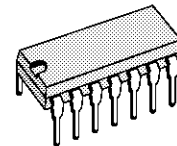


**EAST/WEST CORRECTION  
FOR RECTANGULAR TV-TUBES**

- 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**

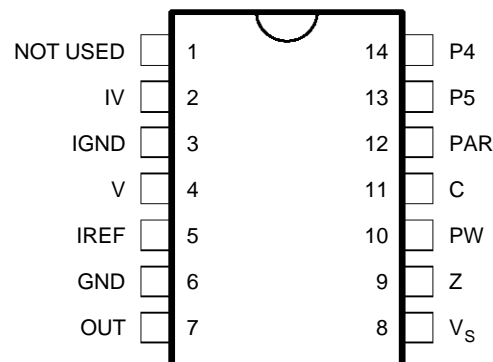
**DESCRIPTION**

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.

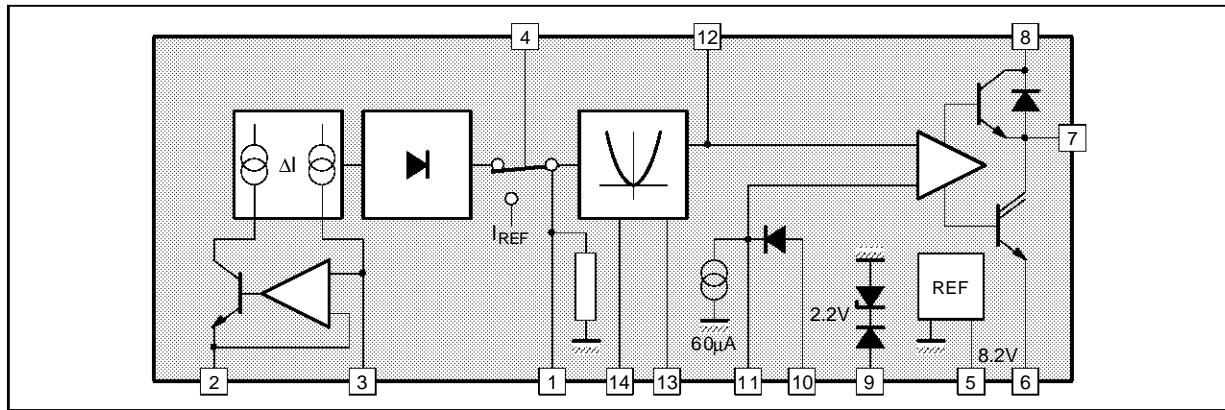
Since the parabola current generator is programmable the device can operate with different CRTs.

**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

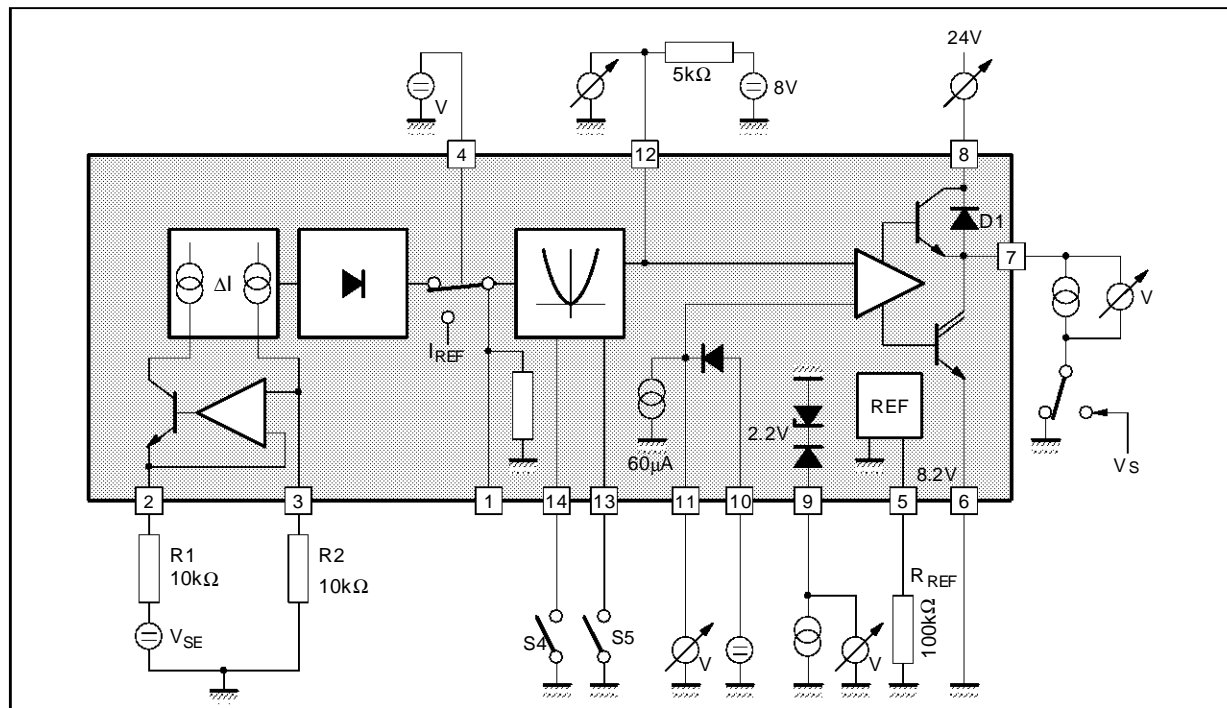
**ELECTRICAL CHARACTERISTICS** (continued)

(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		

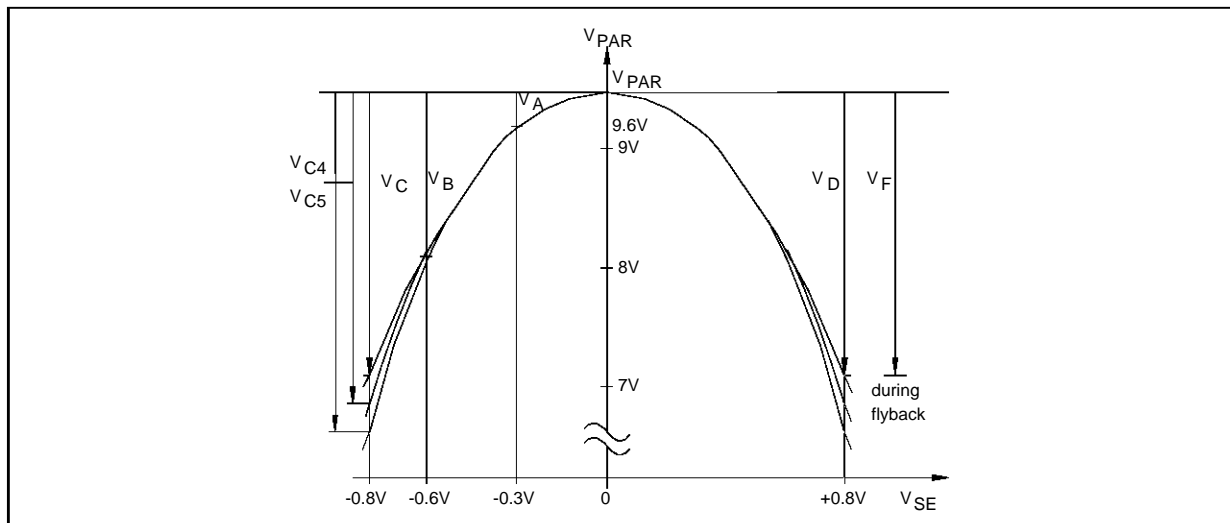
8146-04.TBL

**TEST CIRCUIT**



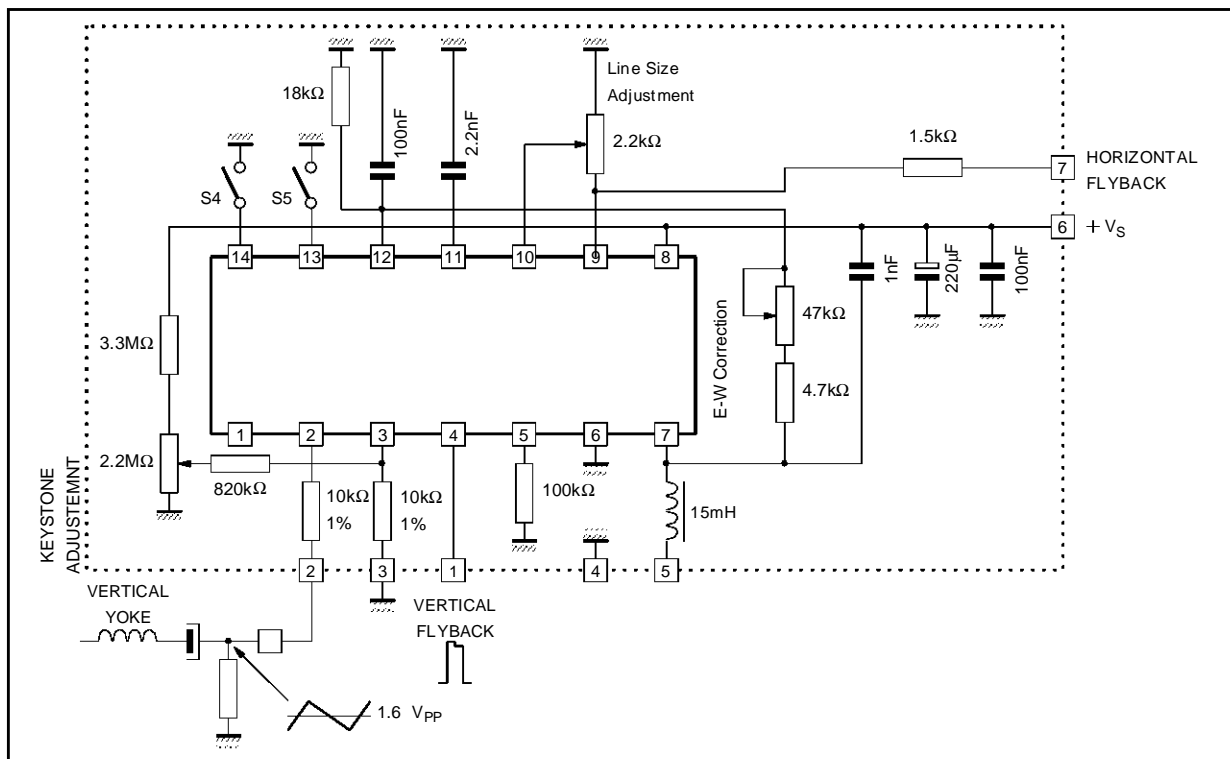
8146-03.EPS

PARABOLA CHARACTERISTICS



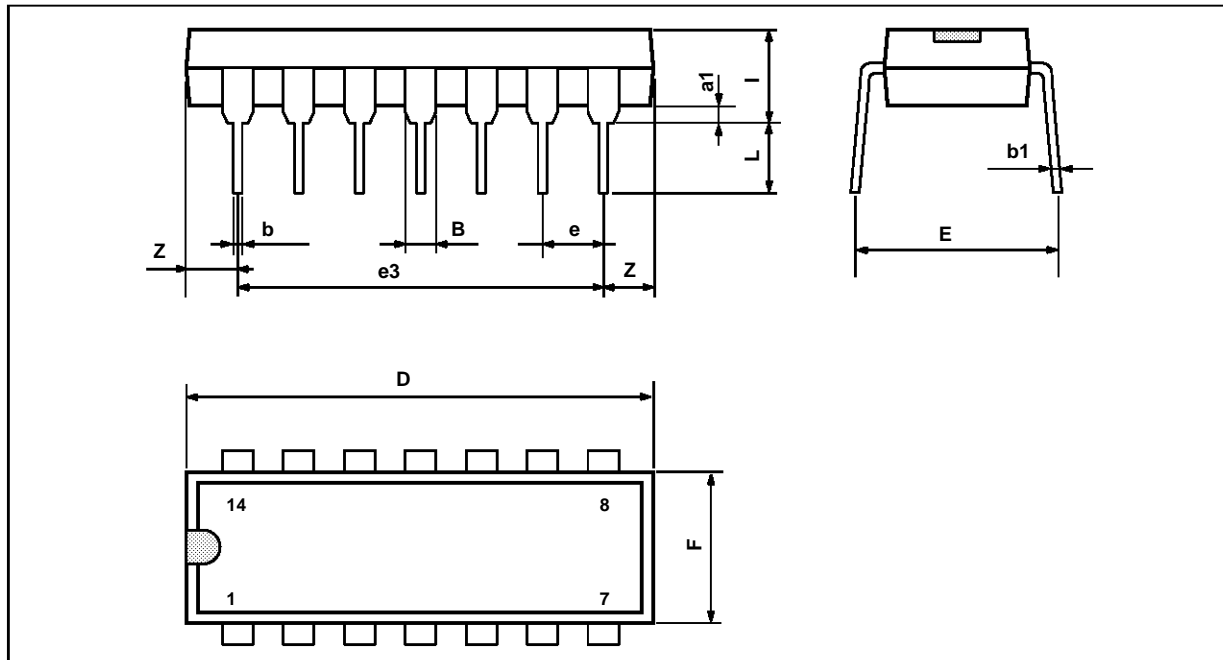
8146-04.EPS

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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