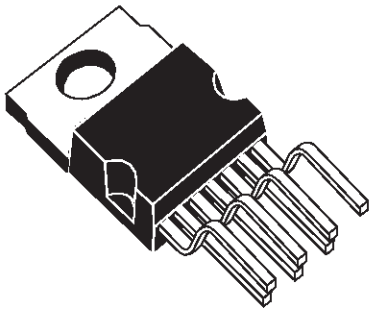
STV9379A

VERTICAL DEFLECTION BOOSTER

FEATURES

- Power Amplifier
- Flyback Generator
- Thermal Protection
- Output Current up to 2.6 App
- Flyback Voltage up to 90V (on pin 5)
- Suitable for DC Coupling Application

PACKAGE



HEPTAWATT
(Plastic Package)
ORDER CODE: STV9379A

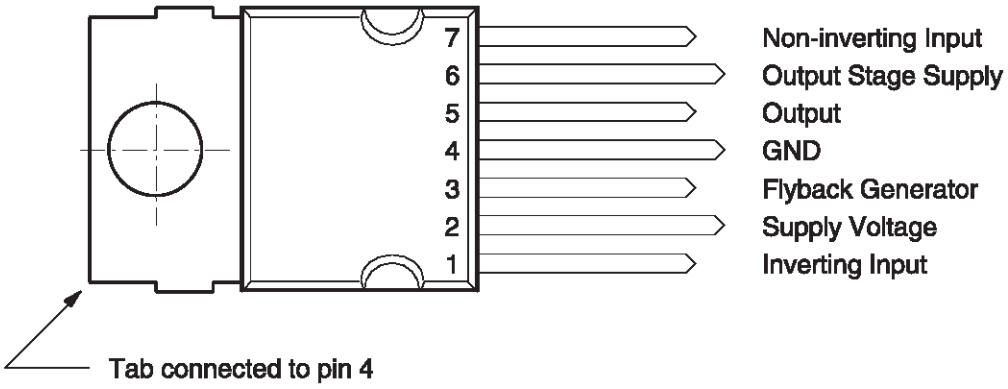
DESCRIPTION

Designed for monitors and high performance TVs, the STV9379A vertical deflection booster delivers flyback voltages close to 90V.

The STV9379A operates with supplies up to 42V and provides up to 2.6 A_{PP} output current to drive the yoke.

The STV9379A is inserted in HEPTAWATT package.

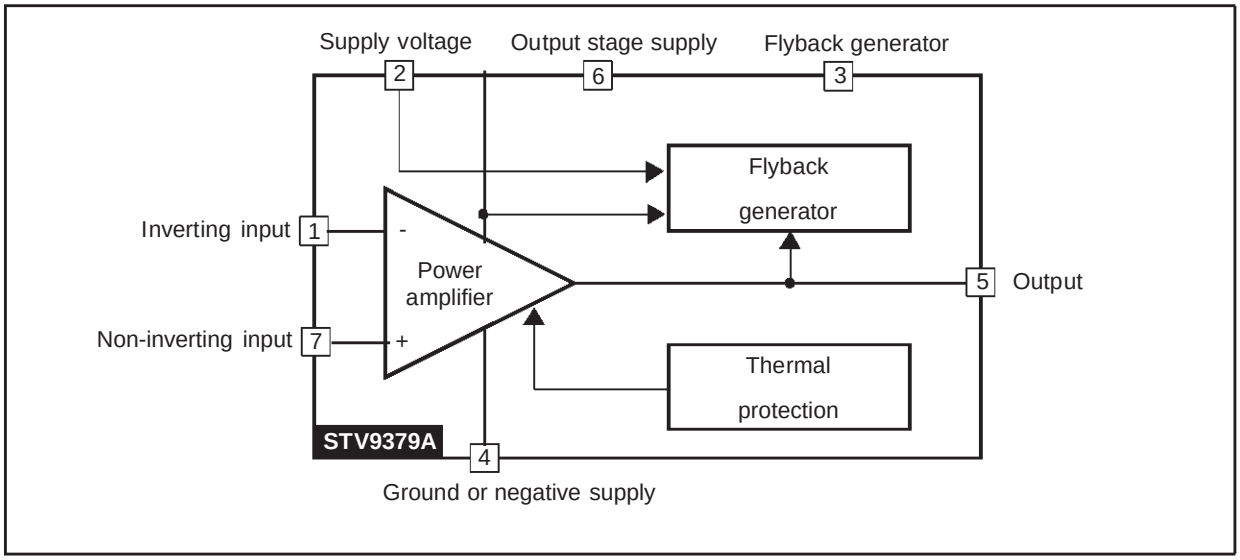
PIN CONNECTION



Version4.1

BLOCK DIAGRAM

Figure 1. STV9379A block diagram



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (Pin 2) (Note 1)	50	V
V_6	Flyback Peak Voltage (Pin 6) (Note 1)	100	V
V_1,V_7	Amplifier Input Voltage (Pins 1-7) (Note 1)	-0.3, + V_S	V
I_O	Maximum Output Peak Current (Note 2, Note 3)	1.8	A
I_3	Maximum Sink Current (first part of flyback) (t < 1ms)	1.8	A
I_3	Maximum Source Current (t < 1ms) (Note 2)	1.8	A
V_{ESD}	ESD Susceptibility: EIAJ Norm (200pF discharged through 0Ω)	300	V
T_{oper}	Operating Ambient Temperature	-20, +75	°C
T_{stg}	Storage Temperature	-40, +150	°C
T_j	Junction Temperature	+ 150	°C

Note 1: Versus Pin 4.
Note 2: The output current can reach 5A peak for t ≤ 10µs (up to 120Hz)
Note 3: Provided SOAR is respected (see Figures 1 and 2).

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th\ (j\text{-}c)}$	Junction-Case Thermal Resistance Max.	3	°C/W
T_t	Temperature for Thermal Shutdown	150	°C
ΔT_t	Hysteresis on Tt	10	°C
T_{jr}	Recommended Max. Junction Temperature	120	°C

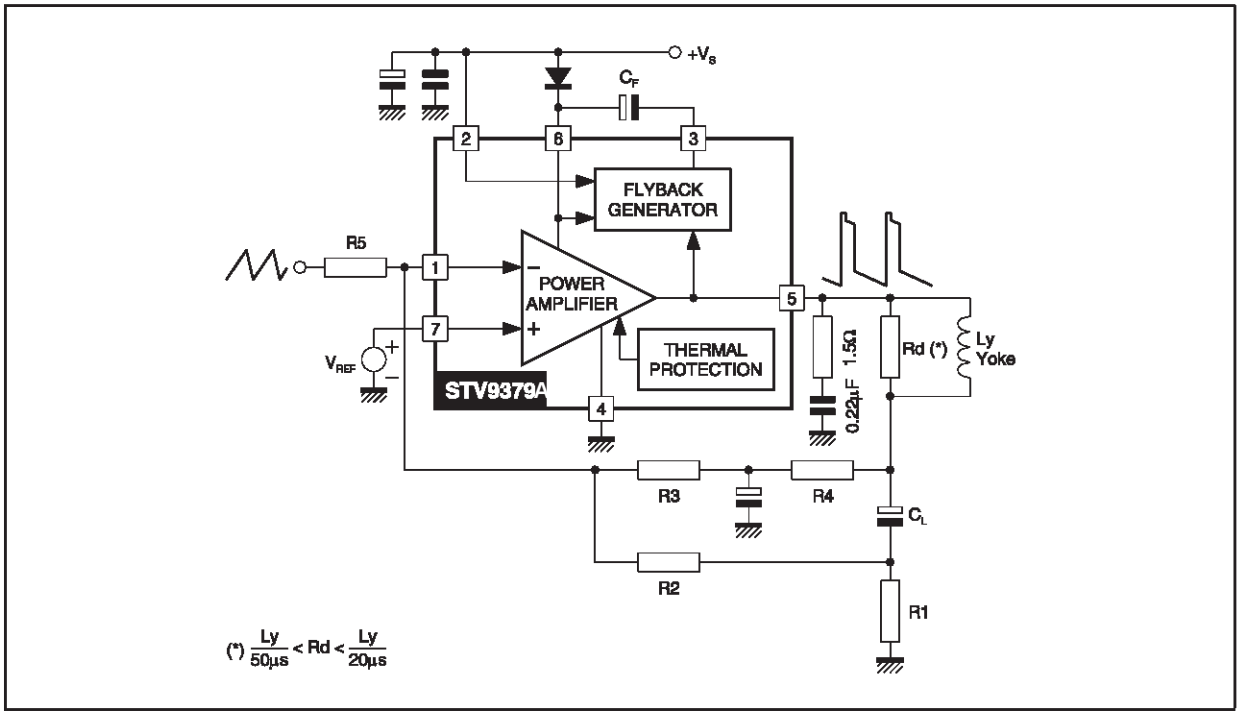
ELECTRICAL CHARACTERISTICS

V_S=42V, T_A = 25°C, unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Operating Supply Voltage Range	Versus Pin 4	10		42	V
I_2	Pin 2 Quiescent Current	I_3 = 0, I_5 = 0		13	20	mA
I_6	Pin 6 Quiescent Current	I_3 = 0, I_5 = 0	5	10	30	mA
I_o	Max. Peak Output Current				1.3	A
I_1	Amplifier Bias Current	V_1 = 25V, V_7 = 26V		-0.15	- 1	µA
I_7	Amplifier Bias Current	V_1 = 26V, V_7 = 25V		-0.15	- 1	µA
V_{IO}	Offset Voltage				7	mV
$\Delta V_{IO}/dt$	Offset Drift Versus Temperature			- 10		µV/°C
GV	Voltage Gain		80			dB
V_{5L}	Output Saturation Voltage to GND (Pin 4)	I_5 = 1.3A		1	1.5	V
V_{5H}	Output Saturation Voltage to Supply (Pin 6)	I_5 = -1.3A		1.6	2.1	V
V_{D5-6}	Diode Forward Voltage between Pins 5-6	I_5 = 1.3A		1.3	2	V
V_{D3-2}	Diode Forward Voltage between Pins 3-2	I_3 = 1.3A		1.3	2	V
V_{3L}	Saturation Voltage on Pin 3	I_3 = 20mA		0.8	1.2	V
V_{3SH}	Saturation Voltage to Pin 2 (2nd part of flyback)	I_3 = - 1.3A		2.9	3.6	V

APPLICATION CIRCUITS

AC COUPLING



APPLICATION CIRCUITS (CONTINUED)

DC COUPLING.

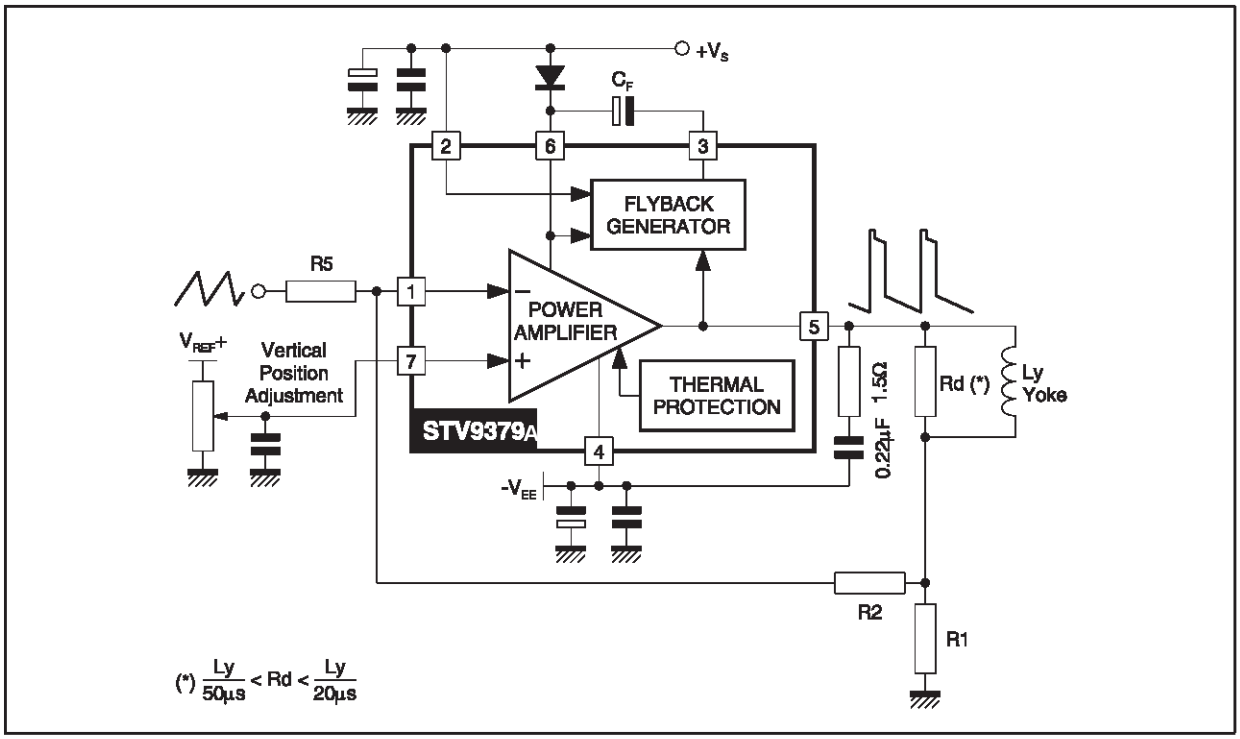


Figure 2. Output transistors SOA (for secondary breakdown)

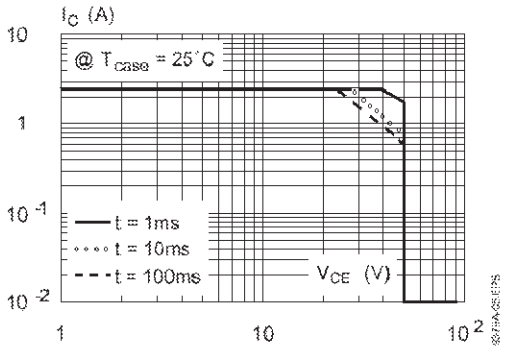
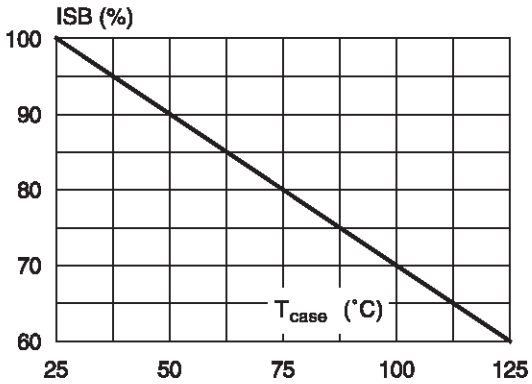
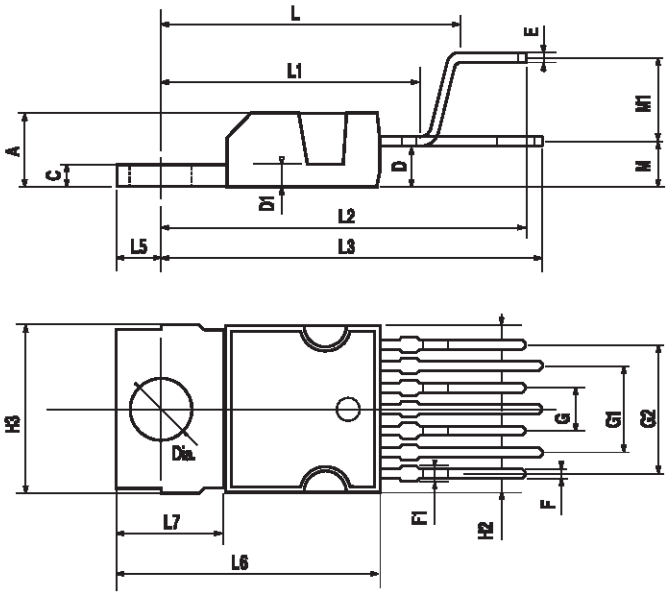


Figure 3. Secondary breakdown Temperature Derating Curve

(ISB = Secondary Breakdown current)



PACKAGE MECHANICAL DATA: 7 PINS - PLASTIC HEPTAWATT



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			4.8			0.189
C			1.37			0.054
D	2.4		2.8	0.094		0.110
D1	1.2		1.35	0.047		0.053
E	0.35		0.55	0.014		0.022
F	0.6		0.8	0.024		0.031
F1			0.9			0.035
G	2.41	2.54	2.67	0.095	0.100	0.105
G1	4.91	5.08	5.21	0.193	0.200	0.205
G2	7.49	7.62	7.8	0.295	0.300	0.307
H2			10.4			0.409
H3	10.05		10.4	0.396		0.409
L		16.97			0.668	
L1		14.92			0.587	
L2		21.54			0.848	
L3		22.62			0.891	
L5	2.6		3	0.102		0.118
L6	15.1		15.8	0.594		0.622
L7	6		6.6	0.236		0.260
M		2.8			0.110	
M1		5.08			0.200	
Dia.	3.65		3.85	0.144		0.152

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