

VERTICAL DEFLECTION BOOSTER

ADVANCE DATA

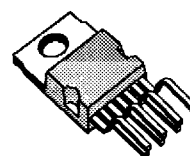
- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.0A_{PP}
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- INTERNAL REFERENCE VOLTAGE
- EXTERNAL FLYBACK SUPPLY

DESCRIPTION

Designed for monitors and high performance TVs, the STV9378F vertical deflection booster can handle flyback voltage up to 90V. More than 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 STV9378F operates with supplies up to 42V and provides up to 2A_{PP} output current to drive the yoke.

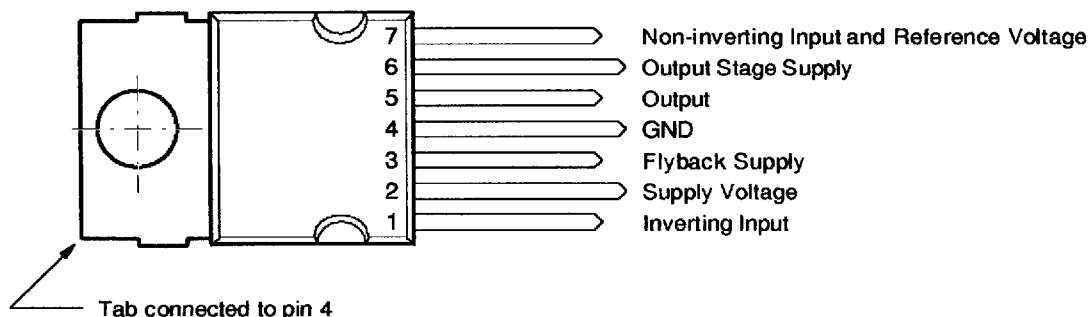
The STV9378F is offered in HEPTAWATT package.



HEPTAWATT
(Plastic Package)

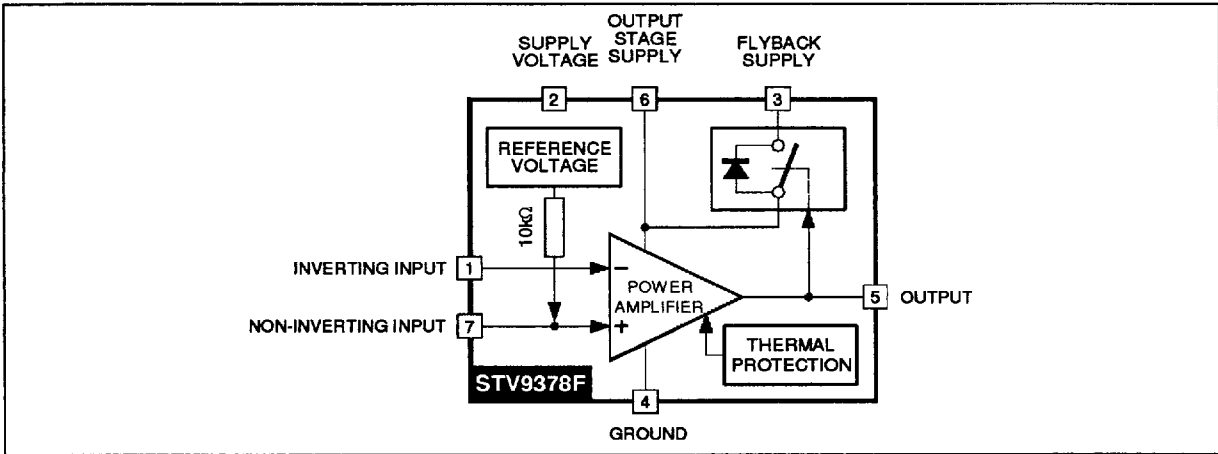
ORDER CODE : STV9378F

PIN CONNECTIONS



9378F-01.EPS

BLOCK DIAGRAM



9378F-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 ($t < 1\text{ms}$)	1.5	A
I_3	Maximum Source Current ($t < 1\text{ms}$) (in the diode, see Block Diagram)	1.5	A
$V_3 - V_2$	Voltage Difference between Flyback Supply and Supply Voltage	70	V
T_{oper}	Operating Ambient Temperature	- 20, + 75	°C
T_{stg}	Storage Temperature	- 40, + 150	°C
T_j	Junction Temperature	+150	°C

9378F-01.TBL

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

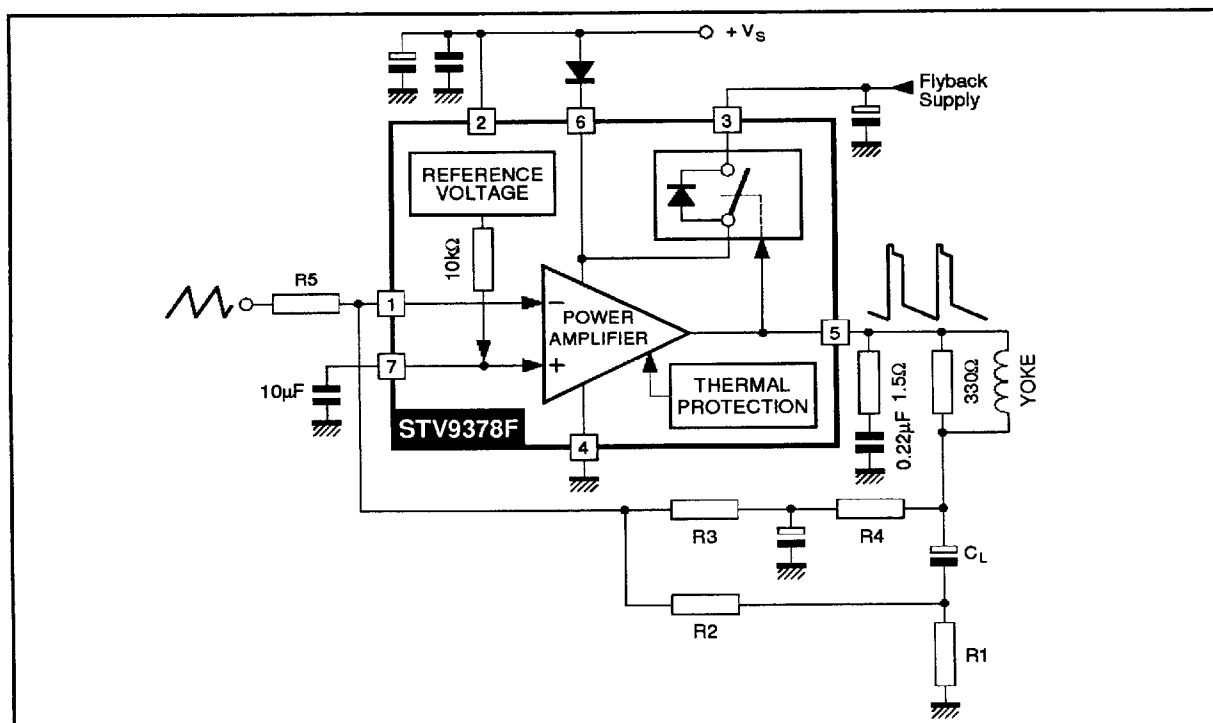
THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{\text{th (j-c)}}$	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

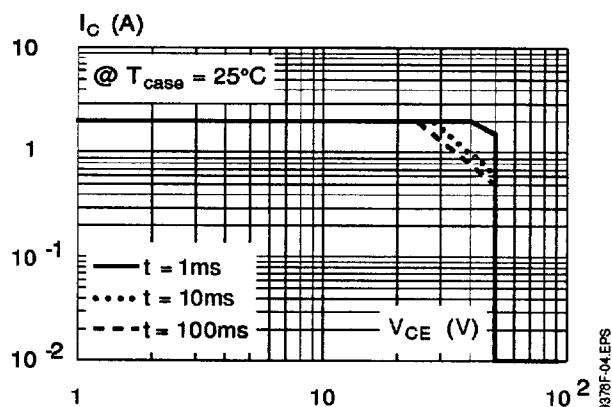
9378F-02.TBL

(V_S = 42V, T_A = 25°C, unless otherwise specified)

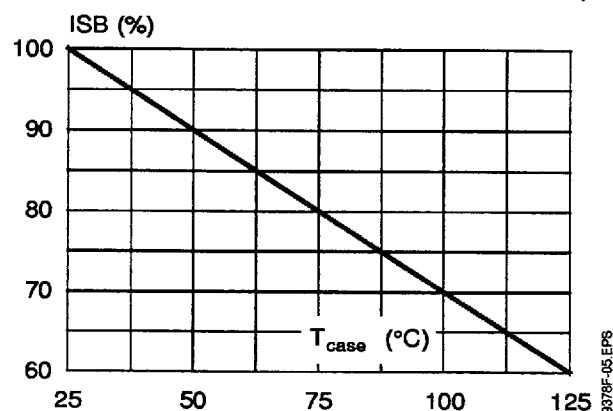
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _S	Operating Supply Voltage Range		10		42	V
V _{3M}	Operating Flyback Supply Voltage		V _S		90	V
I ₂	Pin 2 Quiescent Current	I ₃ = 0, I ₅ = 0		10	20	mA
I ₆	Pin 6 Quiescent Current	I ₃ = 0, I ₅ = 0	5	10	30	mA
I _O	Max. Peak Output Current				1	A
I ₁	Amplifier Bias Current	V ₁ = 1V		- 0.15	- 1	μA
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
K _T	Reference Voltage Drift versus T _J			100	150	ppm/°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 _{D3-6}	Diode Forward Voltage between Pins 3-6	I ₃ = 1A		1.5	2	V
V ₃₋₆	Voltage Drop between Pins 3-6 (2nd part of flyback)	I ₃ = - 1A		2.1	2.9	V



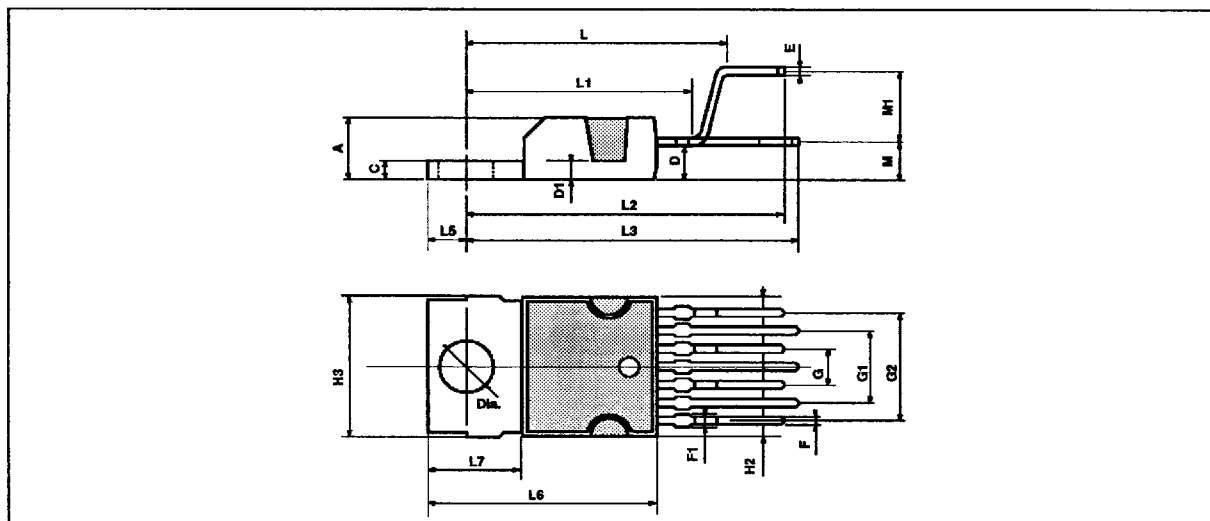
**Figure 1 : Output Transistors SOA
(for secondary breakdown)**



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



PACKAGE MECHANICAL DATA : 7 PINS - PLASTIC HEPTAWAT



PM-HEPTV EP8

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

HEPTV/TBL

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics 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 SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

Purchase of μ C Components of SGS-THOMSON Microelectronics, conveys a license under the Philips μ C Patent. Rights to use these components in a μ C system, is granted provided that the system conforms to the μ C Standard Specifications as defined by Philips.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

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

SGS-THOMSON
MICROELECTRONICS

5/5

7929237 0074440 833