

**VERTICAL DEFLECTION BOOSTER**

ADVANCE DATA

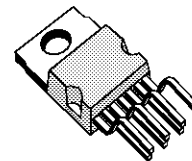
- POWER AMPLIFIER
- FLYBACK GENERATOR
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.0A<sub>PP</sub>
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- INTERNAL REFERENCE VOLTAGE

**DESCRIPTION**

Designed for monitors and high performance TVs, the STV9378 vertical deflection booster delivers flyback voltages up to 90V.

The STV9378 operates with supplies up to 42V and provides up to 2A<sub>pp</sub> output current to drive the yoke.

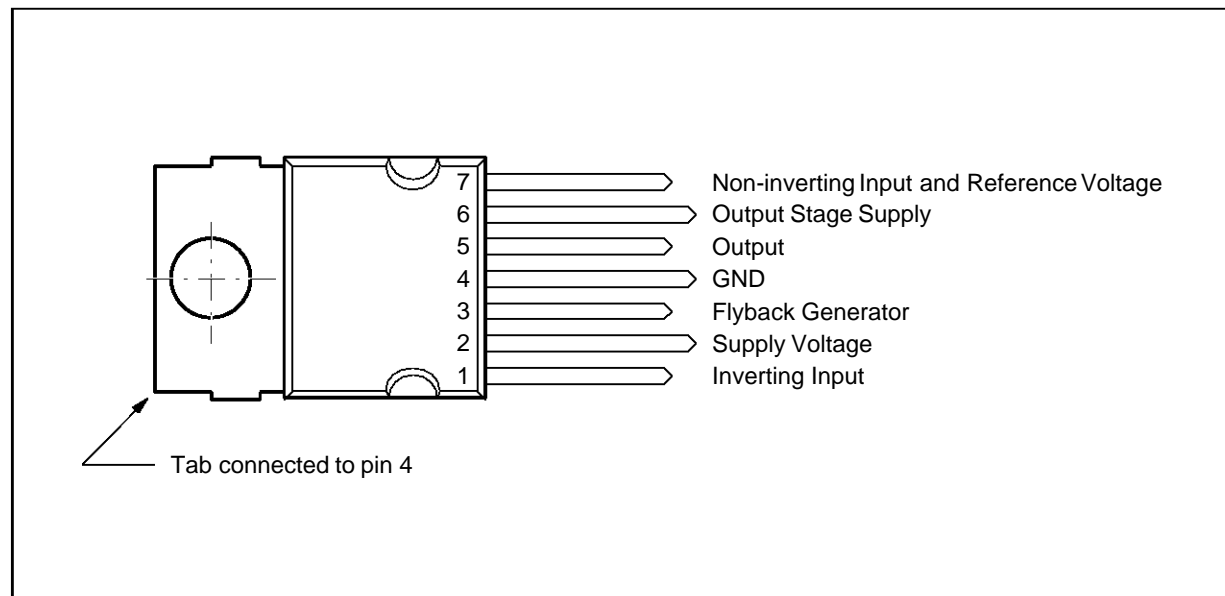
The STV9378 is offered in HEPTAWATT package.



**HEPTAWATT**  
(Plastic Package)

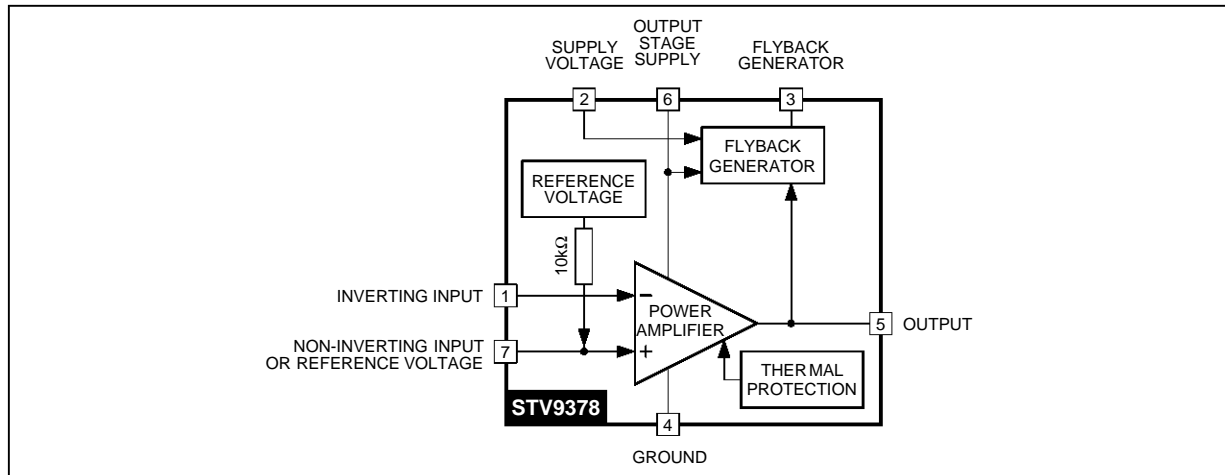
**ORDER CODE : STV9378**

**PIN CONNECTIONS**



9378-01.EPS

**BLOCK DIAGRAM**



9378-02.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)	1.5	A
$I_3$	Maximum Sink Current (first part of flyback) ( $t < 1ms$ )	1.5	A
$I_3$	Maximum Source Current ( $t < 1ms$ )	1.5	A
$T_{oper}$	Operating Ambient Temperature	- 20, + 75	°C
$T_{stg}$	Storage Temperature	- 40, + 150	°C
$T_j$	Junction Temperature	+150	°C

9378-01.TBL

- Notes :
1. Versus GND.
  2. The output current can reach 4A peak for  $t \leq 10\mu s$  (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

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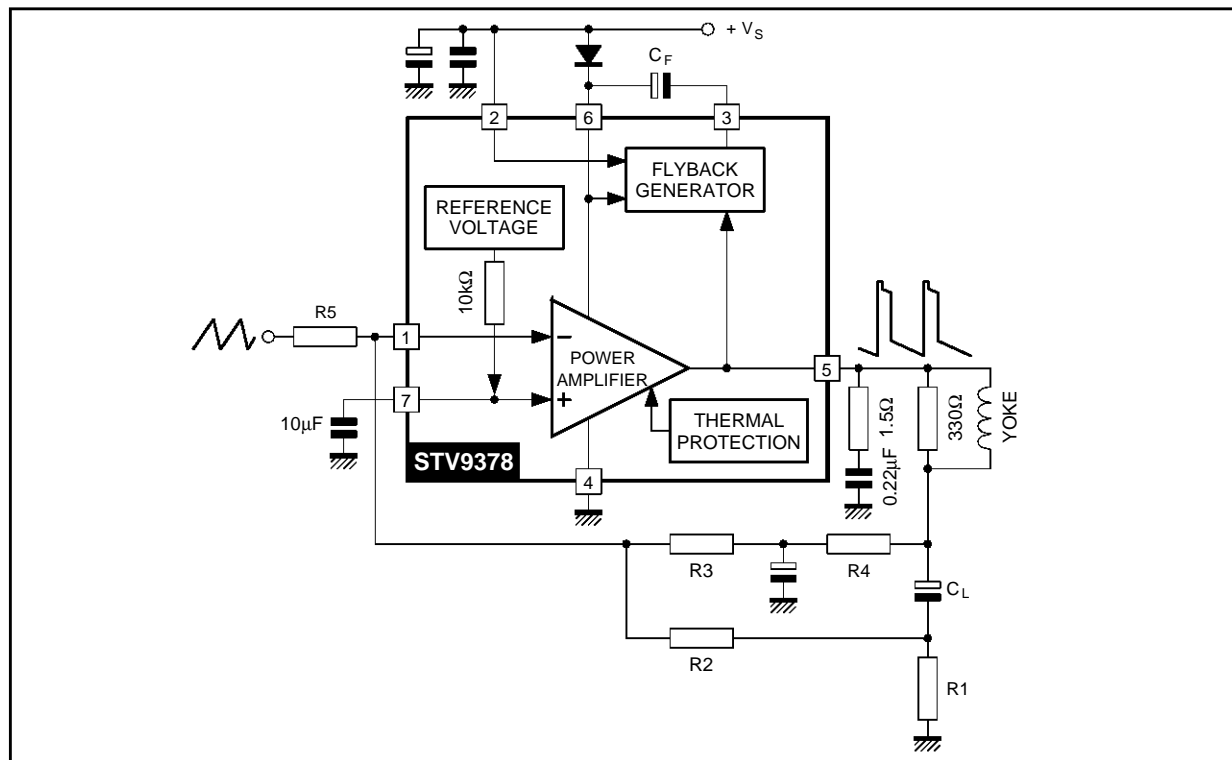
**ELECTRICAL CHARACTERISTICS**

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_S$	Operating Supply Voltage Range		10		42	V
$I_2$	Pin 2 Quiescent Current	$I_3 = 0, I_5 = 0$		10	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	A
$I_1$	Amplifier Bias Current	$V_1 = 1V$		- 0.15	- 1	$\mu A$
$V_7$	Internal Reference Voltage		2.2	2.3	2.4	V
$\frac{\Delta V_7}{\Delta V_S}$	Reference Voltage Drift versus $V_S$	$V_S = 24$ to $42V$		2	4	mV/V
Kt	Reference Voltage Drift versus $T_j$			100	150	ppm/ $^\circ C$
GV	Voltage Gain		80			dB
$V_{5L}$	Output Saturation Voltage to GND (Pin 4)	$I_5 = 1A$		1	1.5	V
$V_{5H}$	Output Saturation Voltage to Supply (Pin 6)	$I_5 = -1A$		1.6	2.1	V
$V_{D5-6}$	Diode Forward Voltage between Pins 5-6	$I_5 = 1A$		1.5	2	V
$V_{D3-2}$	Diode Forward Voltage between Pins 3-2	$I_3 = 1A$		1.5	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)	$I_3 = -1A$		2.1	2.9	V

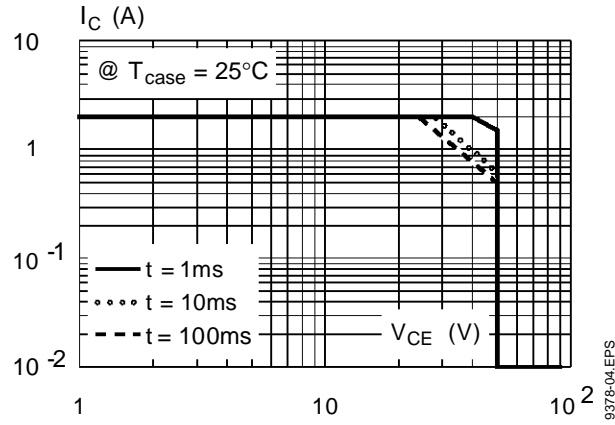
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**APPLICATION CIRCUIT**

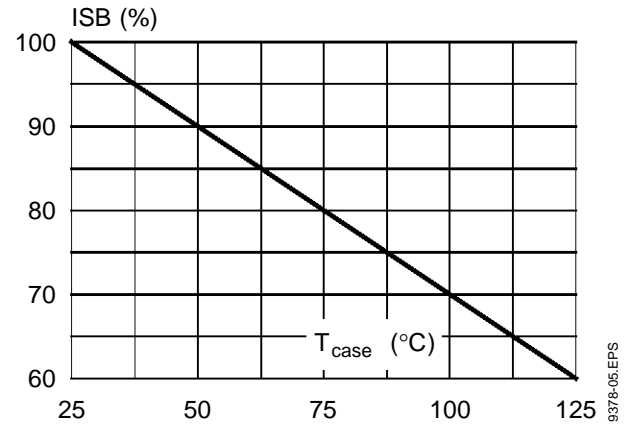


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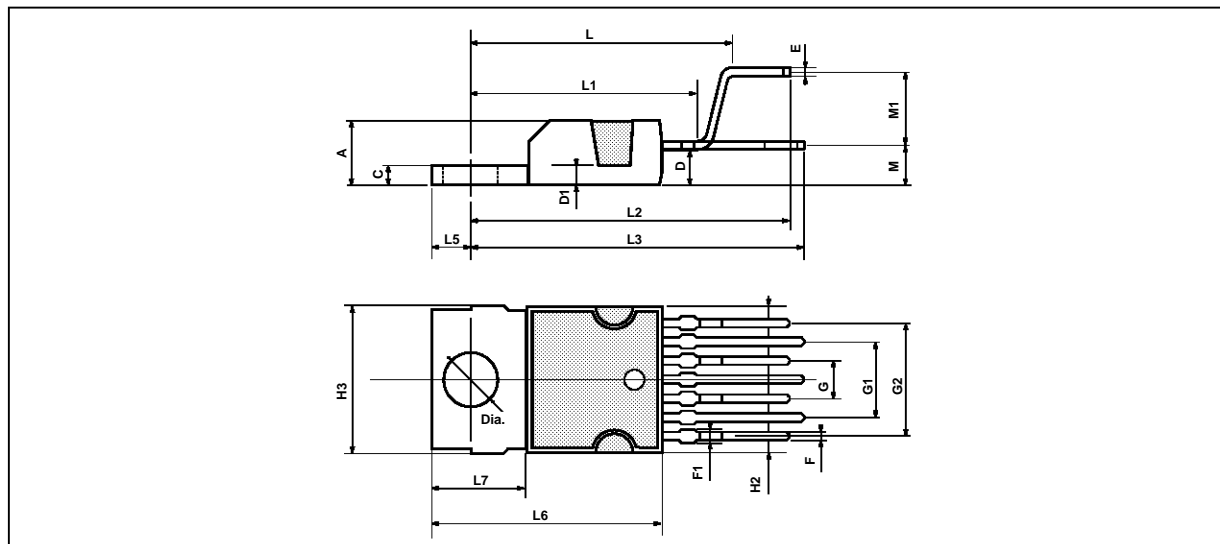
**Figure 1 :** Output Transistors SOA  
(for secondary breakdown)



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



## PACKAGE MECHANICAL DATA : 7 PINS - PLASTIC HEPTAWAT



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

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