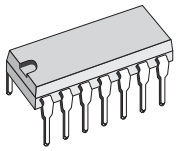
SGS-THOMSON MICROELECTRONICS

TDA8146

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

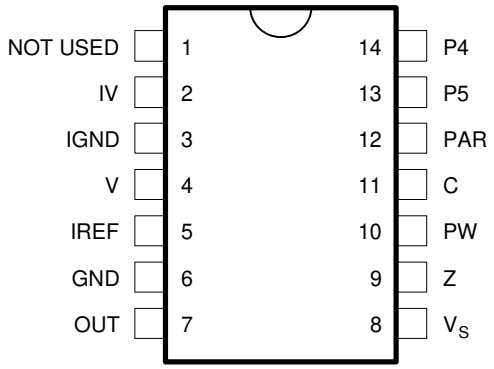
DESCRIPTION

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.

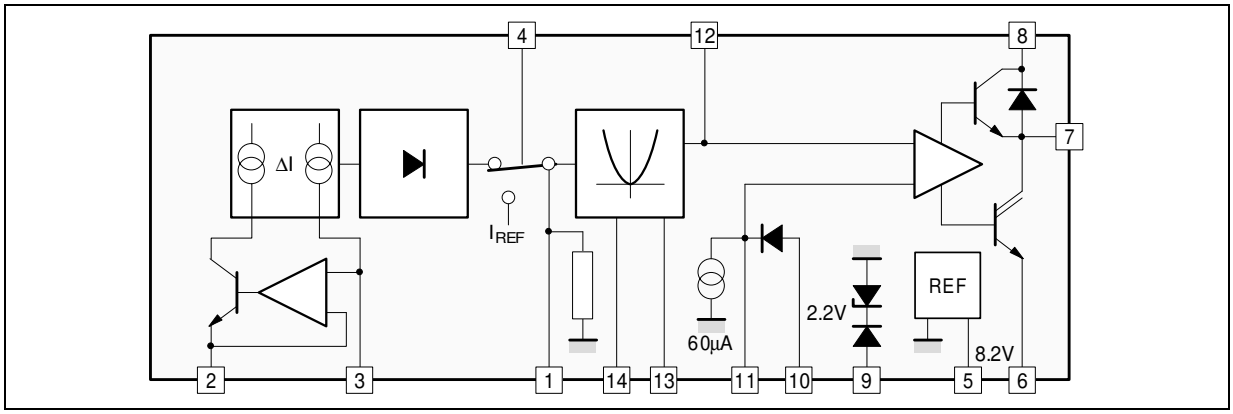
Since the parabola current generator is programmable the device can operate with different CRTs.

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
$R_{th\ (j\text{-}a)}$	Junction-ambient Thermal Resistance	Max.	80	°C/W

8146-02.TBL

ELECTRICAL CHARACTERISTICS

(refer to test circuit V_S = 24V, T_j = 25°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_9 = 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	ΔV_{SE} = 0		9.7		V
V_C	Parabola Voltage at Pin 12	ΔV_{SE} = + 0.8V		7.05		V

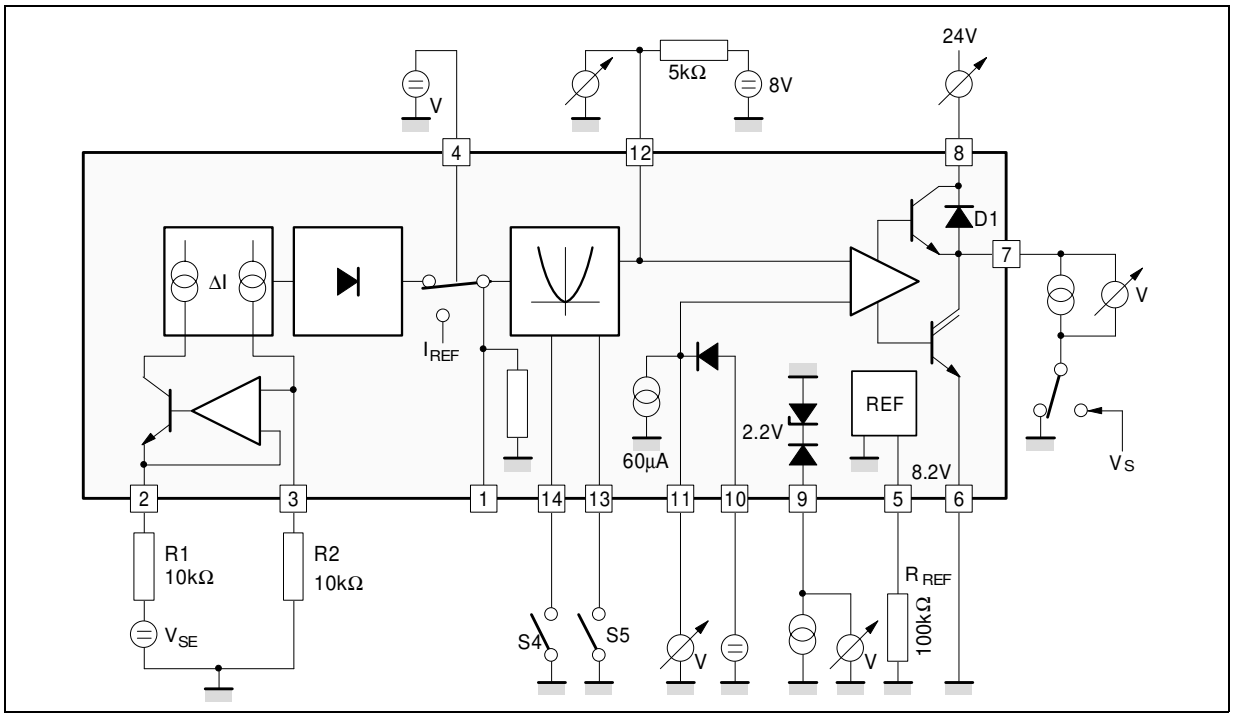
8146-03.TBL

ELECTRICAL CHARACTERISTICS (continued)
(refer to test circuit V_S = 24V, T_j = 25°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	$K_F = \frac{VC}{VD}$, V4 = 15V		1.0		

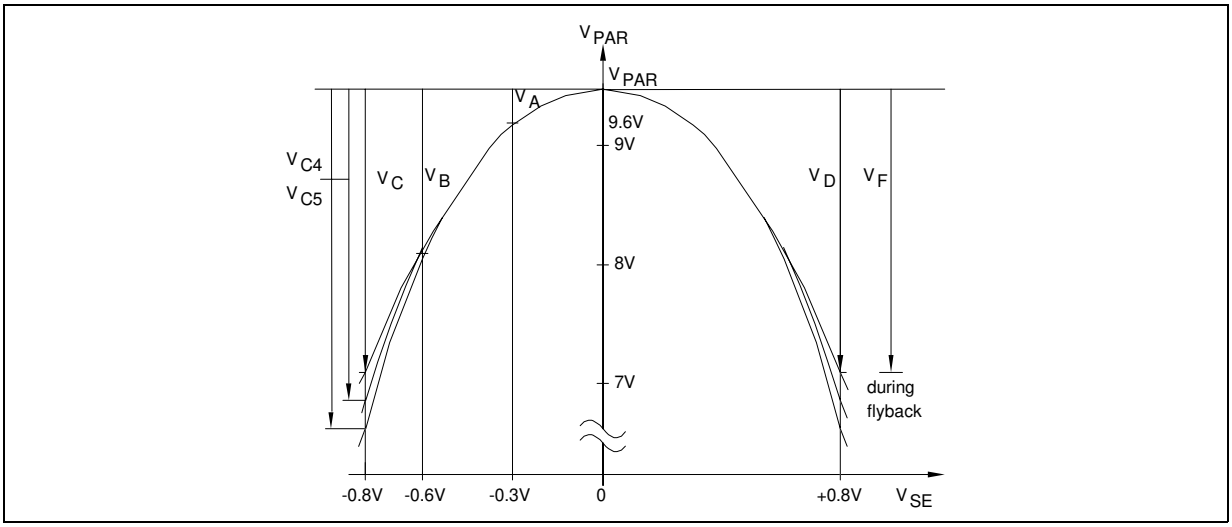
8146-04.TBL

TEST CIRCUIT

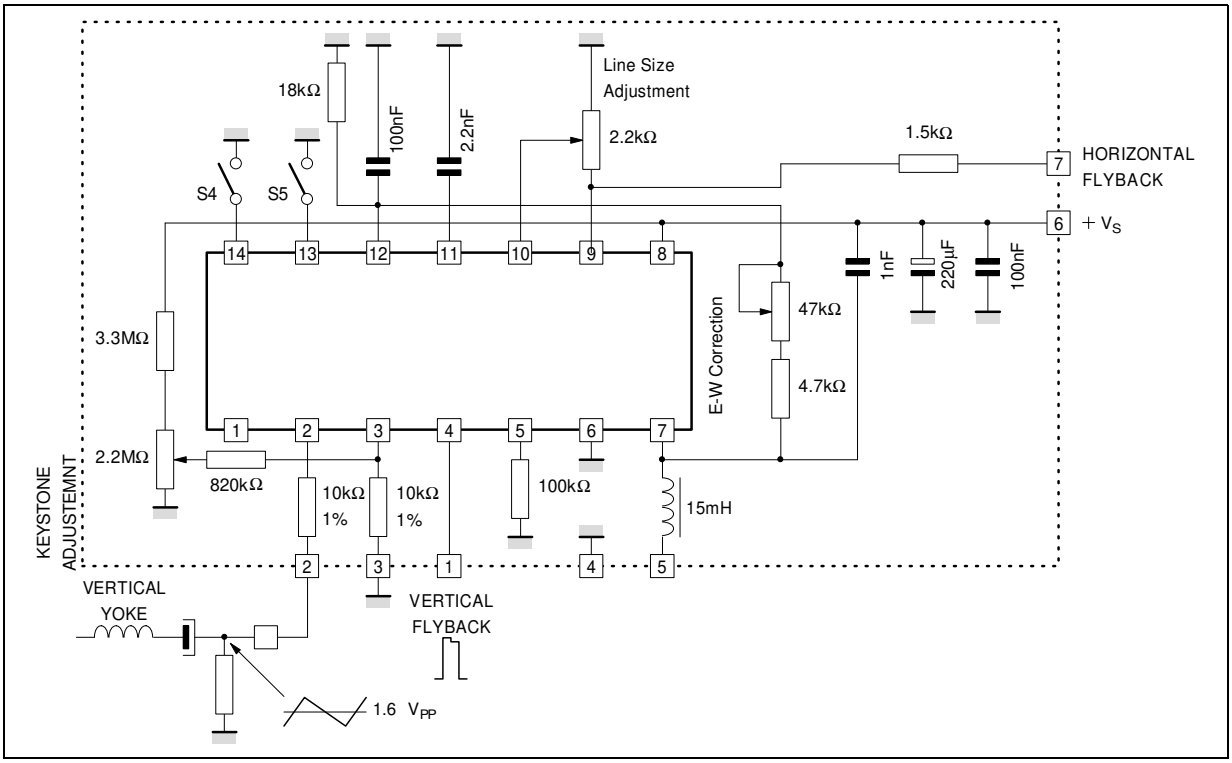


8146-03.EPS

PARABOLA CHARACTERISTICS

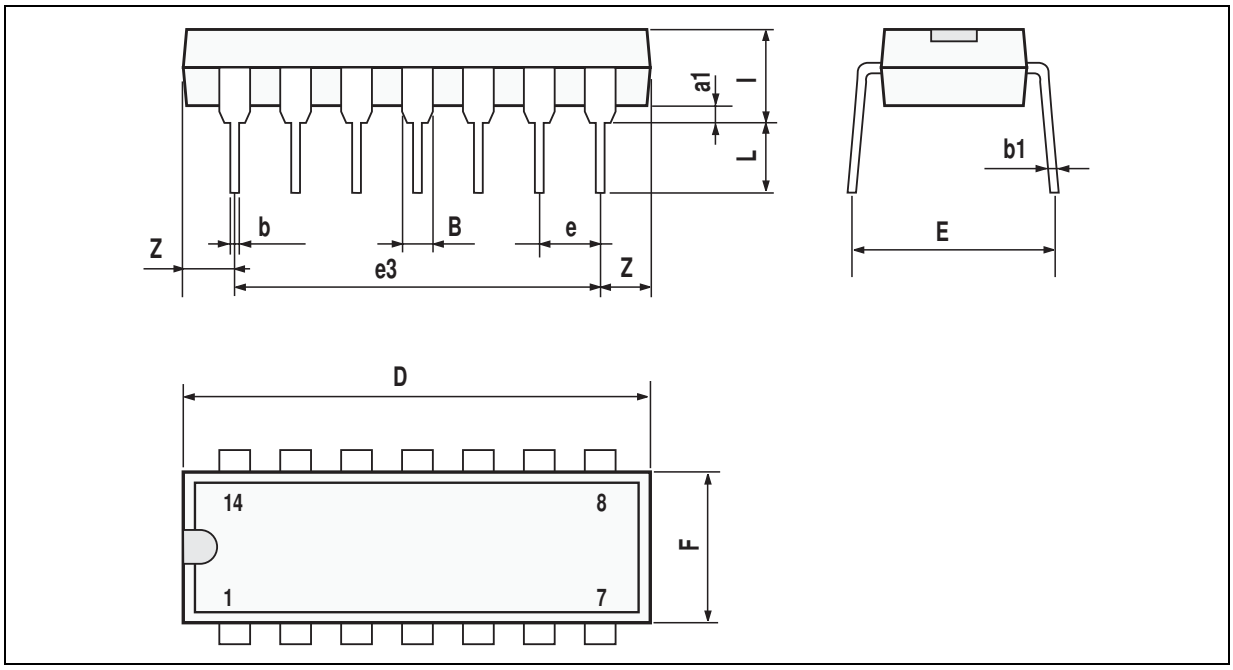


APPLICATION DIAGRAM



PACKAGE MECHANICAL DATA

14 PINS - PLASTIC DIP



PM-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