



# 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

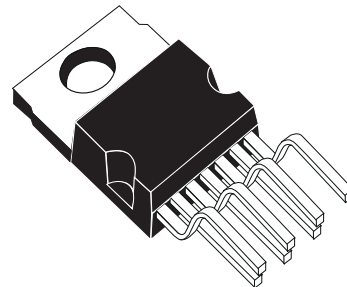
### DESCRIPTION

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<sub>pp</sub> output current to drive the yoke.

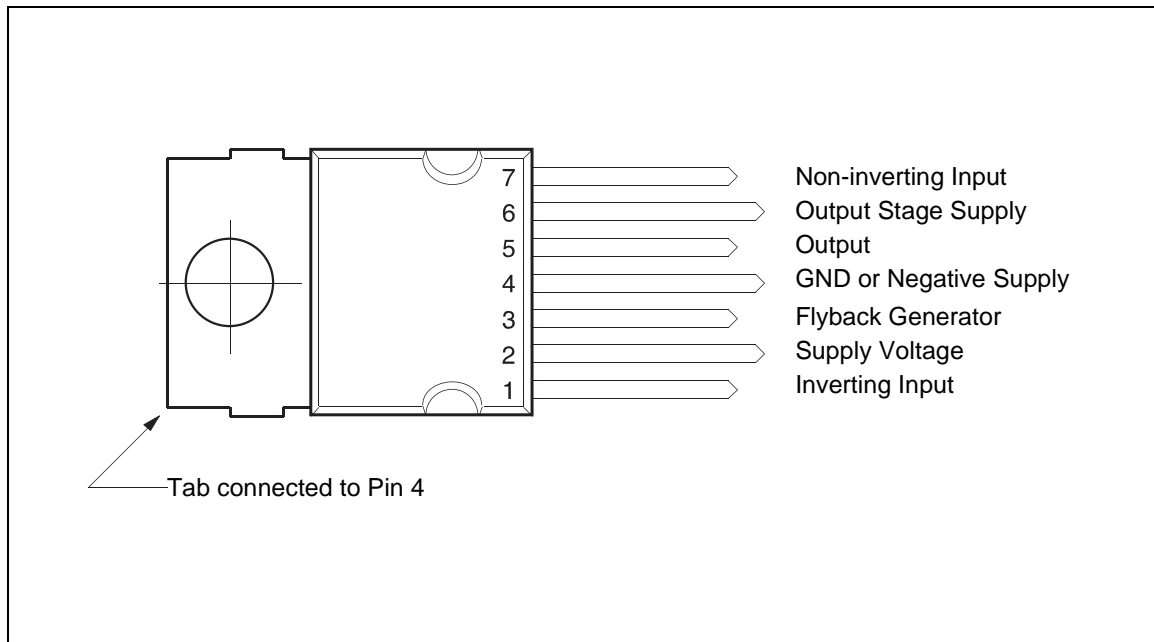
The STV9379A is inserted in HEPTAWATT package.

### PACKAGE



HEPTAWATT  
(Plastic Package)  
ORDER CODE: STV9379A

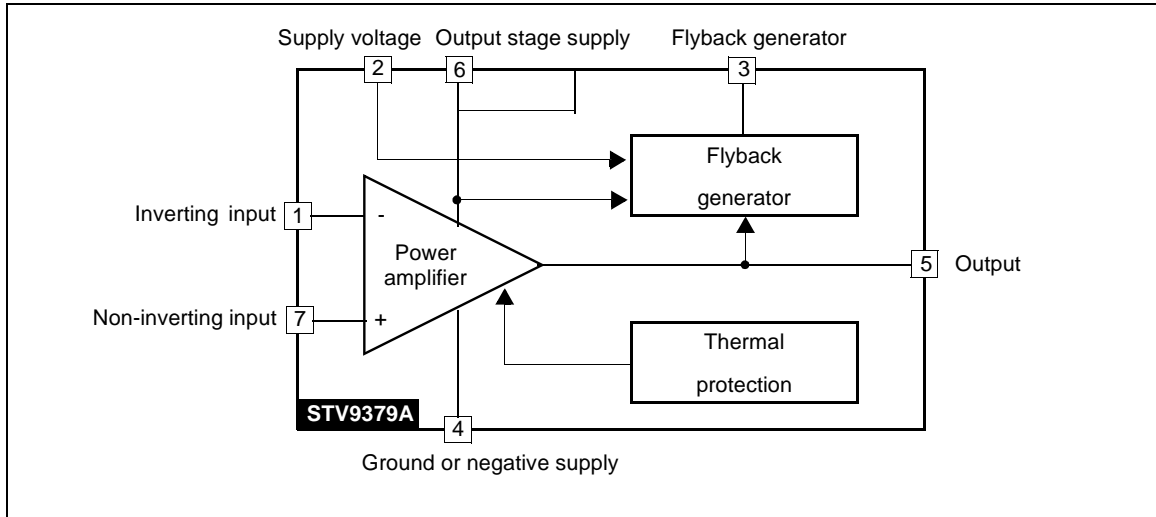
### PIN CONNECTION



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
$\Delta T_t$	Hysteresis on $T_t$	10	°C
$T_{jr}$	Recommended Max. Junction Temperature	120	°C

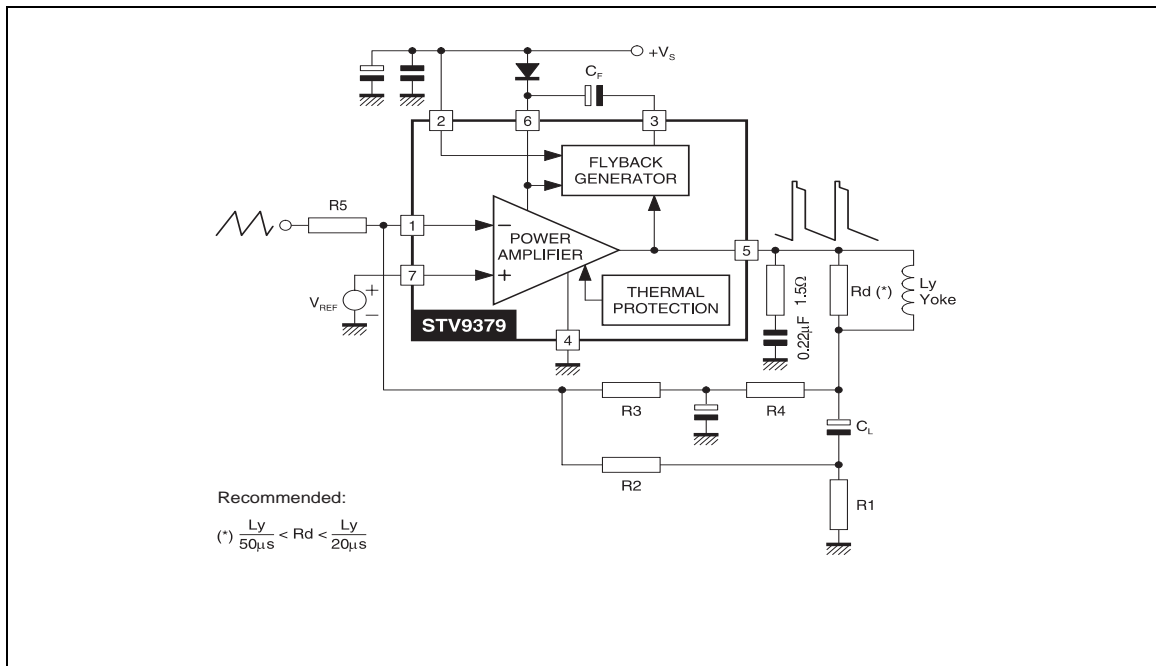
**ELECTRICAL CHARACTERISTICS**

$V_S=42V$ ,  $T_A = 25^\circ C$ , 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	$\mu A$
$I_7$	Amplifier Bias Current	$V_1 = 26V, V_7 = 25V$		-0.15	-1	$\mu A$
$V_{IO}$	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.

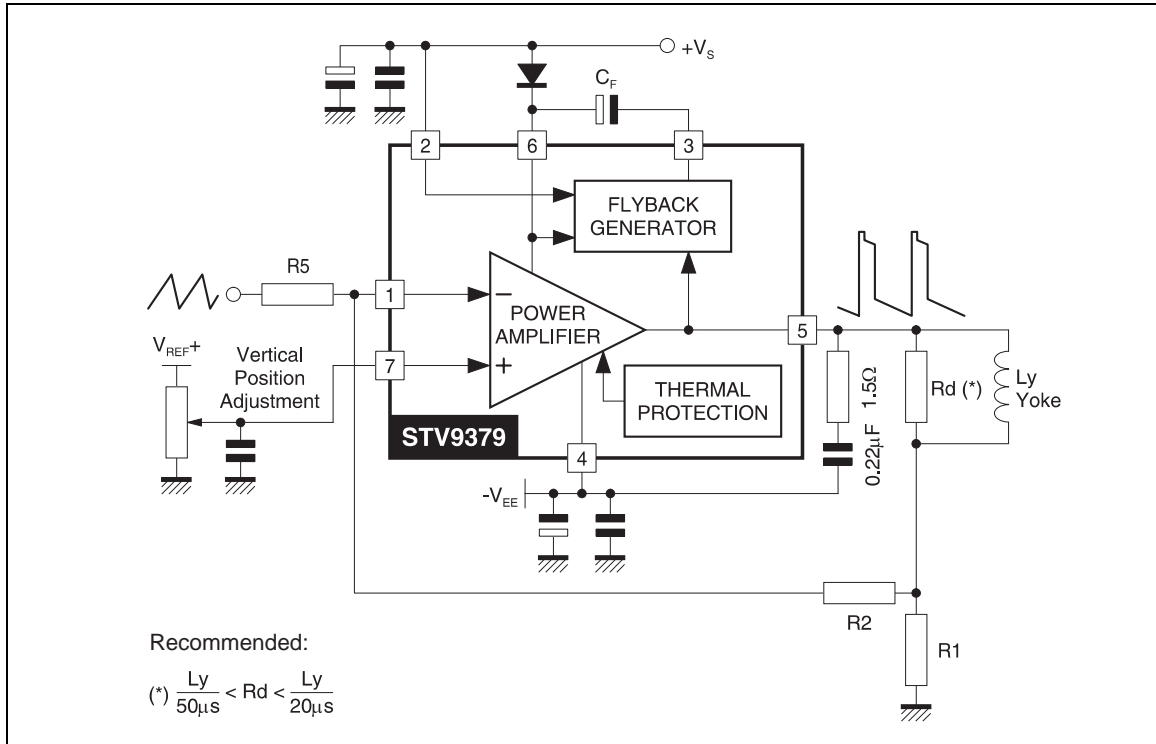


Figure 2. Output transistors SOA (for secondary breakdown)

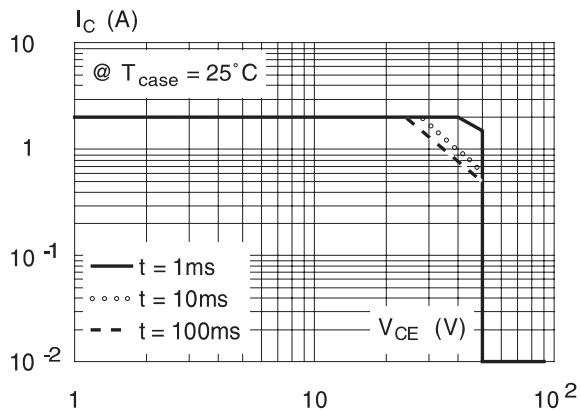
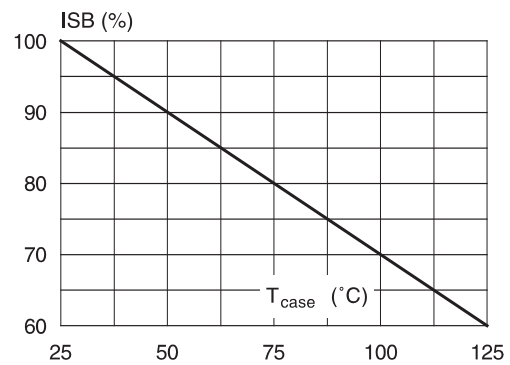
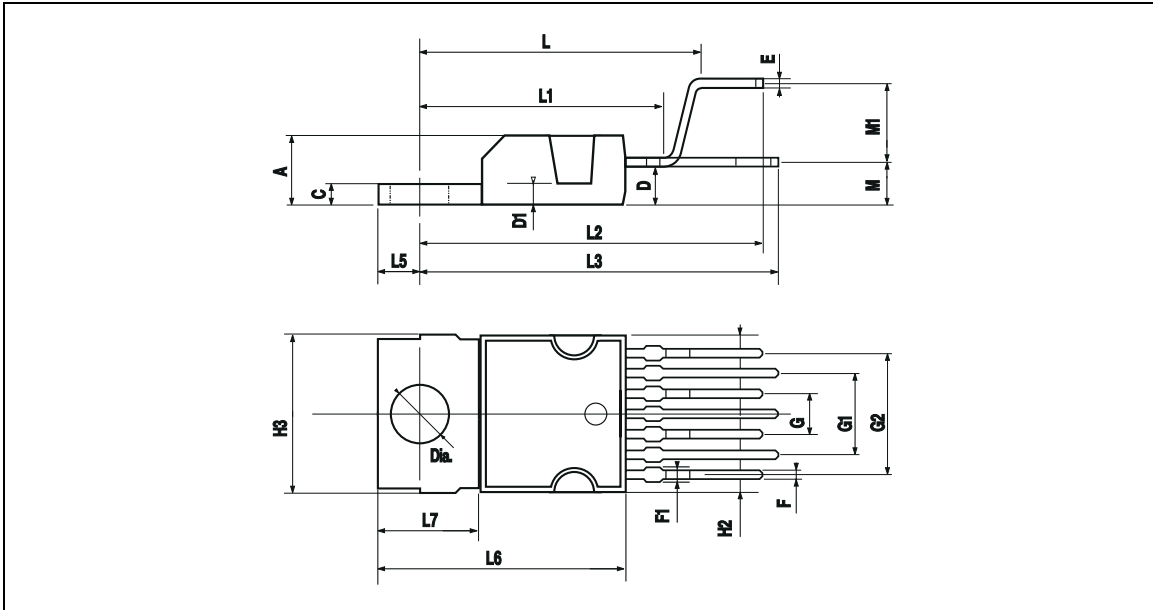


Figure 3. Secondary breakdown Temperature Derating Curve (ISB = Secondary Breakdown current)



## 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 I<sup>2</sup>C Components by STMicroelectronics conveys a license under the Philips I<sup>2</sup>C Patent. Rights to use these components in an I<sup>2</sup>C system is granted provided that the system conforms to the I<sup>2</sup>C 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**