



# STV9379FA

## VERTICAL DEFLECTION BOOSTER

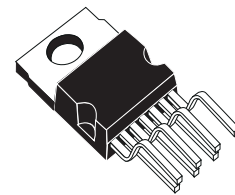
- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.6A<sub>PP</sub>
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- SUITABLE FOR DC COUPLING APPLICATION
- EXTERNAL FLYBACK SUPPLY

### DESCRIPTION

Designed for monitors and high performance TVs, the STV9379FA vertical deflection booster can handle flyback voltage up to 90V. Further to this, it is possible to have a flyback voltage which is more than the double of the supply (Pin 2). This allows to decrease the power consumption, or to decrease the flyback time for a given supply voltage.

The STV9379FA operates with supplies up to 42V and provides up to 2.6A<sub>PP</sub> output current to drive the yoke.

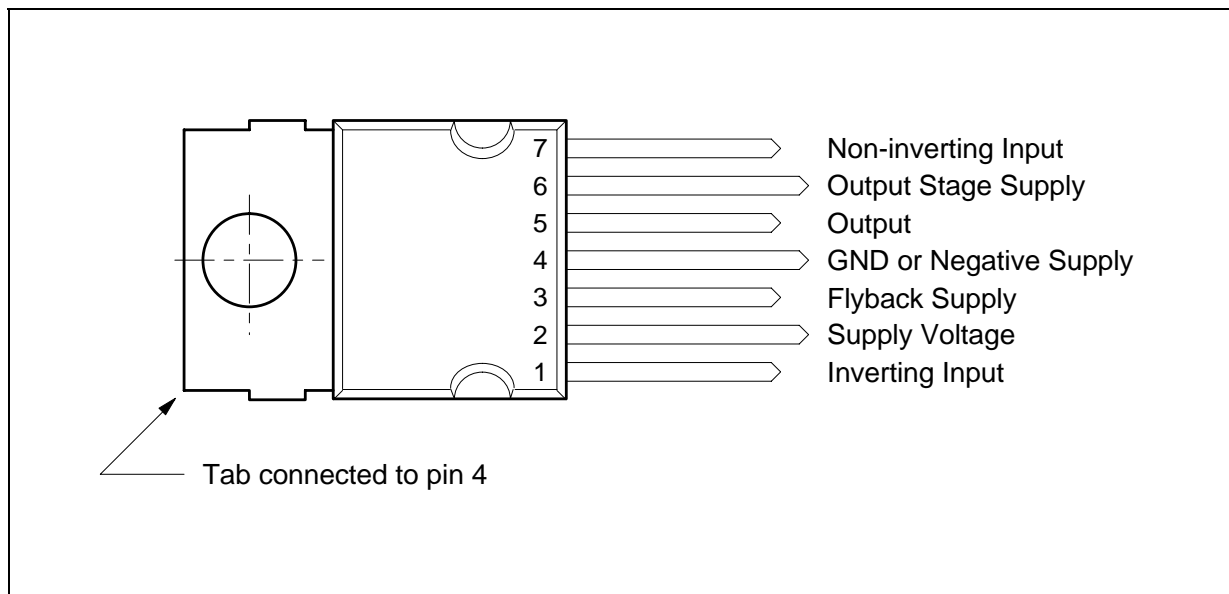
The STV9379FA is offered in HEPTAWATT package.



**HEPTAWATT**  
(Plastic Package)

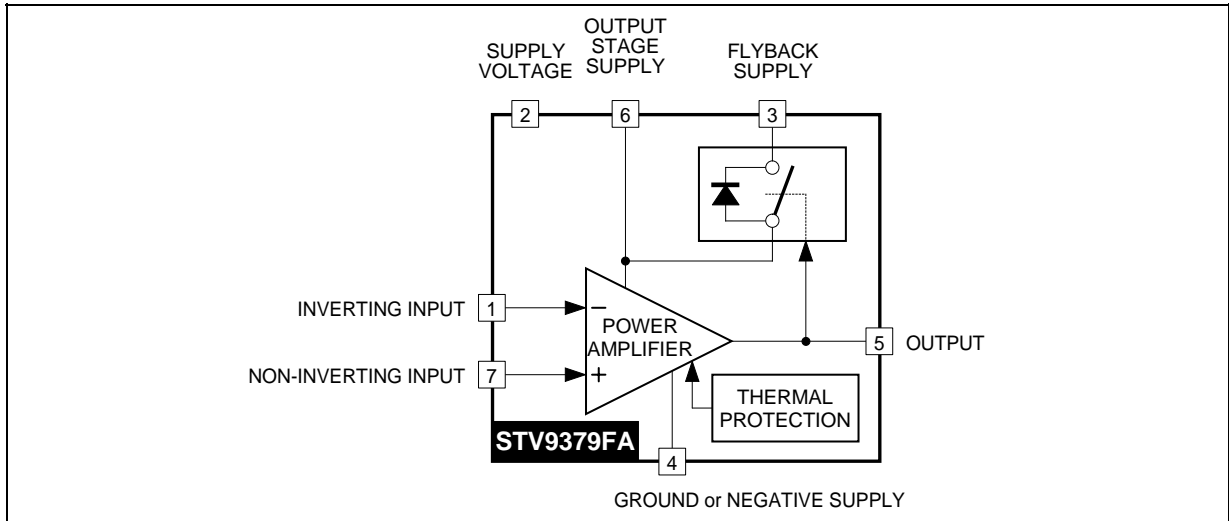
**ORDER CODE : STV9379FA**

### PIN CONNECTIONS



9379FA01.EPS

**BLOCK DIAGRAM**



9379FA02.EPS

**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_S$	Supply Voltage (Pin 2) (see note 1)	50	V
$V_6$	Flyback Peak Voltage (Pin 6) (see note 1)	100	V
$V_1, V_7$	Amplifier Input Voltage (Pins 1-7) (see note 1)	- 0.3, + $V_S$	V
$I_O$	Maximum Output Peak Current (see notes 2 and 3)	1.8	A
$I_3$	Maximum Sink Current ( $t < 1\text{ms}$ )	1.8	A
$I_3$	Maximum Source Current ( $t < 1\text{ms}$ ) (in the diode, see Block Diagram) (see note 2)	1.8	A
$V_{ESD}$	ESD susceptibility : EIAJ Norm (200pF discharged through 0Ω)	300	V
$V_3 - V_2$	Voltage Difference between Flyback Supply and Supply Voltage	50	V
$T_{oper}$	Operating Ambient Temperature	- 20, + 75	°C
$T_{stg}$	Storage Temperature	- 40, + 150	°C
$T_j$	Junction Temperature	+150	°C

9379FA01.TBL

- Notes :**
1. Versus Pin 4.
  2. The output current can reach 5A peak for  $t \leq 10\mu\text{s}$  (up to 120Hz).
  3. Provided SOAR is respected (see Figures 1 and 2).

**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

9379FA02.TBL

**ELECTRICAL CHARACTERISTICS**

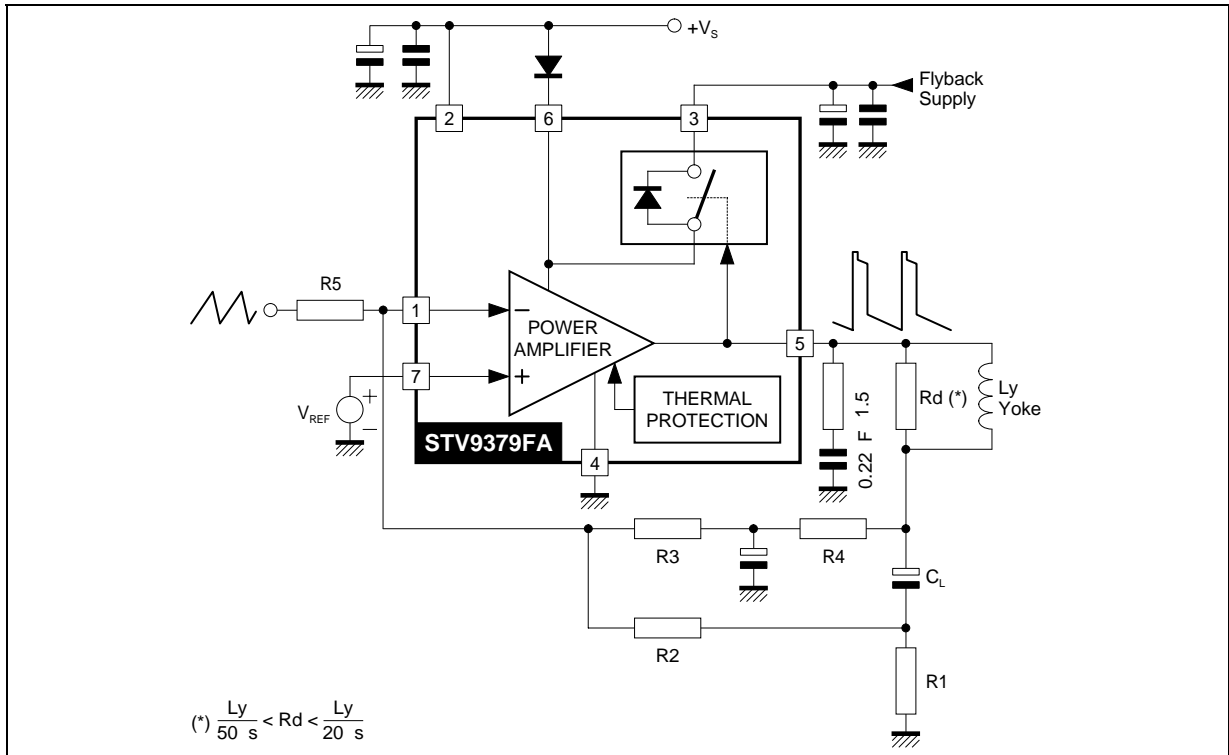
( $V_S = 42V$ ,  $T_A = 25^\circ C$ , unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_S$	Operating Supply Voltage Range	Versus Pin 4	10		42	V
$V_{3M}$	Operating Flyback Supply Voltage ( $V_{3M} \leq V_S + 50V$ )	Versus Pin 4	$V_S$		90	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. Operating Peak Output Current				1.3	A
$I_1$	Amplifier Bias Current	$V_1 = 22V, V_7 = 23V$		- 0.15	- 1	$\mu A$
$I_7$	Amplifier Bias Current	$V_1 = 23V, V_7 = 22V$		- 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	1.6	V
$V_{5H}$	Output Saturation Voltage to Supply (Pin 6)	$I_5 = - 1.3A$		1.6	2.2	V
$V_{D5-6}$	Diode Forward Voltage between Pins 5-6	$I_5 = 1.3A$		1.4	2.1	V
$V_{D3-6}$	Diode Forward Voltage between Pins 3-6	$I_3 = 1.3A$		1.7	2.5	V
$V_{3-6}$	Voltage Drop between Pins 3-6 (2nd part of flyback)	$I_3 = - 1.3A$		2.9	3.6	V

9379FA03.TBL

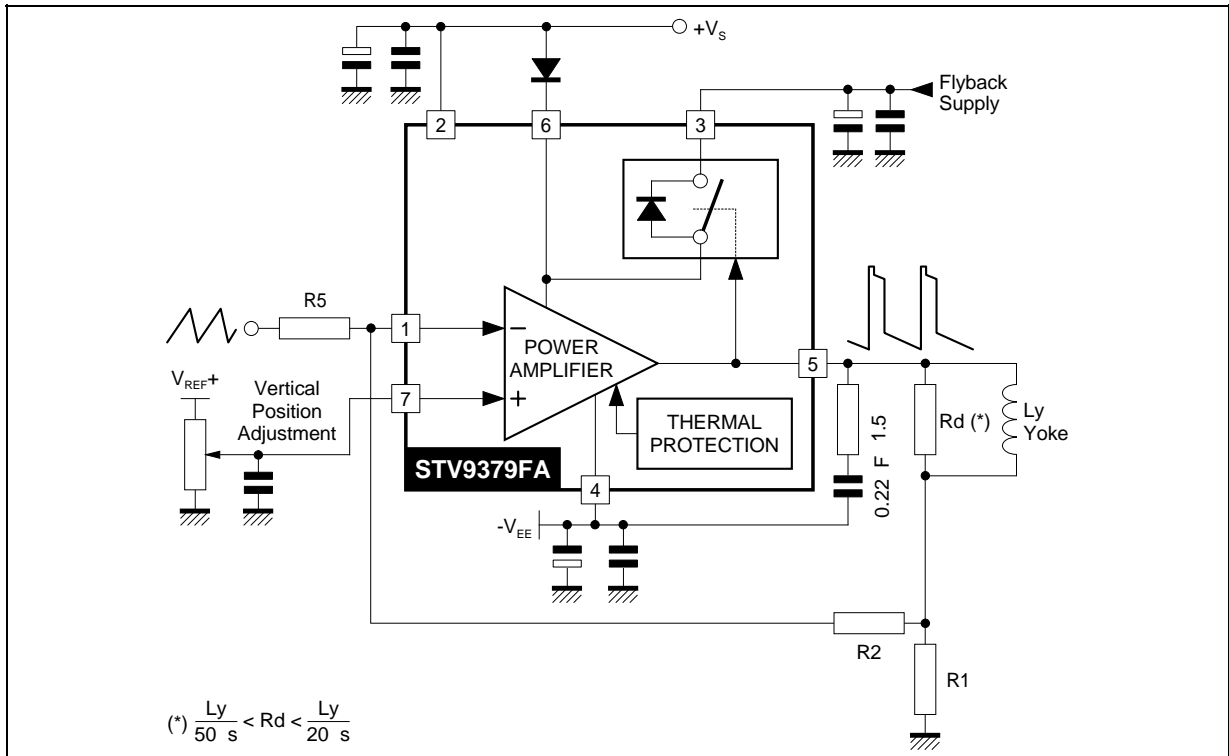
**APPLICATION CIRCUITS**

**AC COUPLING**



9379FA03.EPS

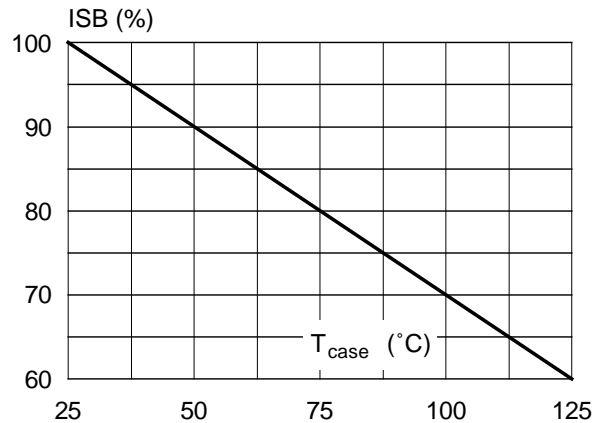
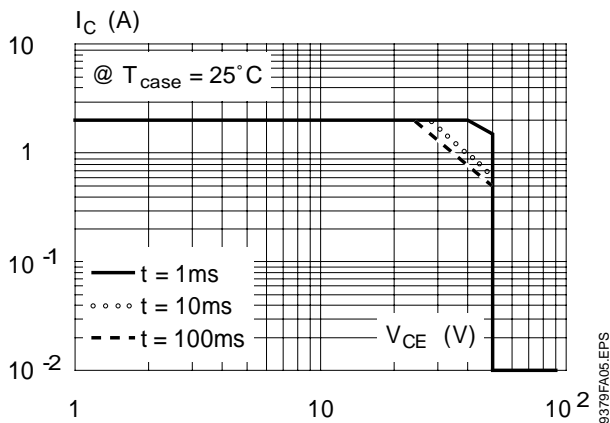
APPLICATION CIRCUITS (continued)  
DC COUPLING



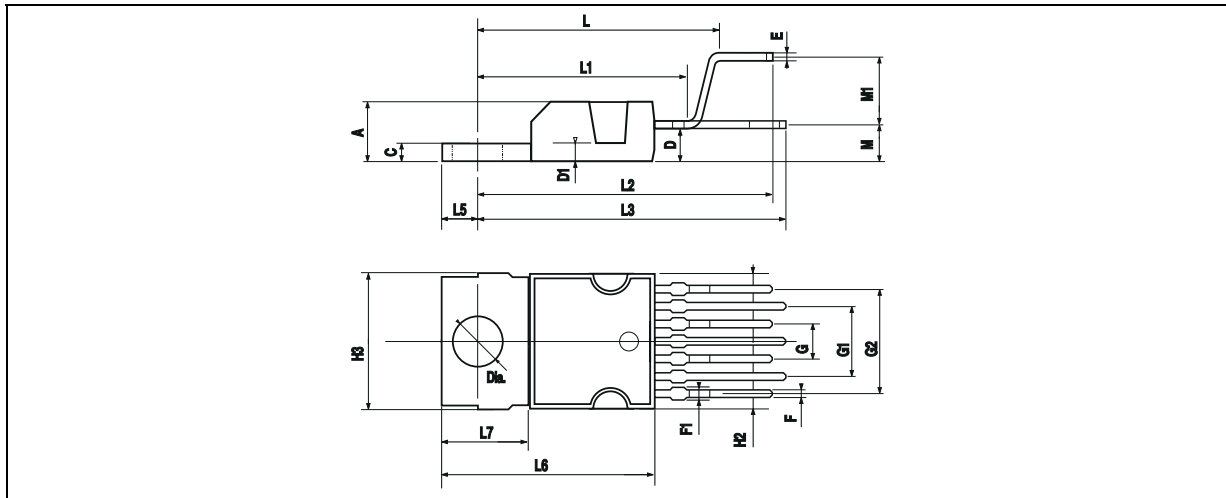
9379FA04.EPS

Figure 1 : Output Transistors SOA  
(for secondary breakdown)

Figure 2 : Secondary Breakdown Temperature  
Derating Curve  
(ISB = secondary breakdown current)



PACKAGE MECHANICAL DATA : 7 PINS - PLASTIC HEPTAWATT



PM-HEPTV.EPS

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		08	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

HEPTV.TBL

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 licence 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 trademark of STMicroelectronics

© 1998 STMicroelectronics - All Rights Reserved

Purchase of I<sup>2</sup>C Components of STMicroelectronics, conveys a license under the Philips I<sup>2</sup>C Patent. Rights to use these components in a I<sup>2</sup>C system, is granted provided that the system conforms to the I<sup>2</sup>C Standard Specifications as defined by Philips.

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Morocco- The Netherlands  
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.

