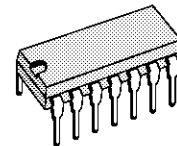


**EAST/WEST CORRECTION
FOR RECTANGULAR TV-TUBES**

- LOW POWER DISSIPATION
- PULSE WIDTH MODULATOR FOR SWITCH MODE OPERATION
- OUTPUT SINK CURRENT UP TO 800mA
- OUTPUT SOURCE CURRENT UP TO 100mA
- PARASITIC PARABOLA SUPPRESSION DURING VERTICAL FLYBACK
- VERTICAL CURRENT SENSE INPUTS GROUND COMPATIBLE
- PROGRAMMABLE PARABOLA CURRENT GENERATOR FOR DIFFERENT TV-TUBES
- EXTERNAL KEYSTONE ADJUSTMENT



DIP14
(Plastic Package)

ORDER CODE : TDA8146

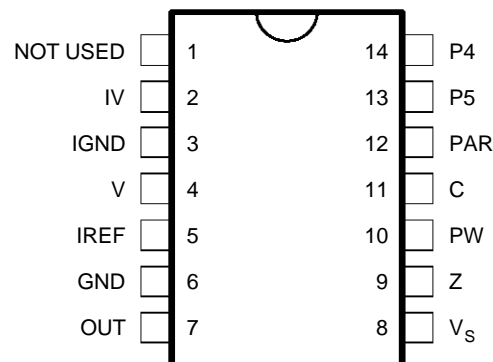
DESCRIPTION

The TDA8146 is a monolithic integrated circuit in a 14 pin dual-in-line plastic package.

The TDA8146 is designed for use in the east-west pin-cushion correction by driving a diode modulator in TV and monitor applications.

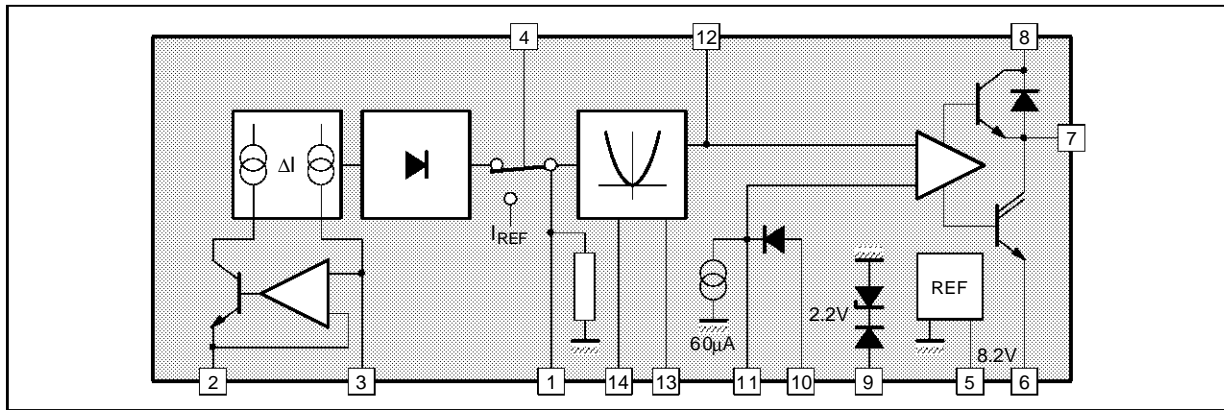
Since the parabola current generator is programmable the device can operate with different CRTs.

PIN CONNECTIONS



8146-01.EPS

BLOCK DIAGRAM



8146-02.EPS

ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---------------------------------|----------------|------|
| I_7 | Output Sink Current | 800 | mA |
| I_7 | Output Source Current | 100 | mA |
| V_S | Supply Voltage | 33 | V |
| V_4 | Vertical Flyback Input Voltage | - 0.3 to 60 | V |
| V_{10} | Input Voltage at Pin 10 | - 10 to V_S | V |
| V_9 | Input Voltage at Pin 9 | - 10 to 20 | V |
| V_{in} | Input Voltage at all other Pins | - 0.3 to V_S | V |
| T_{stg} | Storage Temperature | - 40 to 150 | °C |
| T_j | Junction Temperature | 0 to 150 | °C |

8146-01.TBL

THERMAL DATA

| Symbol | Parameter | Value | Unit |
|---------------|-------------------------------------|---------|------|
| $R_{th(j-a)}$ | Junction-ambient Thermal Resistance | Max. 80 | °C/W |

8146-02.TBL

ELECTRICAL CHARACTERISTICS

(refer to test circuit $V_S = 24V$, $T_j = 25^\circ C$; unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|------------|-------------------------------------|--------------------------|-------------|-------|-------------|------|
| V_S | Supply Voltage | | 15 | 24 | 29 | V |
| I_S | Supply Current | $V_{out} = LOW$ | | 4 | 7 | mA |
| V_5 | Reference Voltage | | | 8.2 | | V |
| V_{7L} | Saturation Voltage | $I_O = 800mA$ Sink | | 1.2 | 2 | V |
| V_{SAT} | Diode Forward Voltage | $I_O = - 800mA$ | | 1.1 | 1.7 | V |
| V_{7H} | Saturation Voltage | $I_O = 100mA$ Source | | 0.8 | 1.25 | V |
| I_{11} | Current Sink Pin 11 | | 40 | 60 | 80 | μA |
| V_9 | Zener Voltage | $I_g = 5mA$ | 20 | 22 | 24 | V |
| V_{4T} | Vertical Blanking Threshold Voltage | | $V_S - 0.5$ | V_S | $V_S + 0.5$ | V |
| I_4 | Vertical Blanking Input Current | $V_4 = 50V$ | 25 | 50 | 100 | μA |
| V_2 | Reference Voltage at Pin 2 | $R1 = R2 = 10K$ | | 1.3 | | V |
| V_3 | Reference Voltage at Pin 3 | | | 1.3 | | V |
| V_{PARO} | Parabola Voltage at Pin 12 | $\Delta V_{SE} = 0$ | | 9.7 | | V |
| V_C | Parabola Voltage at Pin 12 | $\Delta V_{SE} = + 0.8V$ | | 7.05 | | V |

8146-03.TBL

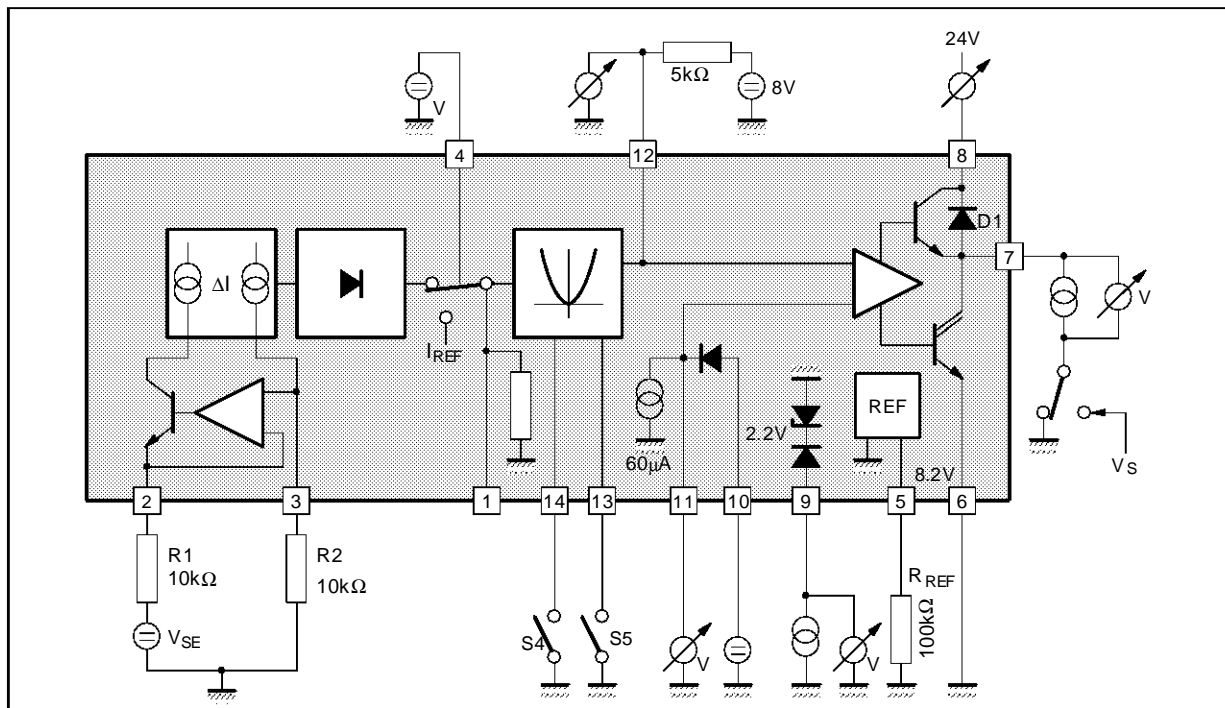
ELECTRICAL CHARACTERISTICS (continued)

(refer to test circuit $V_S = 24V$, $T_j = 25^\circ C$; unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|--------|----------------------|--|------|------|------|------|
| K_A | Parabola Coefficient | $K_A = \frac{VA}{VB}$ | | 0.25 | | |
| K_C | Parabola Coefficient | $K_C = \frac{VC}{VB}$, S4 + S5 open | | 1.75 | | |
| K_5 | Parabola Coefficient | $K_5 = \frac{VC5}{VC}$, S4 or S5 Closed | | 1.07 | | |
| K_4 | Parabola Coefficient | $K_4 = \frac{VC4}{VC}$, S4 + S5 Closed | | 1.17 | | |
| K_S | Parabola Symmetry | $K_S = \frac{VC}{VD}$ | 0.94 | 1.0 | 1.06 | |
| K_F | Flyback Coefficient | $K_F = \frac{VC}{VD}$, $V_4 = 15V$ | | 1.0 | | |

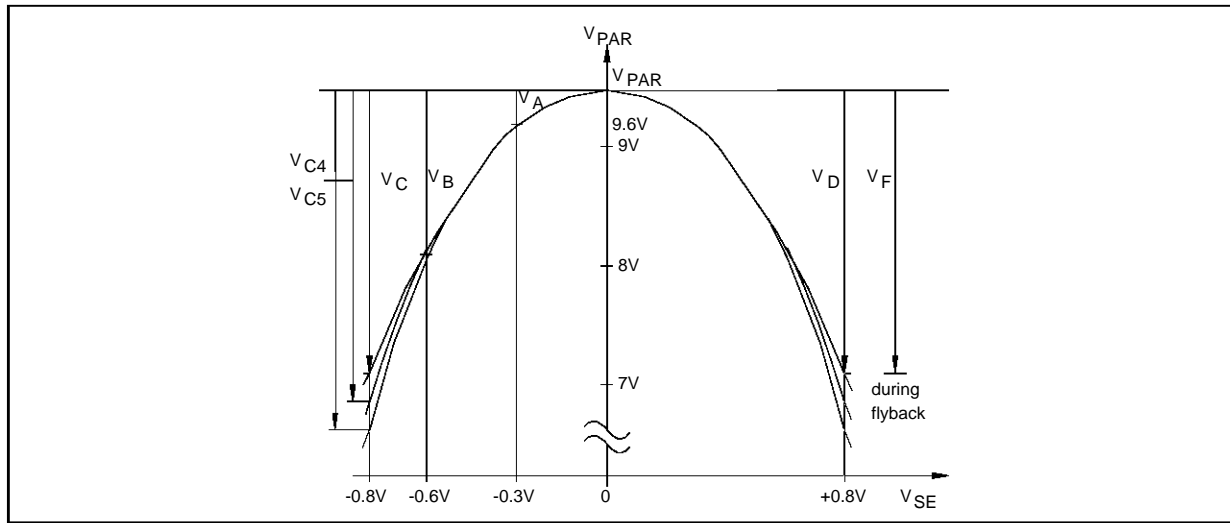
8146-04.TBL

TEST CIRCUIT



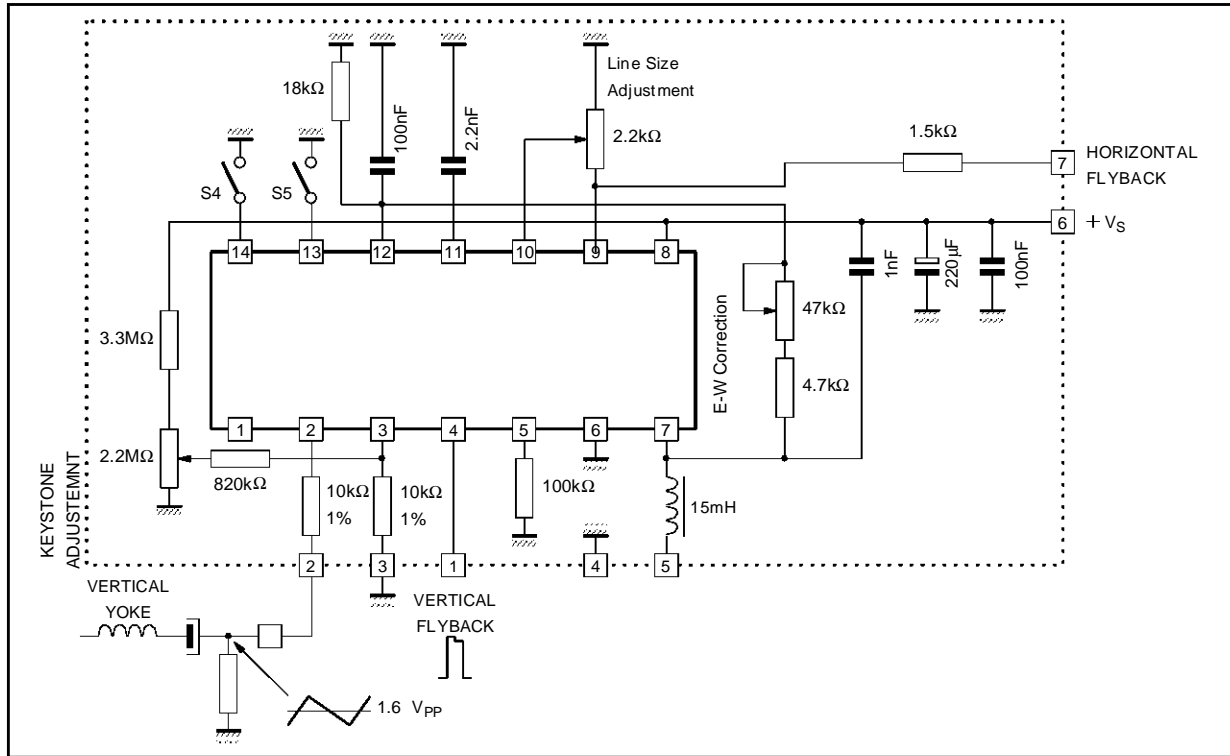
8146-03.EPS

PARABOLA CHARACTERISTICS

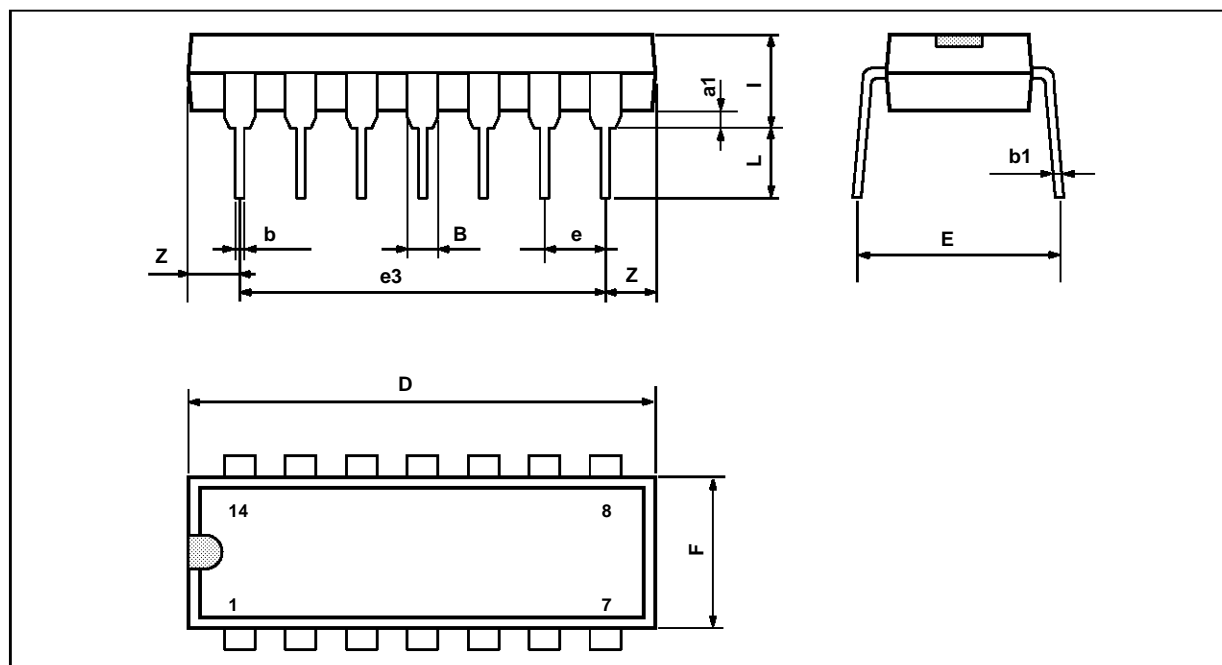


8146-04.EPS

APPLICATION DIAGRAM



8146-05.EPS

PACKAGE MECHANICAL DATA
 14 PINS - PLASTIC DIP


PIM-DIP14.EPS

| Dimensions | Millimeters | | | Inches | | |
|------------|-------------|-------|------|--------|-------|-------|
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| a1 | 0.51 | | | 0.020 | | |
| B | 1.39 | | 1.65 | 0.055 | | 0.065 |
| b | | 0.5 | | | 0.020 | |
| b1 | | 0.25 | | | 0.010 | |
| D | | | 20 | | | 0.787 |
| E | | 8.5 | | | 0.335 | |
| e | | 2.54 | | | 0.100 | |
| e3 | | 15.24 | | | 0.600 | |
| F | | | 7.1 | | | 0.280 |
| i | | | 5.1 | | | 0.201 |
| L | | 3.3 | | | 0.130 | |
| Z | 1.27 | | 2.54 | 0.050 | | 0.100 |

DIP14.TBL

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