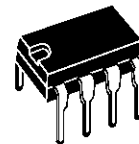


AUDIO SWITCH AND DC VOLUME CONTROL FOR TV

- TWO AUDIO INPUTS WITH SWITCHING FACILITIES FULLY COMPATIBLE WITH THE SCART EUROPEAN NORM EN 50049
- DC VOLUME CONTROL

DESCRIPTION

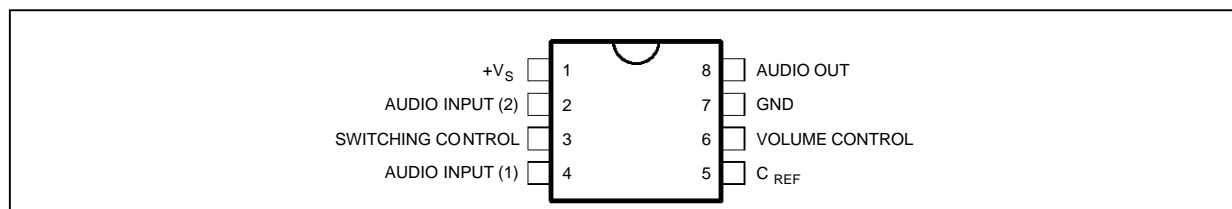
The TDA8196 is a monolithic integrated circuit in DIP8 package intended for TV applications.



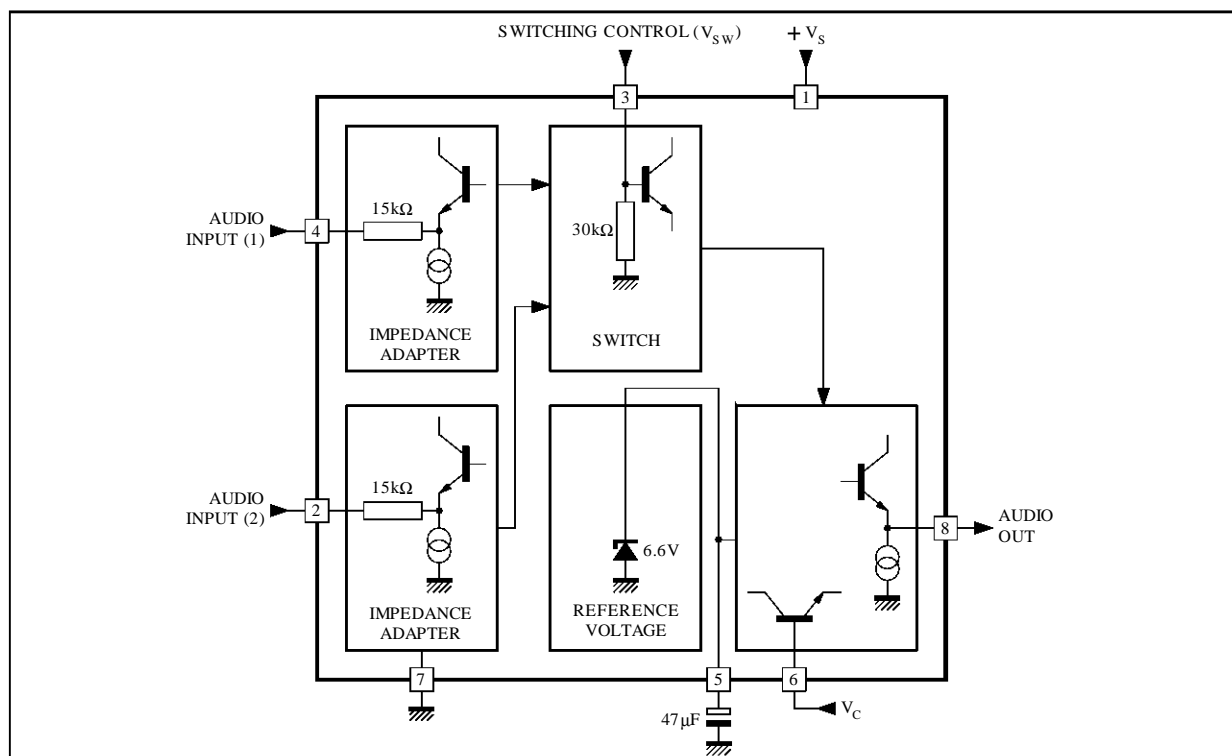
DIP8
(Plastic Package)

ORDER CODE : TDA8196

PIN CONNECTION (top view)



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (pin 1)	16	V
T_{stg}, T_j	Storage and Junction Temperature	– 55 to 125	°C
T_{amb}	Operating Ambient Temperature	0 to 70	°C

8196-01.TBL

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max 200	°C/W

8196-02.TBL

ELECTRICAL CHARACTERISTICS

(refer to the test circuit, $V_S = 12V$, $T_{amb} = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Pin	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Supply Voltage	1		10.8	12	13.2	V
I_S	Supply Current	1	$V_i = 0, V_C = 0.5V$		12		mA
V_R	Reference Voltage	5			6.6		V
V_{SW}	Switching Voltage Audio Input 1 Audio Input 2	3		0 8		5 12	V V
R_{SW}	Switching Input Resistance	3	$V_{SW} = 12V$	20	30		k Ω
C_{SW}	Switching Input Capacitance	3				10	pF
C_t	Crosstalk between Switched Inputs		Selective Voltmeter ($B_W = 8Hz$), see Fig.1	70	90		dB
V_i	Audio Input Amplitude (1 or 2)	4 2			0.5	2	V_{RMS}
R_i	Audio Input Resistance (1 or 2)	4 2		10	13		k Ω
K_{min}	Output / Input Gain for Max Vol				0		dB
R_O	Audio Output Resistance	8			0.2	1	k Ω
K_V	Attenuation Range		Selective Voltmeter ($B_W = 8Hz$), see Fig.2	70	90		dB
V_C	Control Voltage Range $K_V = K_{MAX}$ (Vol. min) $K_V = K_{MIN}$ (Vol. max)	6			0.5 4.5		V V
THD	Distortion	8	$V_i = 2 V_{RMS} @ V_C = 4.5V$		0.4	1	%
E_n	Output Noise Level	8	DIN45405 $V_C = 0.5V$ Weighted		40		μV_{RMS}
E_n	Output Noise Level	8	DIN45405 $V_C = 4.5V$ Weighted		120		μV_{RMS}
$\frac{K_V}{\Delta T_a}$	Vol. Attenuation Thermal Drift		$T_{amb} = 0$ to $70^\circ C$ $K_V = 30dB$, see Fig.3		0.04		dB/°C
SVR	Supply Voltage Rejection	8	$V_C = 0.5V, f = 100Hz$ $V_{ripple} = 1V_{PP}$ Selective Voltmeter ($B_W = 8Hz$), see Fig.4 and 5		38		dB
V_O	Output DC Shift	8	$V_C = 0.5 + 4.5V, V_i = 2 V_{RMS}$		0.25		V

8196-03.TBL

TEST CIRCUIT

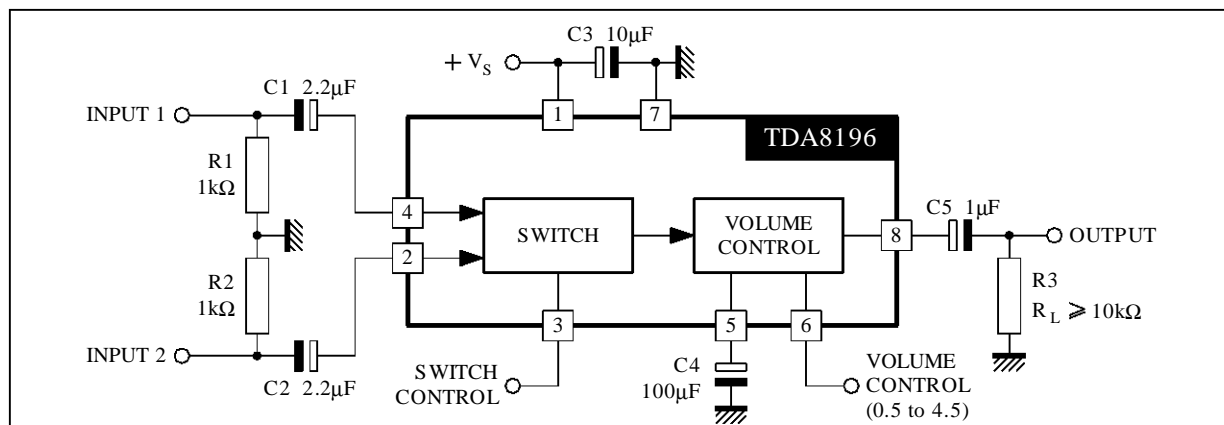


Figure 1 : TDA8196 Crosstalk

Figure 2 : Output Attenuation versus DC Volume Control Voltage

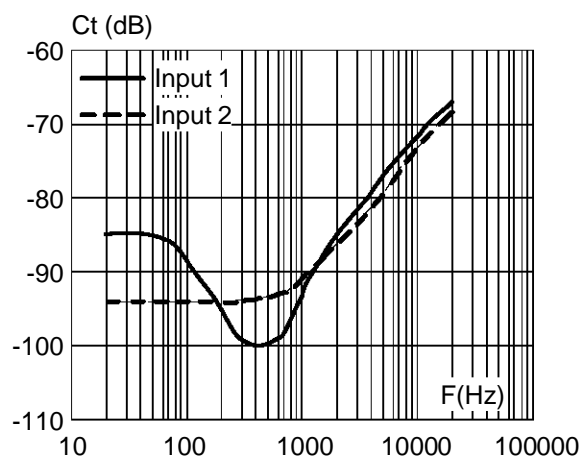
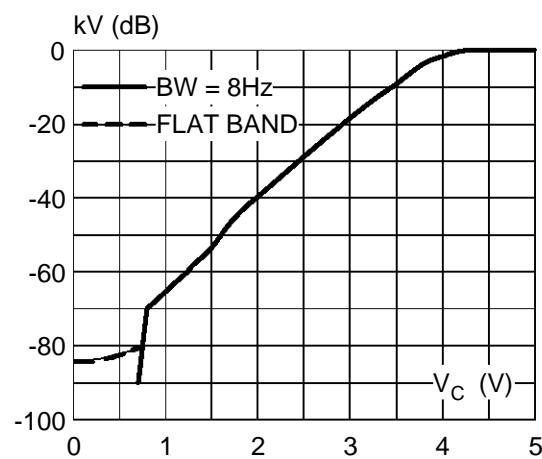
Figure 3 : K_v Drift vs. T_{amb} Variation

Figure 4 : SVR vs. Ripple Frequency

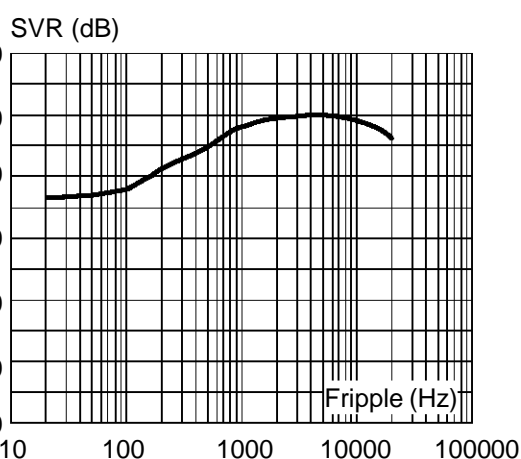
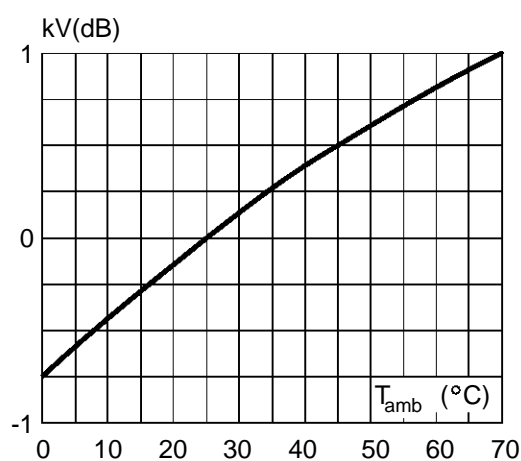
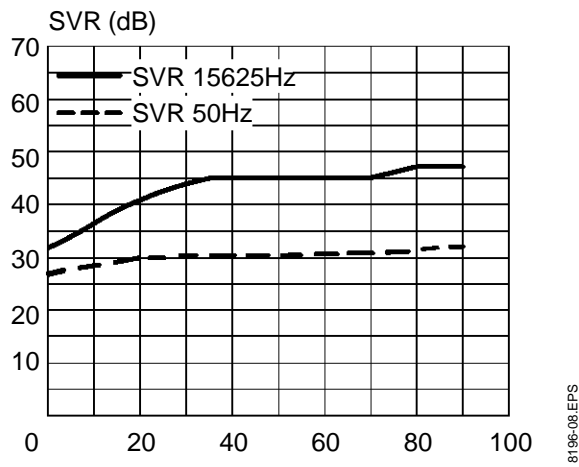
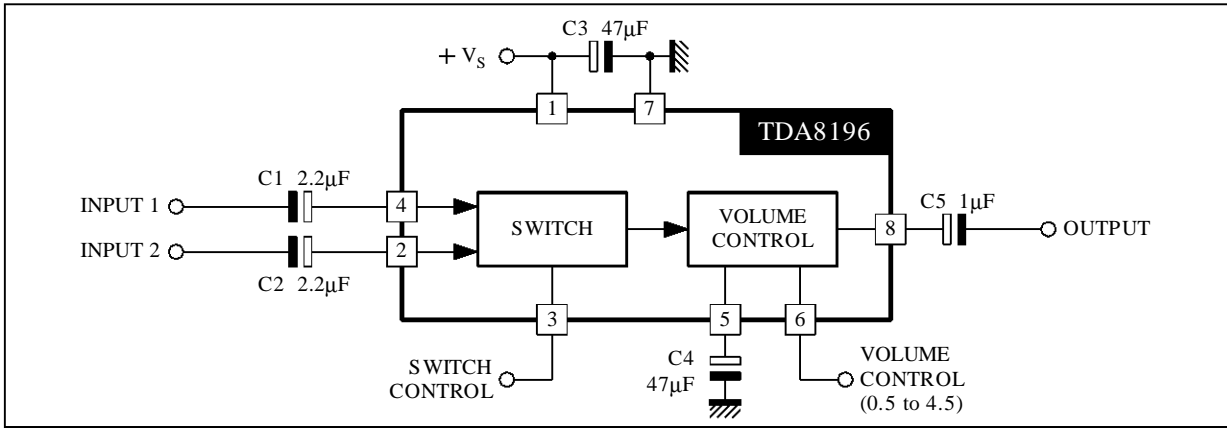


Figure 5 : SVR vs. Volume Attenuation

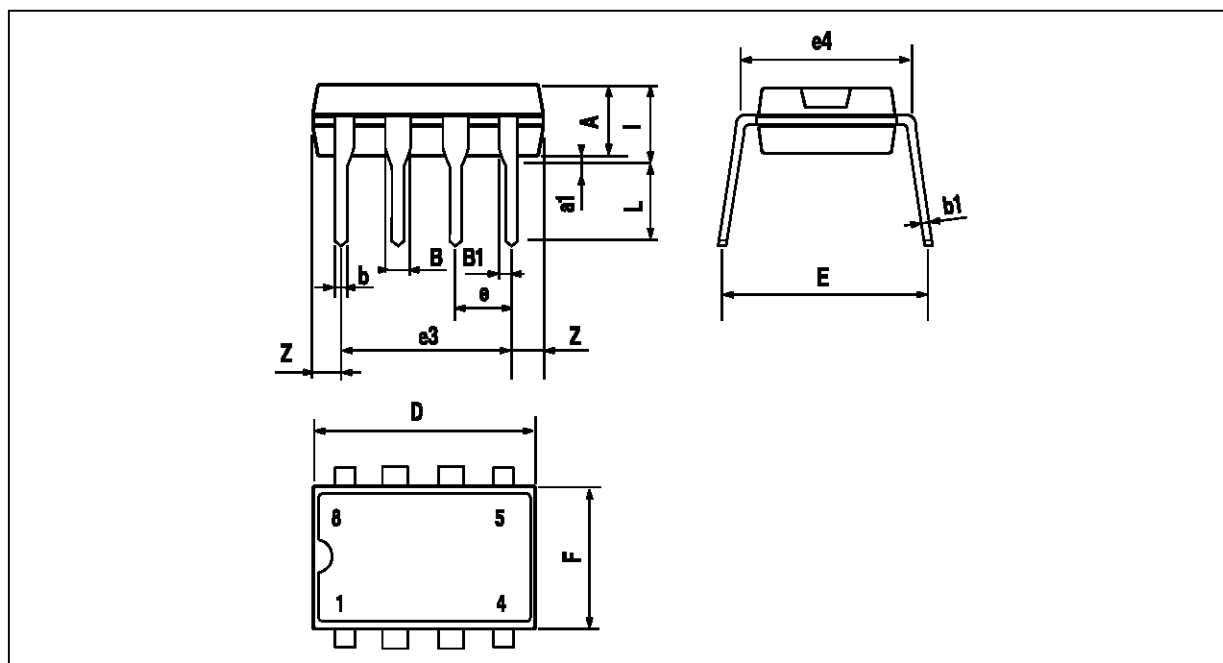


APPLICATION CIRCUIT



PACKAGE MECHANICAL DATA

8 PINS - PLASTIC DIP



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

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.

© 1996 SGS-THOMSON Microelectronics - All Rights Reserved

Purchase of I²C Components of SGS-THOMSON Microelectronics, conveys a license under the Philips I²C Patent. Rights to use these components in a I²C system, is granted provided that the system conforms to the I²C Standard Specifications as defined by Philips.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

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

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.