



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

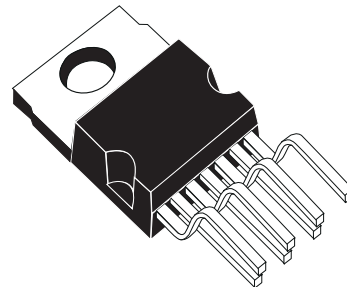
DESCRIPTION

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.

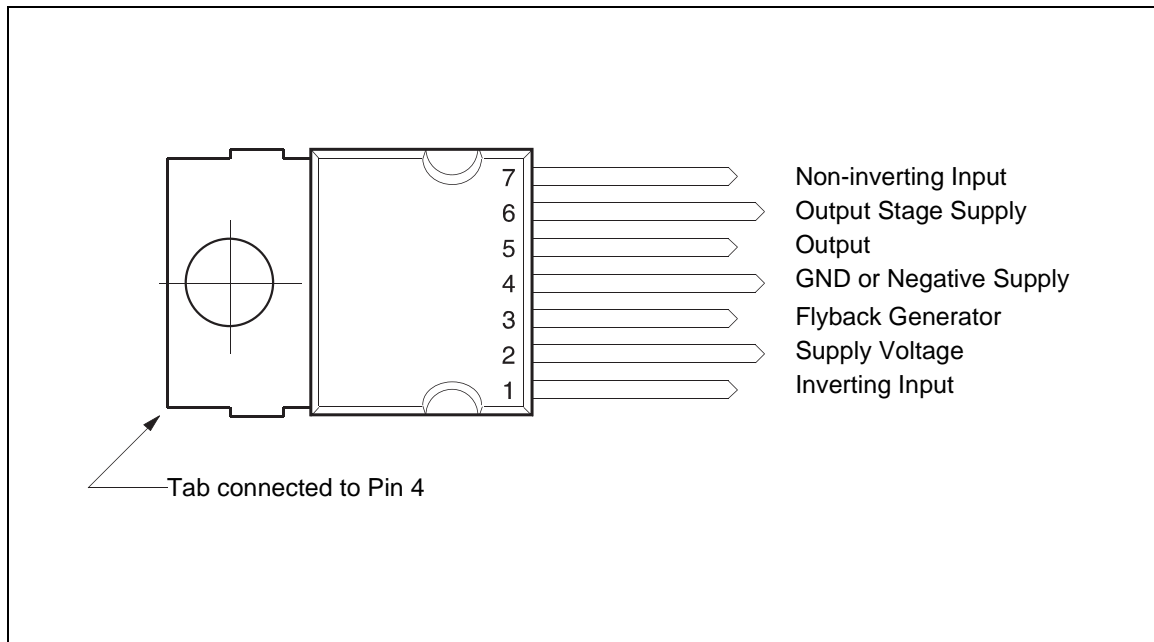
The STV9379A is inserted in HEPTAWATT package.

PACKAGE



HEPTAWATT
(Plastic Package)
ORDER CODE: STV9379A

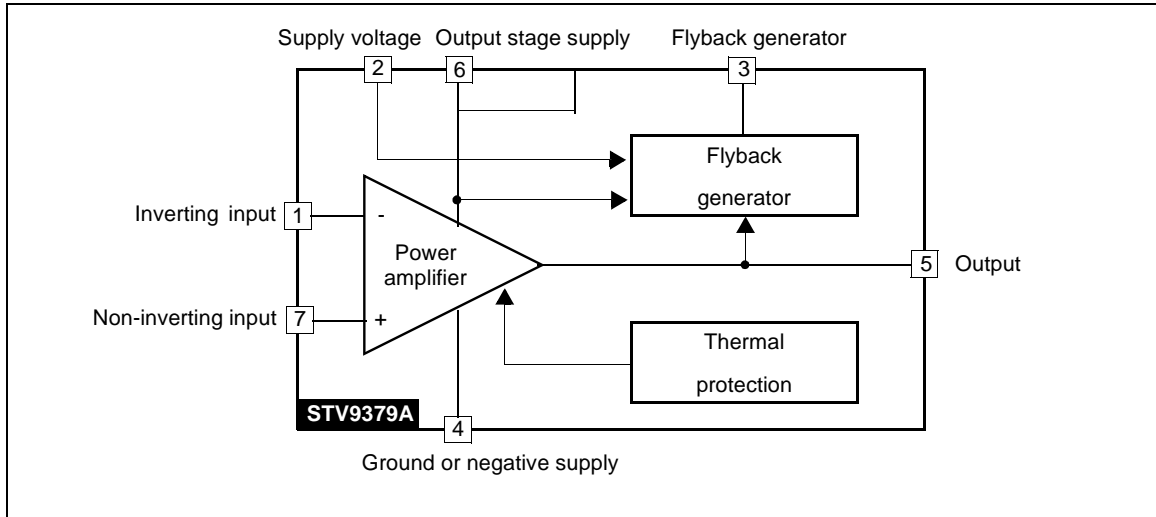
PIN CONNECTION



Version 4.2

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) ($t < 1\text{ms}$)	1.8	A
I_3	Maximum Source Current ($t < 1\text{ms}$) (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 $t \leq 10\mu\text{s}$ (up to 120Hz)

Note 3: Provided SOAR is respected (see Figures 2 and 3).

THERMAL DATA

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

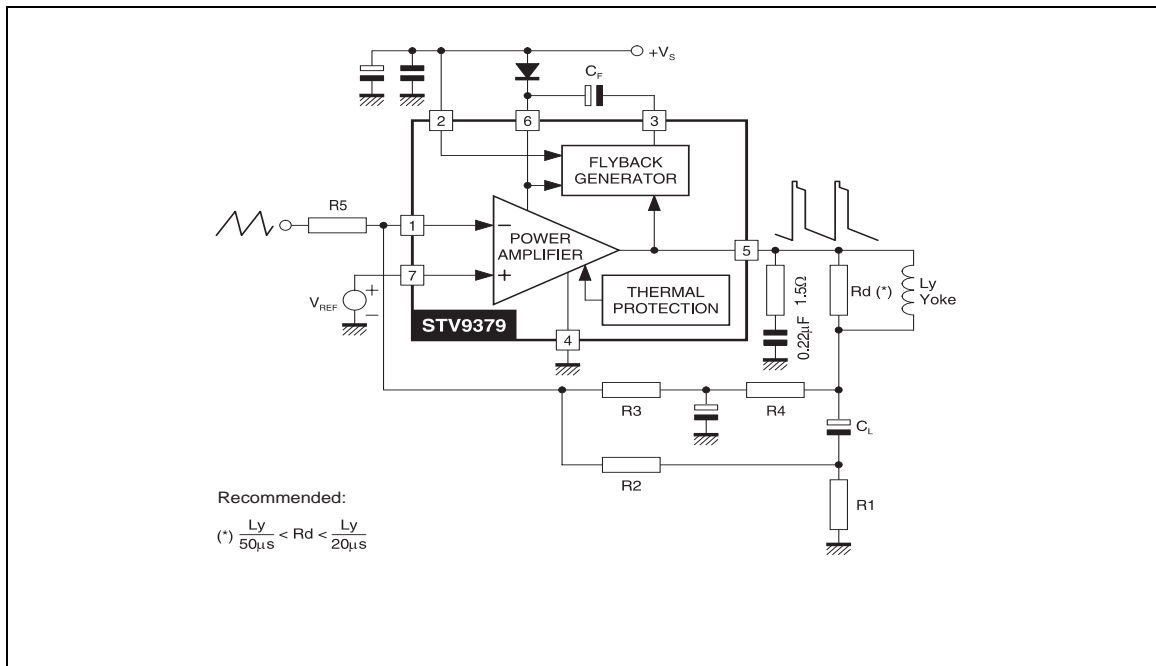
ELECTRICAL CHARACTERISTICS

$V_S=42V$, $T_A = 25^\circ C$, 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		$\mu V/^\circ C$
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.

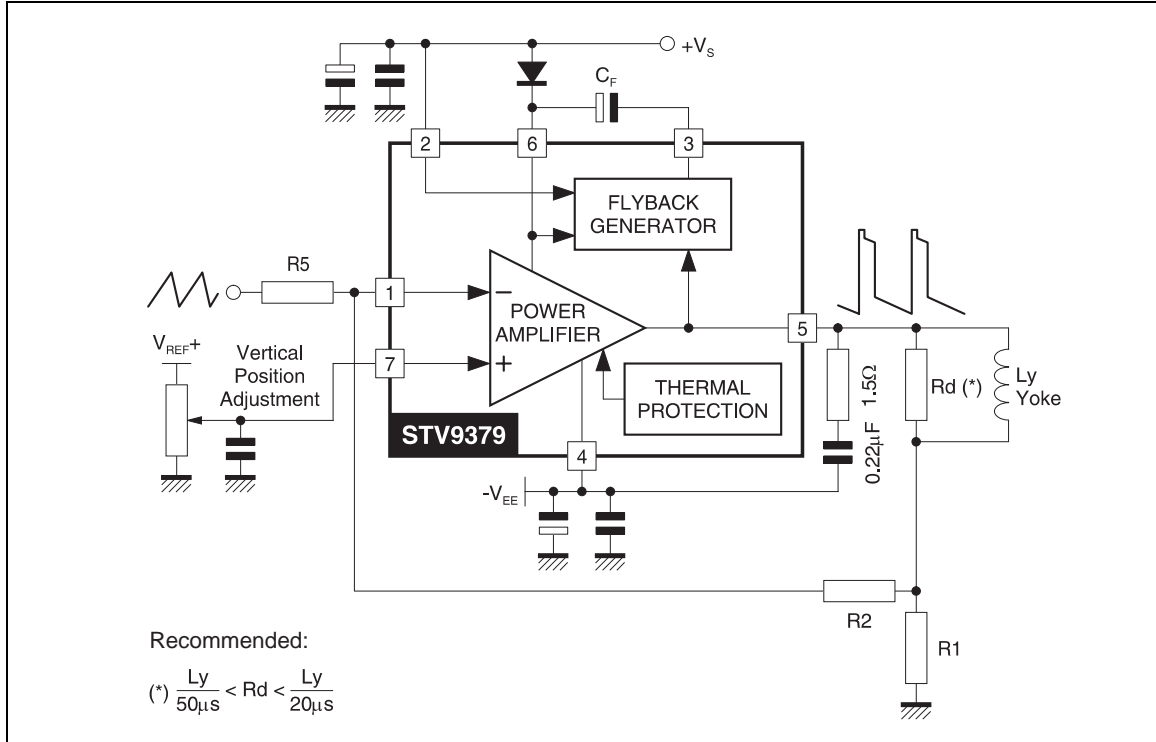


Figure 2. Output transistors SOA (for secondary breakdown)

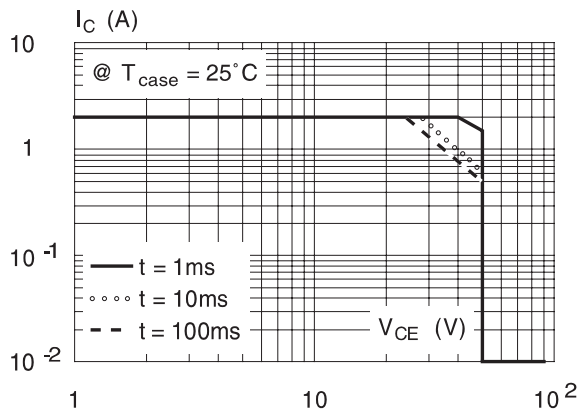
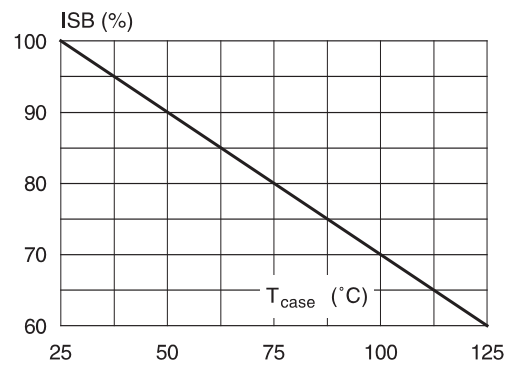
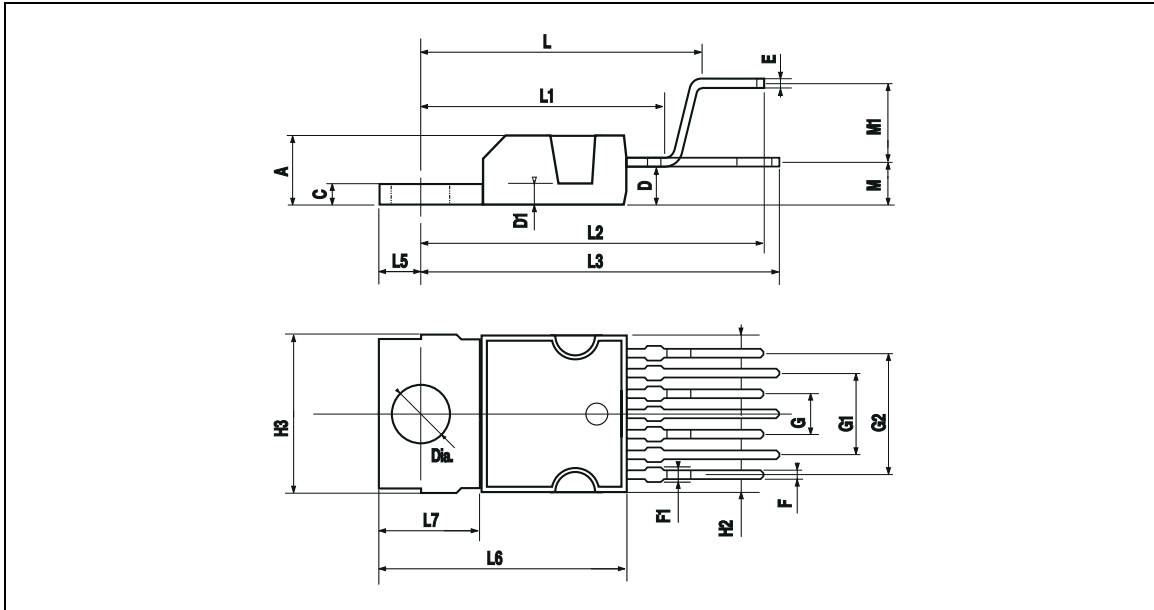


Figure 3. Secondary breakdown Temperature Derating Curve (ISB = Secondary Breakdown current)



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

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 2003 STMicroelectronics - All Rights Reserved

Purchase of I²C Components by STMicroelectronics conveys a license under the Philips I²C Patent. Rights to use these components in an I²C system is granted provided that the system conforms to the I²C Standard Specification as defined by Philips.

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel -Italy - Japan - Malaysia - Malta-Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States

www.st.com