



VERTICAL DEFLECTION BOOSTER

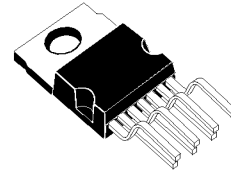
- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.6A_{PP}
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- SUITABLE FOR DC COUPLING APPLICATION
- EXTERNAL FLYBACK SUPPLY

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_{PP} output current to drive the yoke.

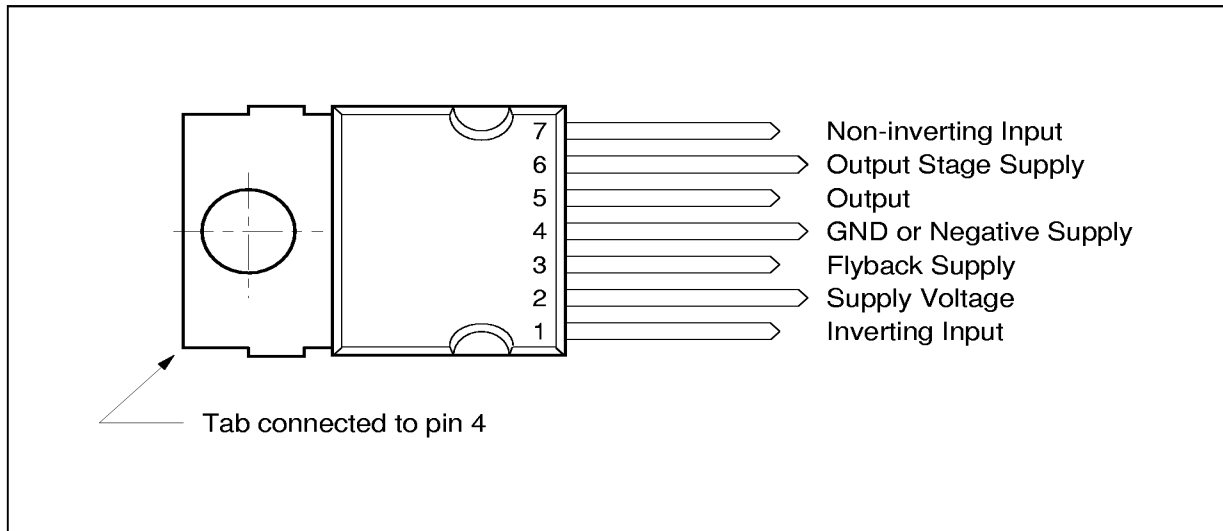
The STV9379FA is offered in HEPTAWATT package.



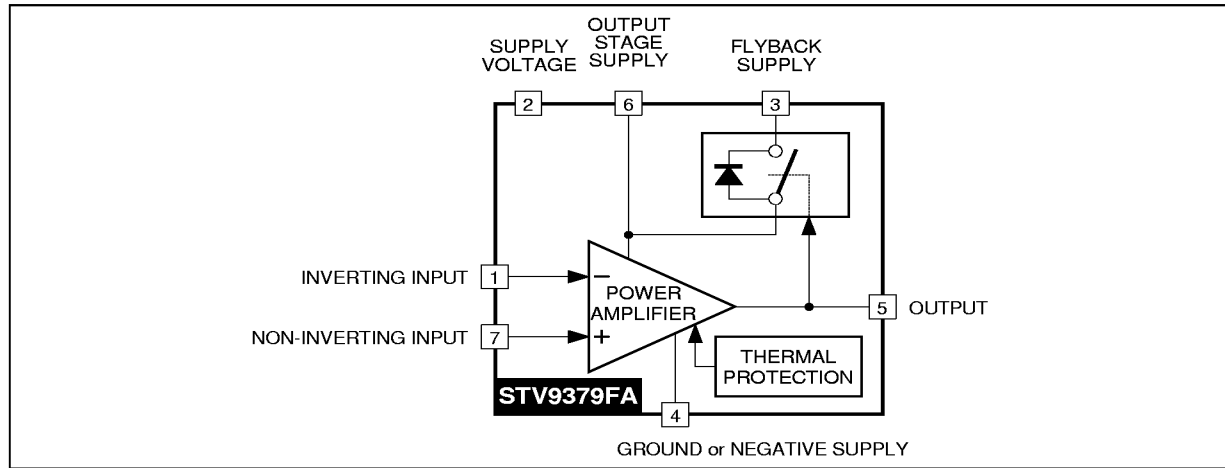
HEPTAWATT
(Plastic Package)

ORDER CODE : STV9379FA

PIN CONNECTIONS



BLOCK DIAGRAM



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 < 1ms) | 1.8 | A |
| I ₃ | Maximum Source Current (t < 1ms) (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 |

- Notes :**
1. Versus Pin 4.
 2. The output current can reach 5A 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 |

ELECTRICAL CHARACTERISTICS

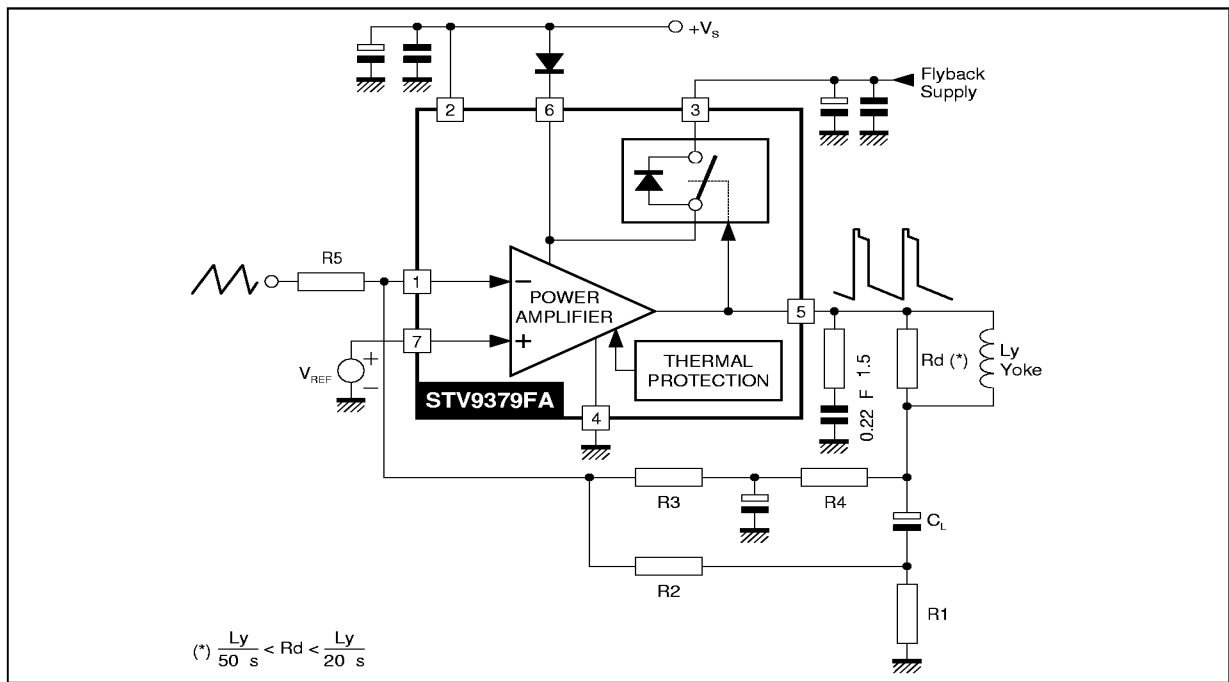
(V_S = 42V, T_A = 25°C, unless otherwise specified)

| 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} ≤ 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 | μA |
| I ₇ | Amplifier Bias Current | V ₁ = 23V, V ₇ = 22V | | - 0.15 | - 1 | μA |
| V _{IO} | Offset Voltage | | | | 7 | mV |
| ΔV _{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 = 1.3A | | 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 |

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APPLICATION CIRCUITS

AC COUPLING



9379FA03.EPS



APPLICATION CIRCUITS (continued)
DC COUPLING

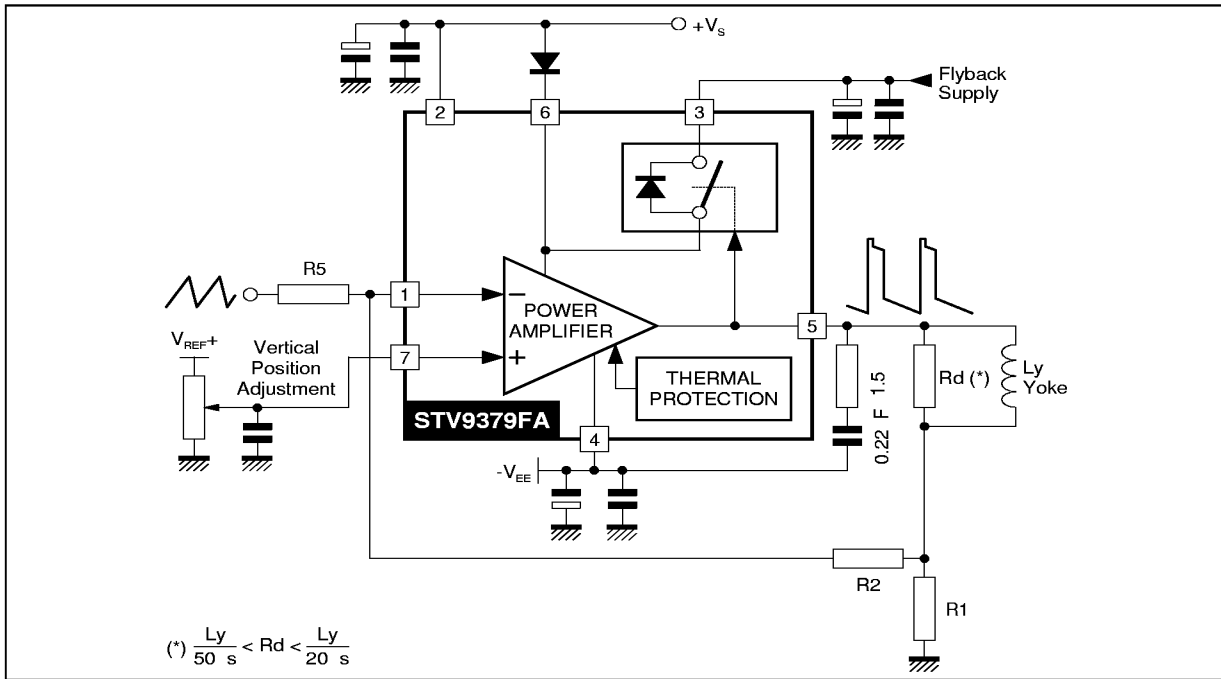
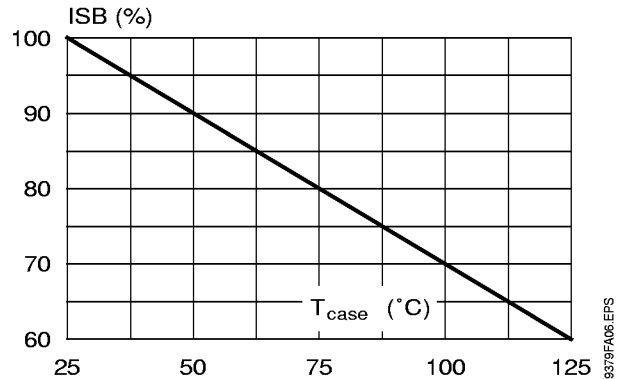
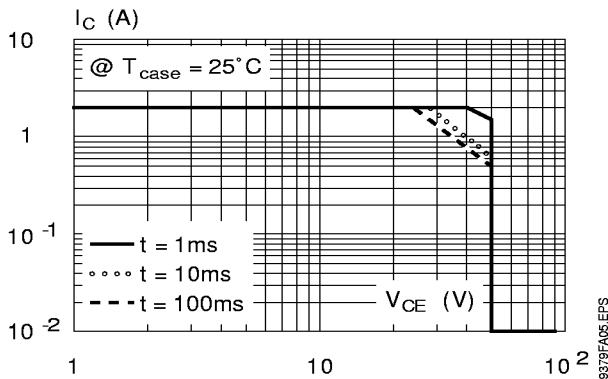
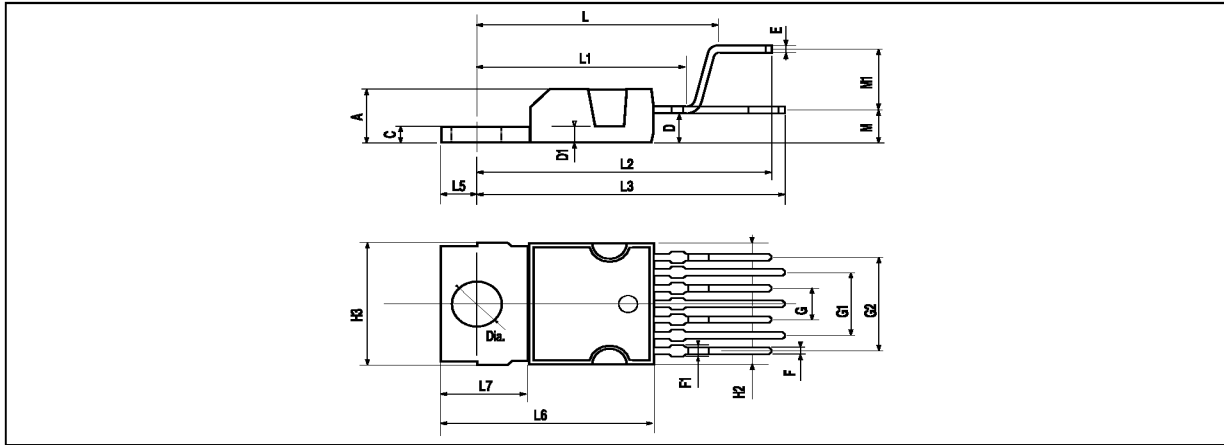


Figure 1 : Output Transistors SOA
(for secondary breakdown)

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 | | 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

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