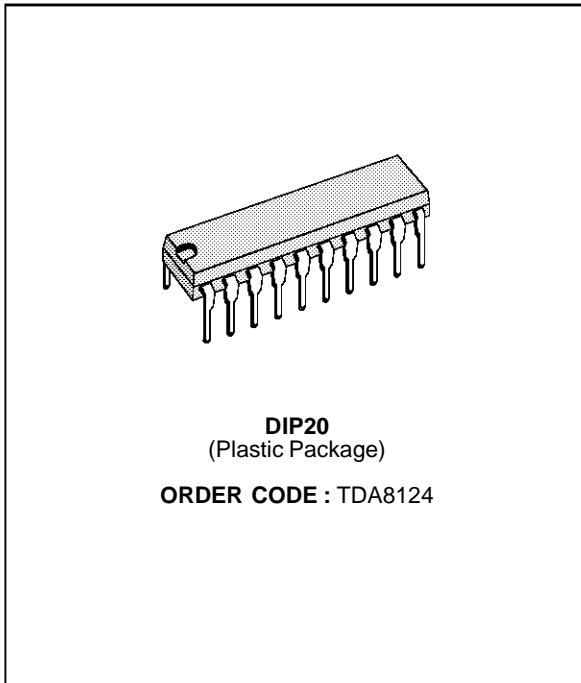


**MULTISTANDARD VIDEO IF INTERFACE**

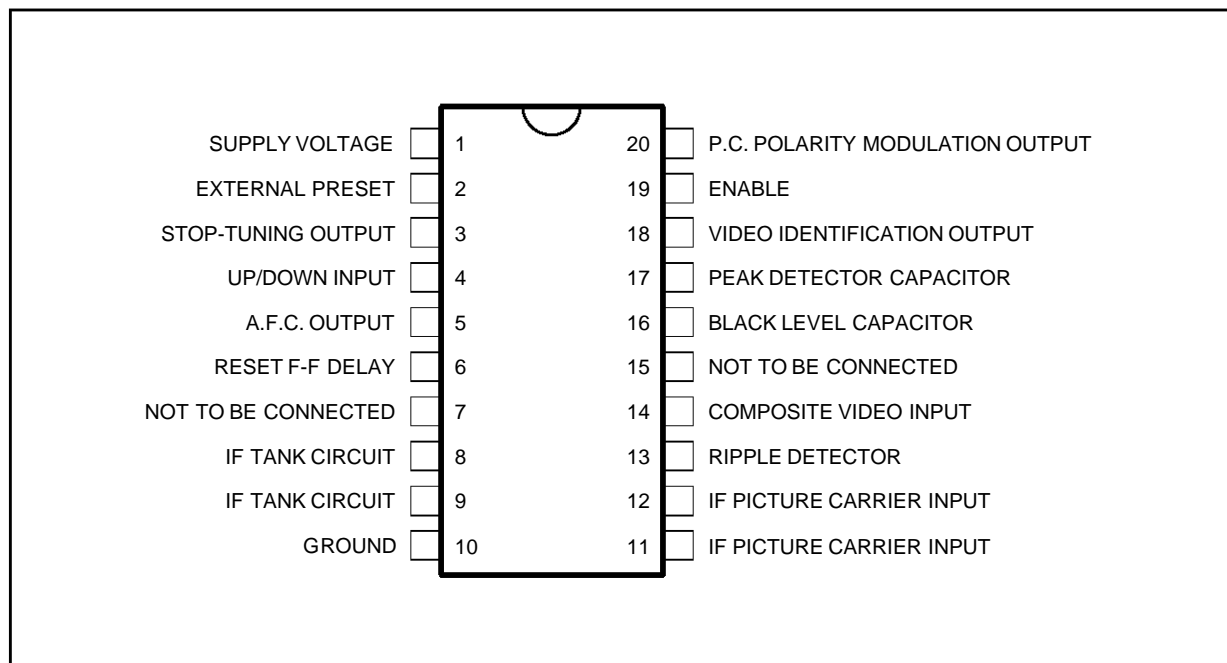
- AUTOMATIC IDENTIFICATION OF PICTURE CARRIER MODULATION POLARITY
- VIDEO SIGNAL IDENTIFICATION (FOR SOUND MUTING)
- ANALOG AND DIGITAL A.F.C. FOR STOP TUNING FUNCTION
- PICTURE CARRIER DETECTION IN A RANGE OF 1MHz AROUND THE IF-PICTURE CARRIER VALUE



**DESCRIPTION**

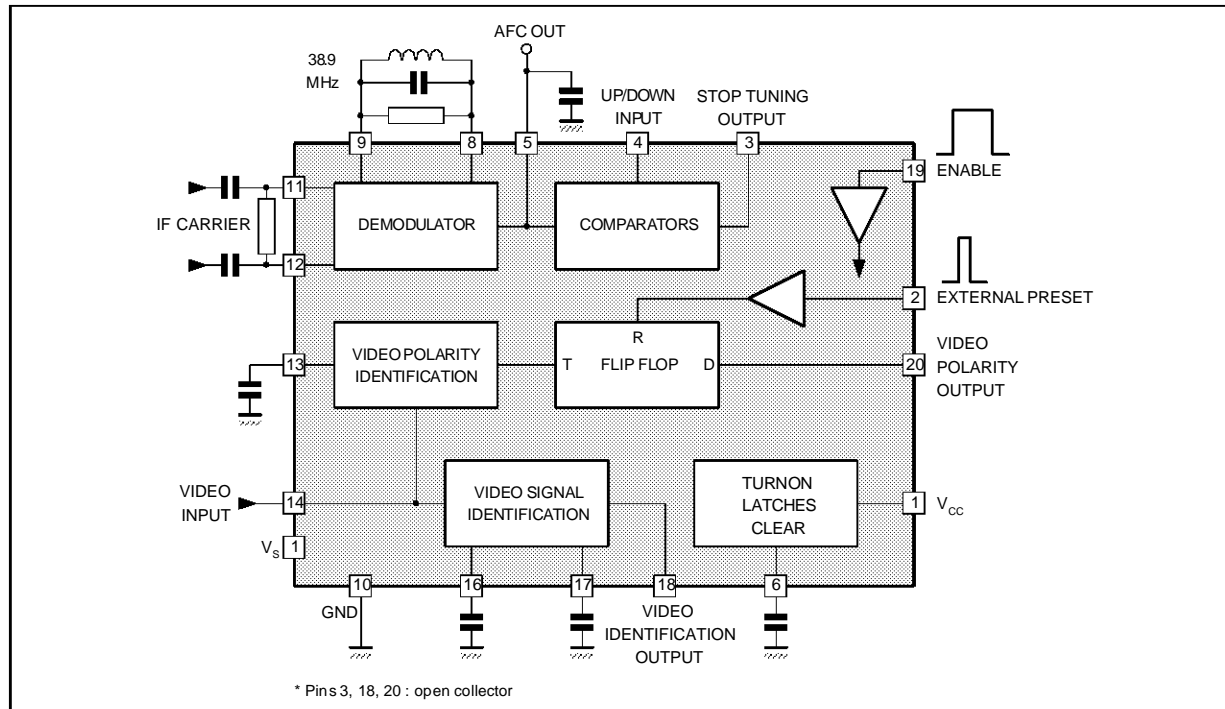
The TDA8124 has been developed in order to permit automatic standard switching and tuning when coupled with a multistandard VIDEO IF IC (for example TDA8120). It contains an A.F.C. synchronous demodulator and an A.F.C. comparator, a video polarity identification circuit with logic and a video signal identification system.

**PIN CONNECTIONS**



8124-01.EPS

**BLOCK DIAGRAM**



8124-02.EPS

**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CC}$	Supply Voltage (Pin 1)	15	V
$T_{oper}$	Operating Ambient Temperature Range	0 to + 70	°C
$T_{stg}$	Storage Temperature Range	- 20 to + 150	°C

8124-01.TBL

**THERMAL DATA**

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient Thermal Resistance	Max. 80	°C/W
$R_{th(j-c)}$	Junction-case Thermal Resistance	Max. 14	°C/W

8124-02.TBL

**ELECTRICAL CHARACTERISTICS**

$T_{AMB} = 25^{\circ}C$ ,  $V_{CC} = 12V$  (unless otherwise specified)

- Positive video input signal  $V_i = 3V_{PP}$  with top sync level = 3V
- Enable  $\geq 2V$  on Pin 19

Symbol	Parameter	Pins	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CC}$	Supply Voltage	1		10.8	12	13.2	V
$I_s$	Supply Current	1		14	24	32	mA
	Video Input Top Sync Level	14	• B/G standard : M = 100%, D = 90% • L/E standard : M = 100%, R $\leq$ 6%		3		V
	Video Input Top White Level	14	• B/G standard : M = 100%, D = 90% • L/E standard : M = 100%, R $\leq$ 6%		6		V
	Composite Video Input Voltage	14		1.5	3	3.3	$V_{PP}$
	Ripple Voltage across the 5.6nF External Capacitor	13	C13 = 5.6nF		400		mV

8124-03.TBL

**ELECTRICAL CHARACTERISTICS** (continued)

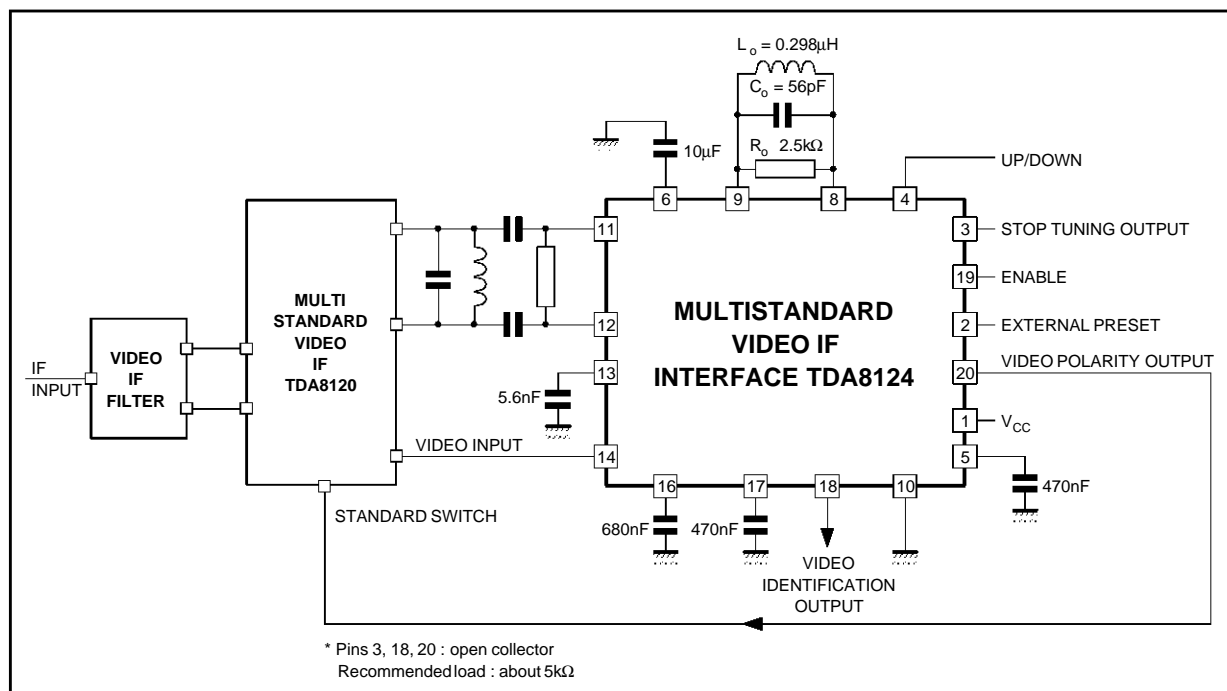
$T_{AMB} = 25^{\circ}C$ ,  $V_{CC} = 12V$  (unless otherwise specified)

- Positive video input signal  $V_i = 3V_{PP}$  with top sync level = 3V
- Enable  $\geq 2V$

Symbol	Parameter	Pins	Test Conditions	Min.	Typ.	Max.	Unit
	Peak Detector Threshold Voltage	17			4.5		V
	Video Identification Current Capability	18				10	mA
	Minimum Sync Amplitude for Video Identification	14		450			mV <sub>PP</sub>
	External Preset up/down and Enable Switch Voltages	2, 4 19		0 2		0.8 $V_{CC}$	V
	External Preset, up/down, Enable Pins Input Impedance	2, 4 19		35	50		k $\Omega$
	Video Polarity Out Voltage	20	Enable $\geq 2V$ , P.C. IF = 38.9MHz • L/E (positive modulation) • B/G (negative modulation)		$V_{CC}$	0.5	V
	Video Identification Out Voltage	18	• no video signal • with video signal		$V_{CC}$	0.5	V
	IF Picture Carrier Input Voltage	11, 12	P.C. IF = 38.9MHz	50			mV <sub>PP</sub>
	A.F.C. Output Slope	5	$Q_{LC} = 80$ , $C_O = 56pF$ , $L_O \cong 0.298\mu H$ , $R_O = 2.5k\Omega$	0.5		0.85	$\frac{V}{100kHz}$
	$V_{11-12}$ DC Voltage	11, 12			3.8		V
	$V_{8-9}$ DC Voltage	8, 9			3.65		V
	Stop/Tuning Output Voltage	3	• No picture carrier or 39.4MHz < IF < 38.4MHz • With picture carrier IF <sub>PC</sub> $\geq 38.9MHz$ IF <sub>PC</sub> $\leq 39.4MHz$		0	$V_s$	V
	Stop/Tuning Output Bandwidth	3		1.1	1.3	1.5	MHz

8124-04.TBL

**TYPICAL APPLICATION** (with TDA8120)

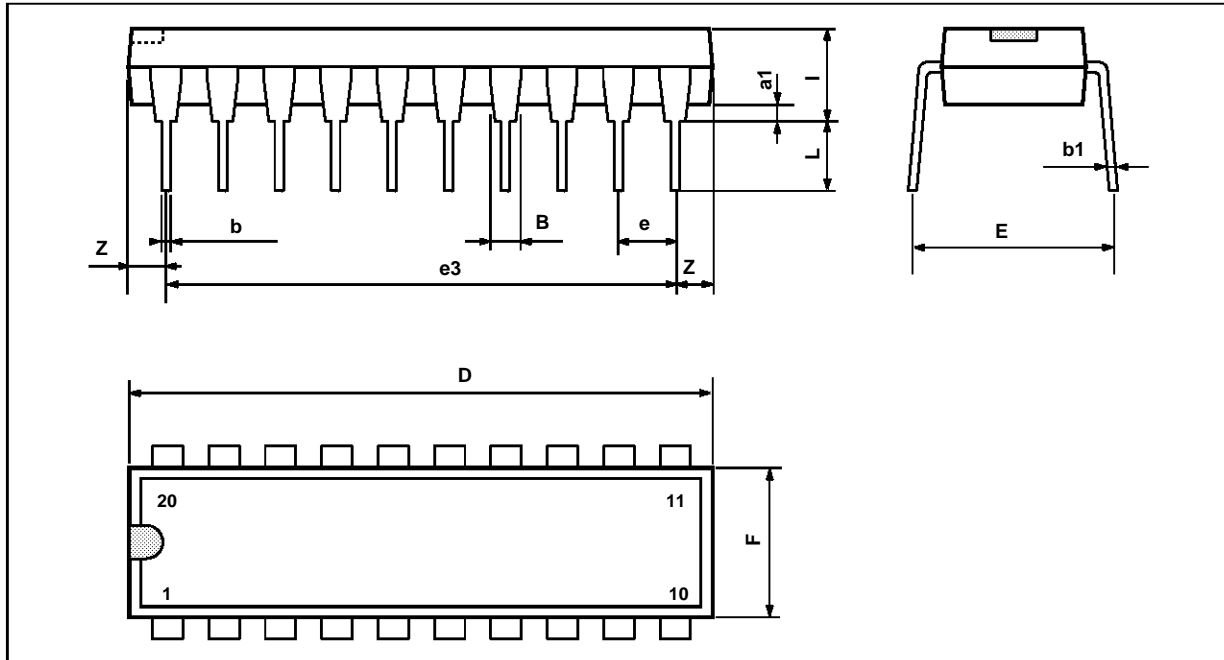


8124-03.EPS

# TDA8124

## PACKAGE MECHANICAL DATA

20 PINS - PLASTIC DIP



PM-DIP20.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.254			0.010		
B	1.39		1.65	0.055		0.065
b		0.45			0.018	
b1		0.25			0.010	
D			25.4			1.000
E		8.5			0.335	
e		2.54			0.100	
e3		22.86			0.900	
F			7.1			0.280
i			3.93			0.155
L		3.3			0.130	
Z			1.34			0.053

DIP20.TBL

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No licence is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

Purchase of I<sup>2</sup>C Components of SGS-THOMSON Microelectronics, conveys a license under the Philips I<sup>2</sup>C Patent. Rights to use these components in a I<sup>2</sup>C system, is granted provided that the system conforms to the I<sup>2</sup>C Standard Specifications as defined by Philips.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco  
The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.