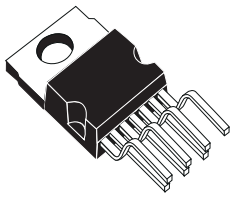
STV9379F

VERTICAL DEFLECTION BOOSTER

- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.0A_{PP}
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- SUITABLE FOR DC COUPLING APPLICATION
- EXTERNAL FLYBACK SUPPLY



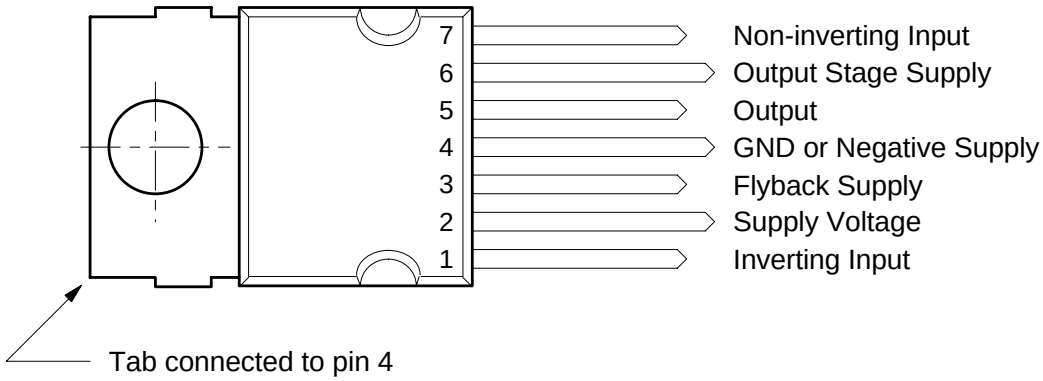
HEPTAWATT
(Plastic Package)

ORDER CODE : STV9379F

DESCRIPTION

Designed for monitors and high performance TVs, the STV9379F 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 STV9379F operates with supplies up to 42V and provides up to 2.0A_{PP} output current to drive the yoke.
The STV9379F is offered in HEPTAWATT package.

PIN CONNECTIONS



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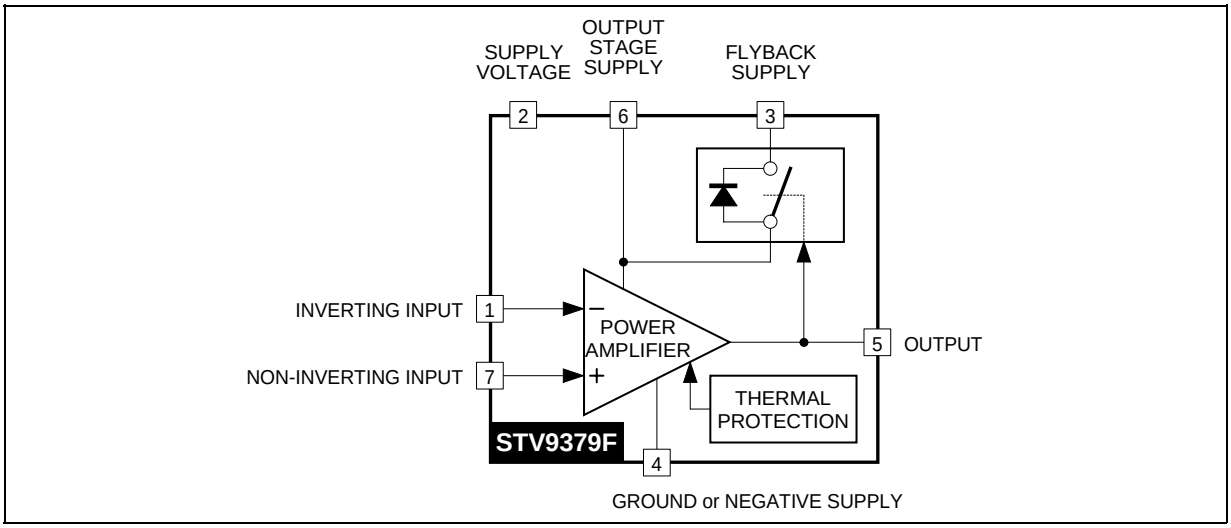
BLOCK DIAGRAM



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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)	1.5	A
I_3	Maximum Sink Current (t < 1ms)	1.5	A
I_3	Maximum Source Current (t < 1ms) (in the diode, see Block Diagram) (see note 2)	1.5	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

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Notes : 1. Versus Pin 4.
2. The output current can reach 4A peak for t ≤ 10µs (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
ΔT_t	Hysteresis on T_t		10	°C
T_{jr}	Recommended Max. Junction Temperature		120	°C

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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
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				1.0	A
I_1	Amplifier Bias Current	V_1 = 22V, V_7 = 23V		- 0.15	- 1	µA
I_7	Amplifier Bias Current	V_1 = 23V, V_7 = 22V		- 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 = 1.0A		1	1.5	V
V_{5H}	Output Saturation Voltage to Supply (Pin 6)	I_5 = - 1.0A		1.6	2.1	V
V_{D5-6}	Diode Forward Voltage between Pins 5-6	I_5 = 1.0A		1.5	2.0	V
V_{D3-6}	Diode Forward Voltage between Pins 3-6	I_3 = 1.0A		1.6	2.0	V
V_{3-6}	Voltage Drop between Pins 3-6 (2nd part of flyback)	I_3 = - 1.0A		2.6	3.0	V

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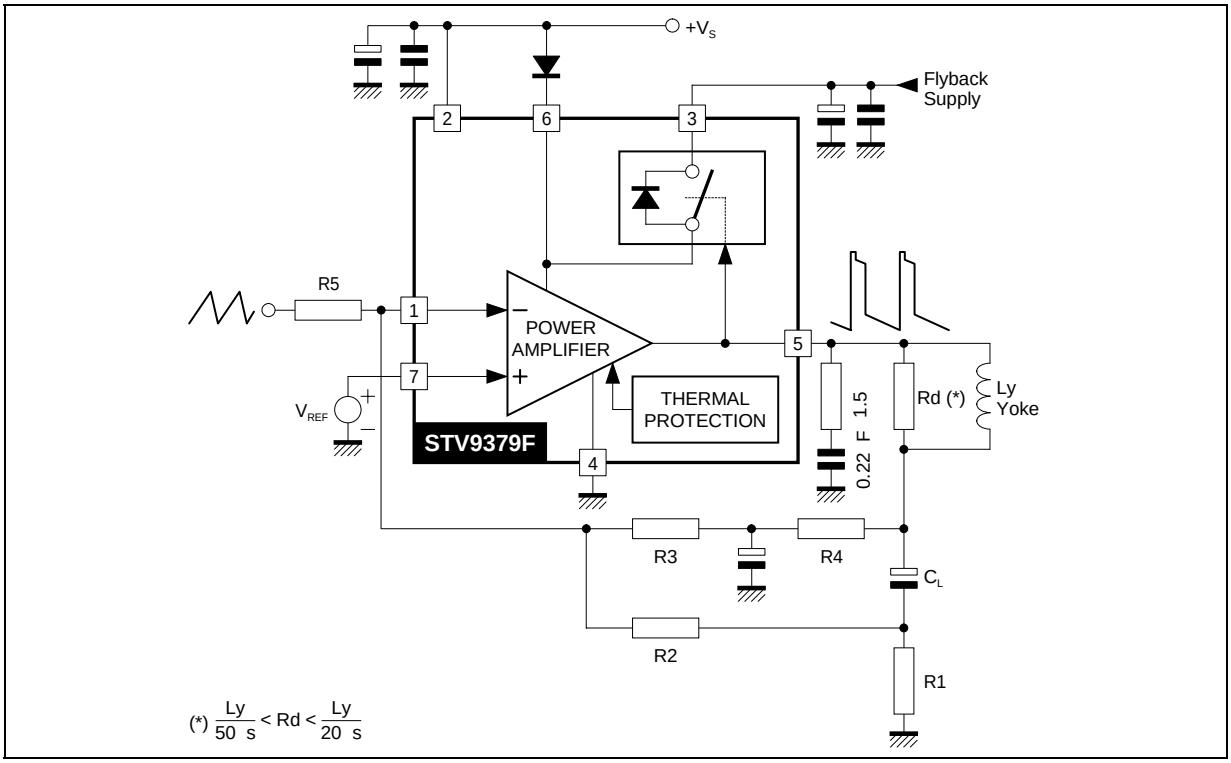
APPLICATION CIRCUITS

AC COUPLING



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APPLICATION CIRCUITS (continued)
DC COUPLING

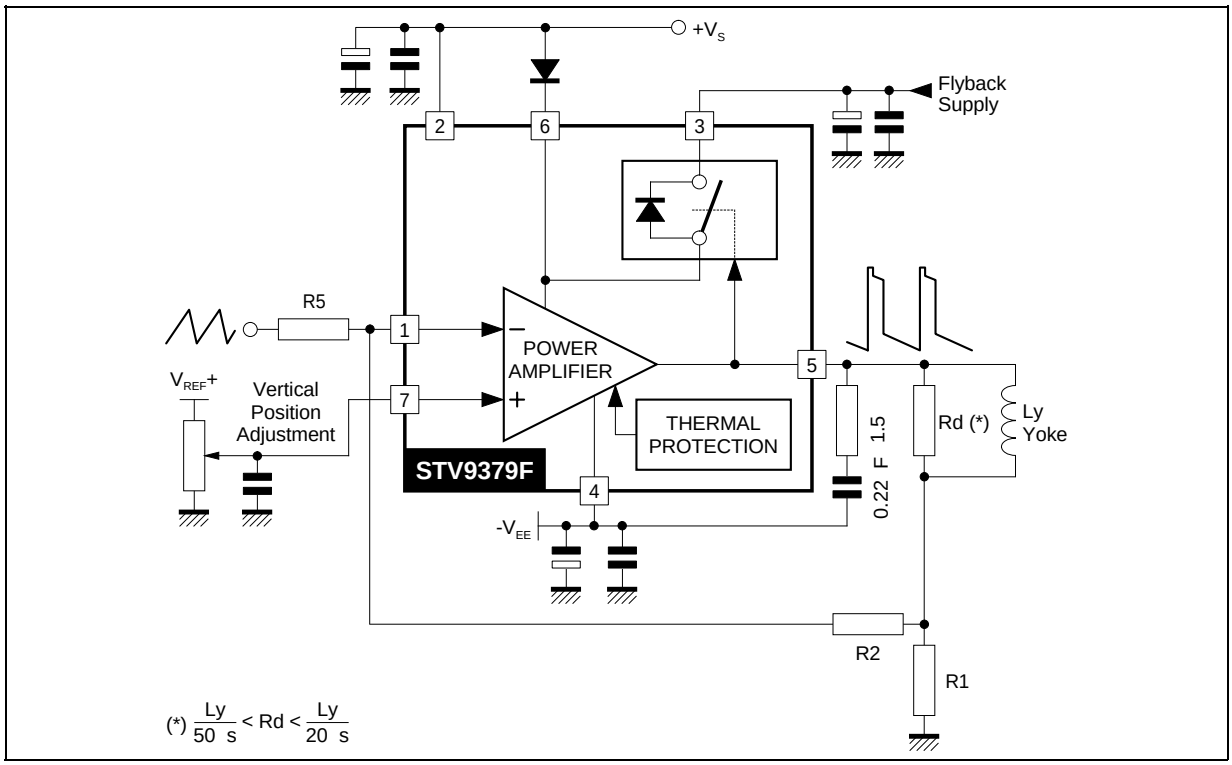


Figure 1 : Output Transistors SOA (for secondary breakdown)

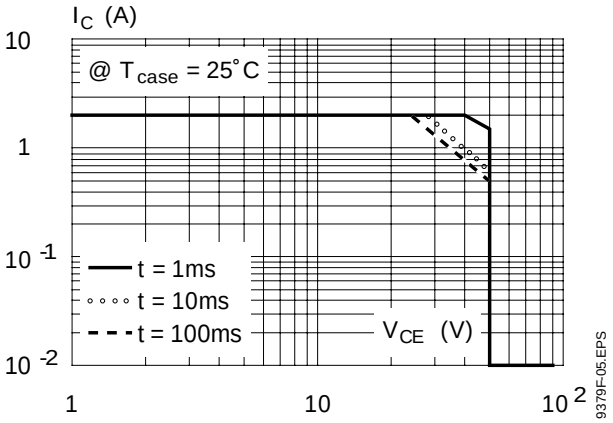
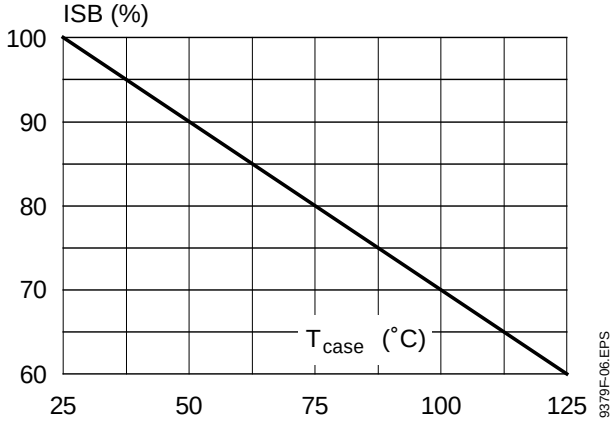
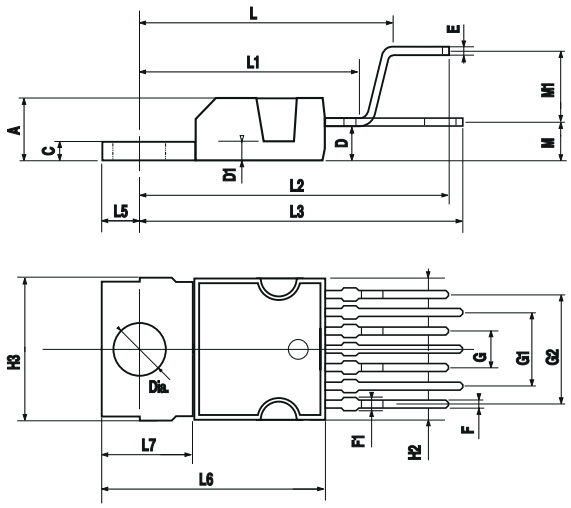


Figure 2 : Secondary Breakdown Temperature Derating Curve (ISB = secondary breakdown current)



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

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