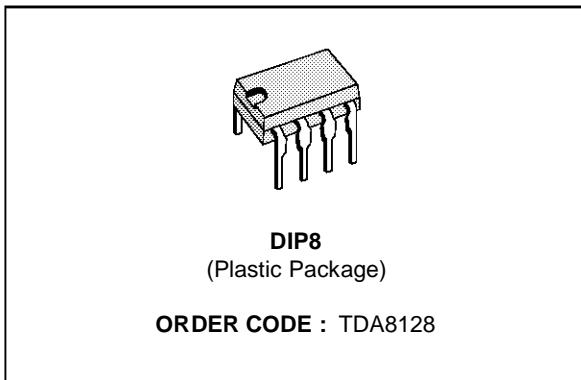


**SYNC SEPARATOR AND VIDEO SIGNAL IDENTIFICATION**

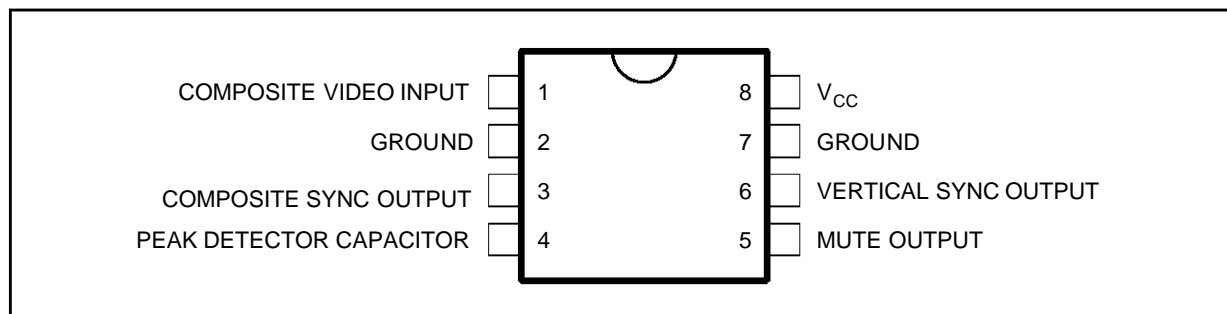
- AC COUPLED COMPOSITE VIDEO SIGNAL
- COMPOSITE SYNC OUTPUT
- EDGE TRIGGERED VERTICAL SYNC OUTPUT
- AUDIO MUTING OUTPUT



**DESCRIPTION**

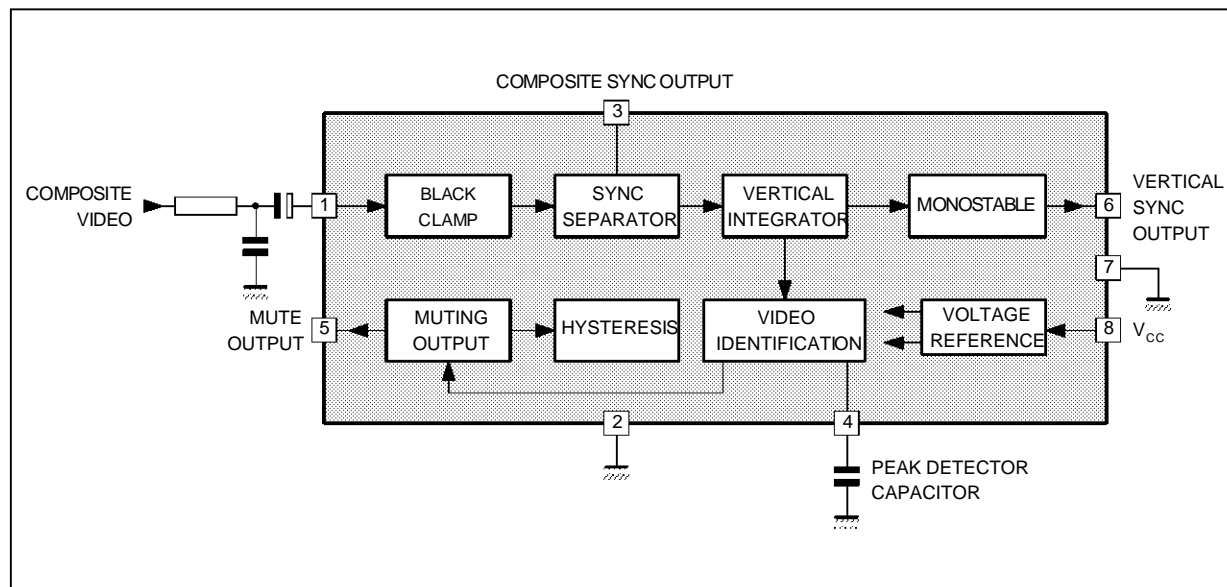
The TDA8128 is a monolithic integrated circuit in DIP8 package. It provides composite sync, edge triggered vertical sync and audio muting signals.

**PIN CONNECTIONS**



8128-01.EPS

**BLOCK DIAGRAM**



8128-02.EPS

# TDA8128

## GENERAL DESCRIPTION

The TDA8128 extracts the composite and vertical sync signals from a video input signal with a negative going horizontal sync pulse.

By means of an internal monostable, the beginning of the vertical sync is triggered by the rising edge of the first serration in the vertical sync period.

The device also provides information when the input signal is not a true video signal or if its amplitude is below a certain limit.

The output stages are supplied by an internal reference voltage so that no external pull-up resistors are needed.

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	Supply Voltage	15	V
	Sink Current (Pins 3, 5, 6)	20	mA
T <sub>oper</sub>	Operating Ambient Temperature Range	0 to 70	°C
T <sub>stg</sub>	Storage Temperature	-40, +150	°C

8128-01.TBL

## THERMAL DATA

Symbol	Parameter	Value	Unit
R <sub>th(j-a)</sub>	Junction-ambient Thermal Resistance	Typ. 90	°C/W

8128-02.TBL

## ELECTRICAL CHARACTERISTICS

V<sub>CC</sub> = 12V, T<sub>amb</sub> = 25°C,

Video Signal : standard PAL color bar generator (V<sub>I</sub> = 2V<sub>PP</sub>) (unless otherwise specified)

Symbol	Parameter	Pin	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>8</sub>	Supply Voltage	8		10.8	12	13.2	V
I <sub>8</sub>	Supply Current	8			8	15	mA
V <sub>IN</sub>	Input Signal Range	1			2	5	V <sub>PP</sub>

## COMPOSITE SYNC OUTPUT

Symbol	Parameter	Pin	Test Conditions	Min.	Typ.	Max.	Unit
WH	Min. Horizontal Input Sync Width	3	For stable output signals	4	4.7	5.5	μs
V <sub>1 min</sub>	Min. Input Sync Pulse Amplitude	1	Stable output signal on Pin 3		330	400	mV <sub>PP</sub>
V <sub>3</sub>	Pulse Amplitude	3		4.2	4.6	5.2	V
V <sub>3 sat</sub>	Output Saturation Voltage	3	I <sub>3</sub> = 1mA		100	200	mV
R3	Input Pull-up Resistor	3		3.5	5	6.5	kΩ
T3/1	Composite Sync Extract Delay	3/1	At 50% of sync pulse amplitude		1	2	μs

## IDENTIFICATION OUTPUT

Symbol	Parameter	Pin	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>1 ON</sub>	Min. Input Composite Sync Pulse Amplitude	1	Identification output going from no ident to ident		320	370	mV <sub>PP</sub>
V <sub>1 OFF</sub>	Max. Input Composite Sync Pulse Amplitude	1	Identification output going from ident to no ident	150	210		mV <sub>PP</sub>
HYS	Hysteresis	5	By attenuation of the input signal Pin 1		3.5		dB
V <sub>5H</sub>	Identification Output Voltage	5	Video not identified	4.5	4.9	5.3	V
V <sub>5L</sub>		5	Video identified, I <sub>5</sub> = 1mA		80	200	mV
R5	Internal Pull-up Resistor	5		3.5	4.8	6.5	kΩ
TI	Identification Delay	5/1	Delay between the first incoming inverted line pulse and ident output signal • C4 = 1μF • C4 = 470nF		2 1	3	Frame Frame

8128-03.TBL

**ELECTRICAL CHARACTERISTICS** (continued)

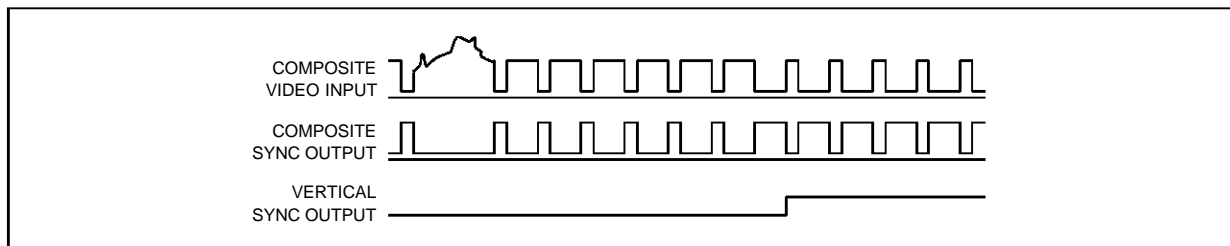
$V_{CC} = 12V$ ,  $T_{amb} = 25^{\circ}C$ ,

Video Signal : standard PAL color bar generator ( $V_I = 2V_{PP}$ ) (unless otherwise specified)

Symbol	Parameter	Pin	Test Conditions	Min.	Typ.	Max.	Unit
VERTICAL PULSE OUTPUT							
$V_{1\ min}$	Min. Input Composite Sync Pulse Amplitude	1	Stable output pulse (Pin 6) Input pulse increasing		300	350	mV <sub>PP</sub>
TFR	Vertical Pulse Width	6	Standard PAL color bar pattern ( $2V_{PP}$ )	100	250	400	$\mu s$
$V_{6H}$	Vertical Pulse Amplitude	6		4.5	4.9	5.3	V
$V_{6\ sat}$	Output Saturation Voltage	6	$I_6 = 1mA$		100	200	mV
R6	Internal Pull-up Resistor	6		3.5	5	6.5	k $\Omega$
TDFR	Vertical Pulse Delay	6/1	Delay between the first incoming inverted line pulse (Pin 1) and vertical pulse at 50% amplitude		1	2	$\mu s$

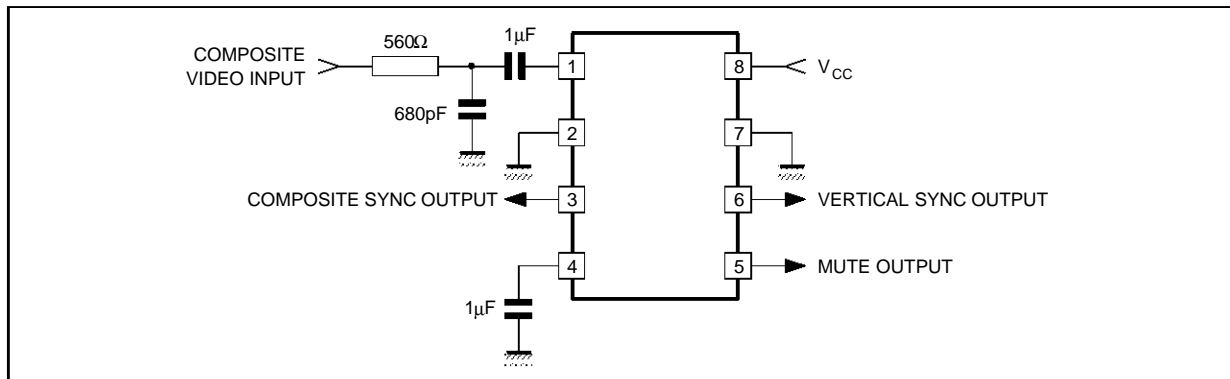
8128-04.TBL

**WAVEFORMS** (Pin 7 grounded)



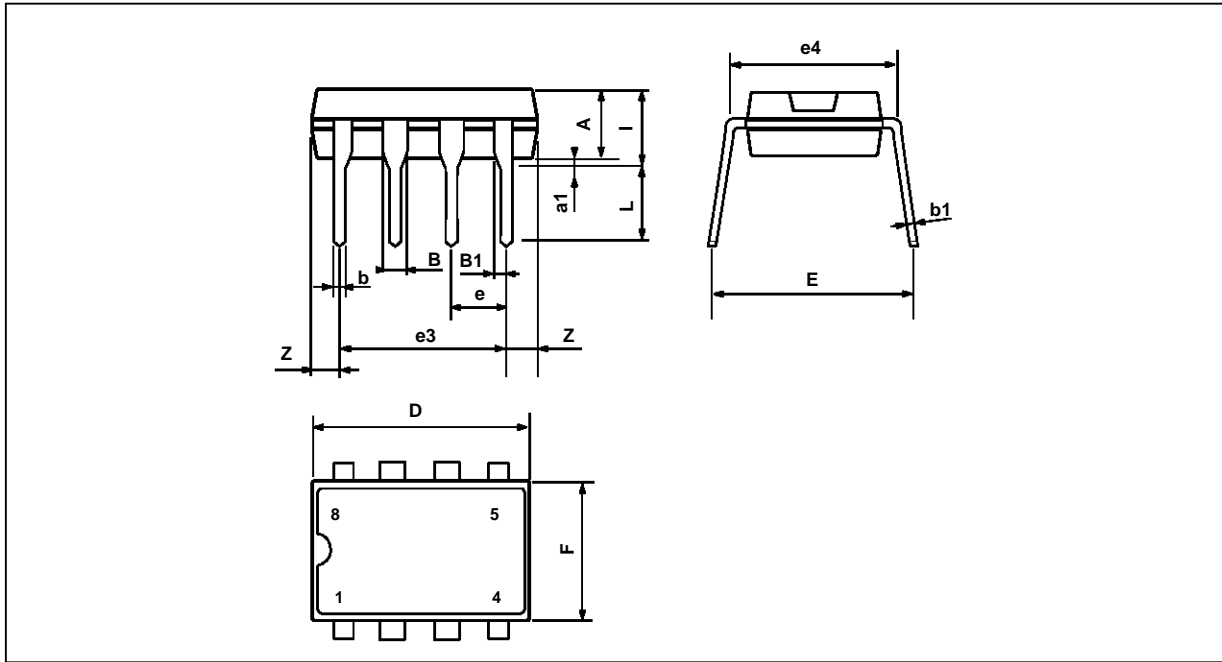
8128-03.EPS

**TYPICAL APPLICATION**



8128-04.EPS

**PACKAGE MECHANICAL DATA**  
8 PINS - PLASTIC MINIDIP



PM-DIP8.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

DIP8.TBL

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