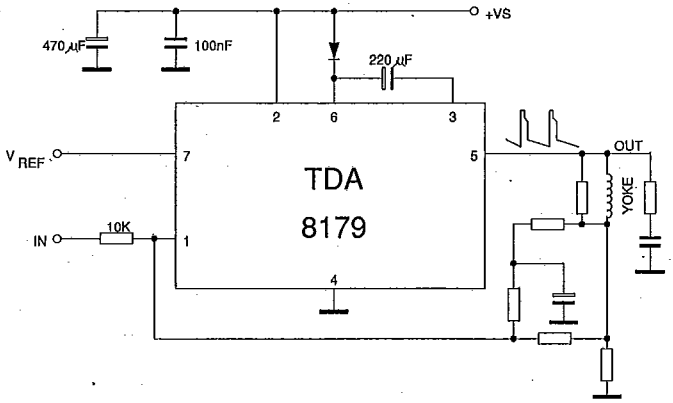
BLOCK DIAGRAM



PIN CONNECTION (top view)



APPLICATION CIRCUIT



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 ≤ 10µs	2	A
I_O	Output Peak Current at f = 50 or 60Hz t > 10µs	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, $t_{fly} \leq 1.5$ms	1.8	A
P_{tot}	Total Power Dissipation at T_{case} = 70°C	20	W
T_{stg}	Storage Temperature	– 40 to 150	°C
T_j	Junction Temperature	0 to 150	°C

THERMAL DATA

$R_{th\ J\text{-}C}$	Junction-case Thermal Resistance	Max	4	°C/W

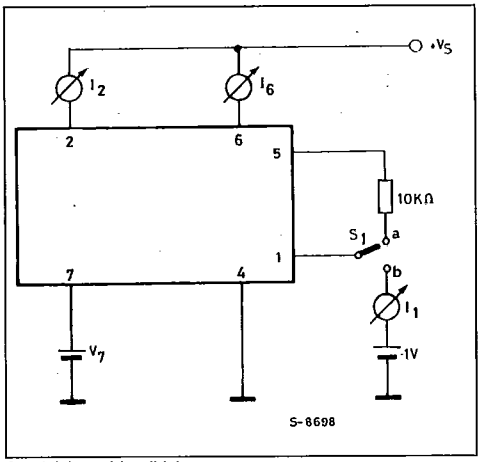
ELECTRICAL CHARACTERISTICS

(V_7 = 2.2V, V_s = 48V, T_{amb} = 25°C, unless otherwise specified) (refer to the test circuits)

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_{3L}	Scanning Voltage	I_3 = 20mA		1.3	1.8	V
V_5	Quiescent Output Voltage	V_s = 48V R_a = 3.9KΩ		24.2		V
		V_s = 35V R_a = 5.6KΩ		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	2.8	V
$V_{D5\text{-}6}$	Diode Forward Voltage between Pins 5-6	I_D = 1A		1.5		V
$V_{D3\text{-}2}$	Diode Forward Voltage between Pins 3-2	I_D = 1A		1.5		V
R_1	Input Resistance			200		KΩ
T_j	Junction Temperature for Thermal Shutdown			140		°C

Figure 1 : DC Test Circuits.

Figure 1a : Measurement of I_1 ; I_2 ; I_6.



S_1 : (a) I_2 and I_6 ; (b) I_1.

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

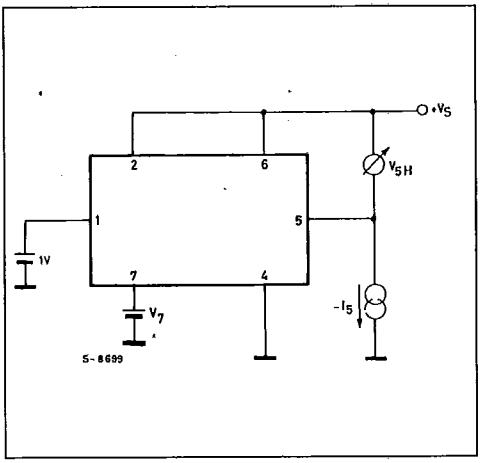
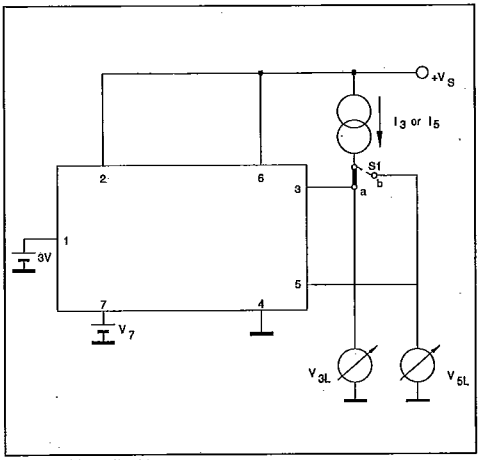


Figure 1c : Measurement of V_{3L} ; V_{5L}.



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

Figure 1d : Measurement of V_5.

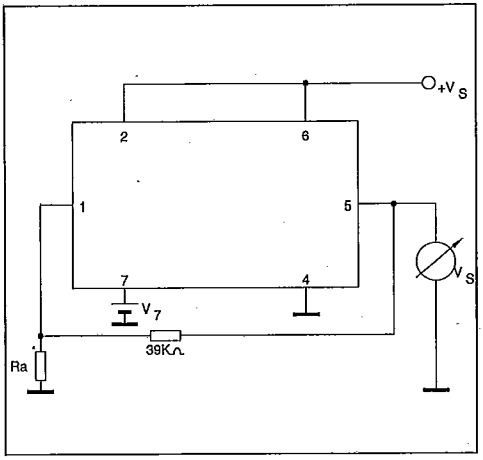


Figure 2 : SOA of Each Output Power Transistor at 25°C amb.