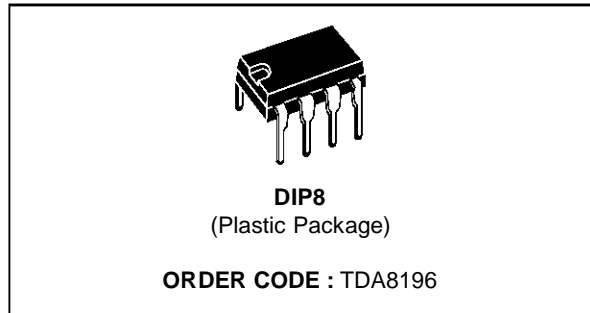


AUDIO SWITCH AND DC VOLUME CONTROL FOR TV

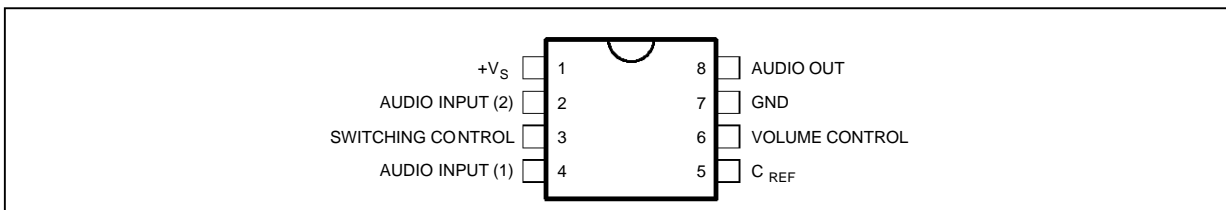
- TWO AUDIO INPUTS WITH SWITCHING FACILITIES FULLY COMPATIBLE WITH THE SCART EUROPEAN NORM EN 50049
- DC VOLUME CONTROL



DESCRIPTION

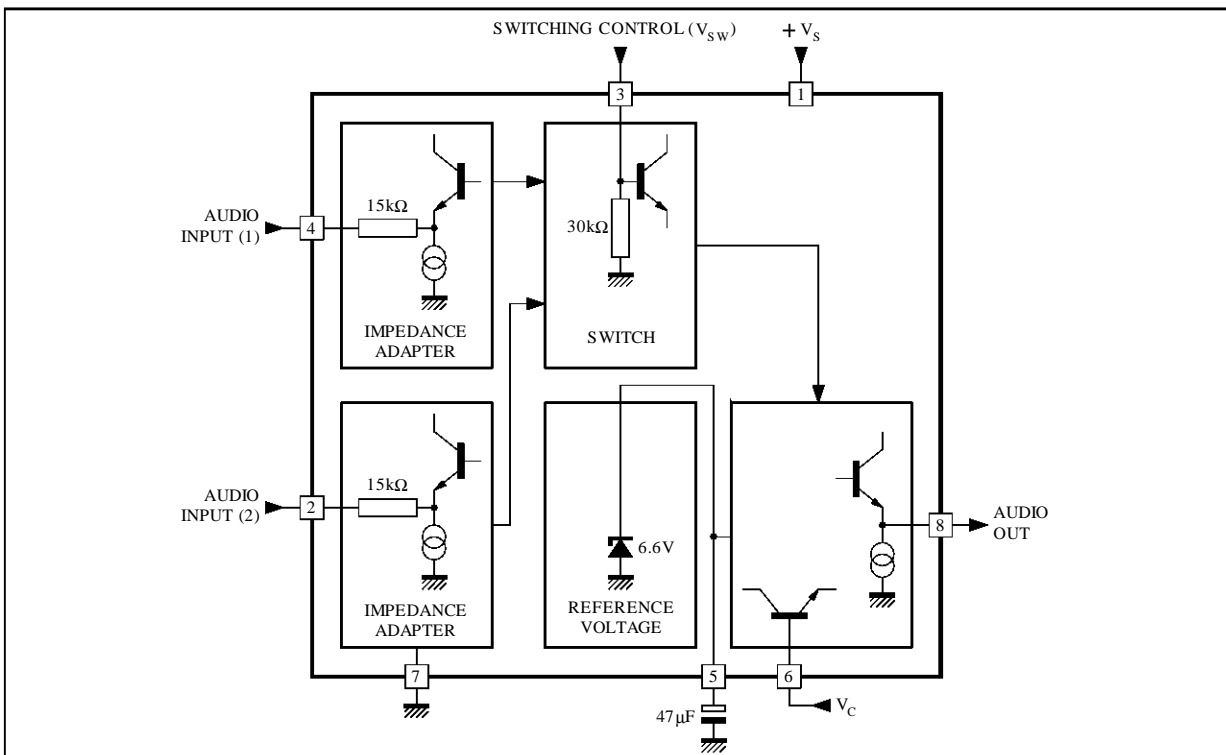
The TDA8196 is a monolithic integrated circuit in DIP8 package intended for TV applications.

PIN CONNECTION (top view)



8196-01.EPS

BLOCK DIAGRAM



8196-02.EPS

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

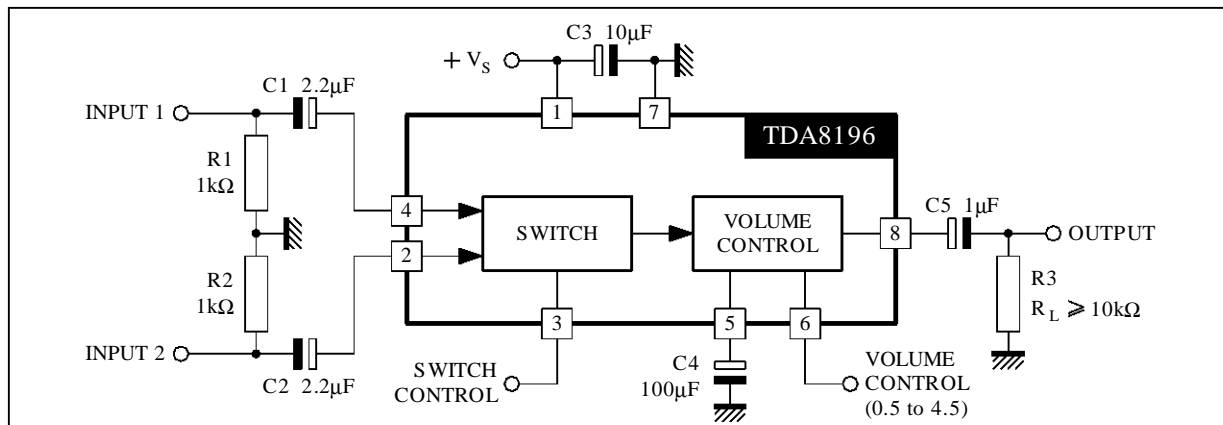
ELECTRICAL CHARACTERISTICS

(refer to the test circuit, V_S = 12V, T_{amb} = 25°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		kΩ
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		kΩ
K _{min}	Output / Input Gain for Max Vol				0		dB
R _O	Audio Output Resistance	8			0.2	1	kΩ
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	%
En	Output Noise Level	8	DIN45405 V _C = 0.5V Weighted		40		μV _{RMS}
En	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°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

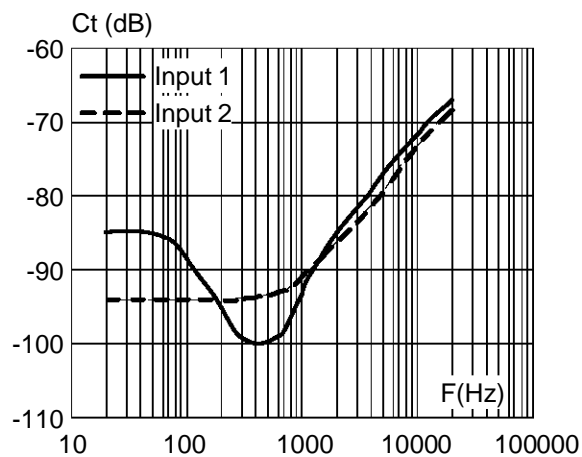
TEST CIRCUIT



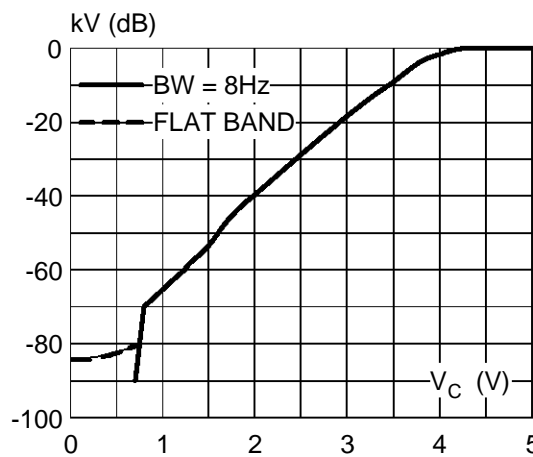
8196-03.EPS

Figure 1 : TDA8196 Crosstalk

Figure 2 : Output Attenuation versus DC Volume Control Voltage



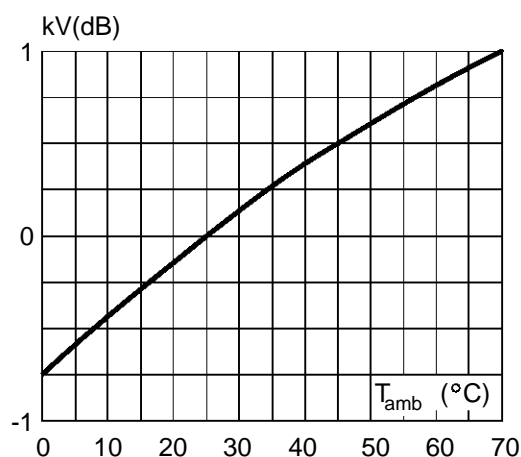
8196-04.EPS



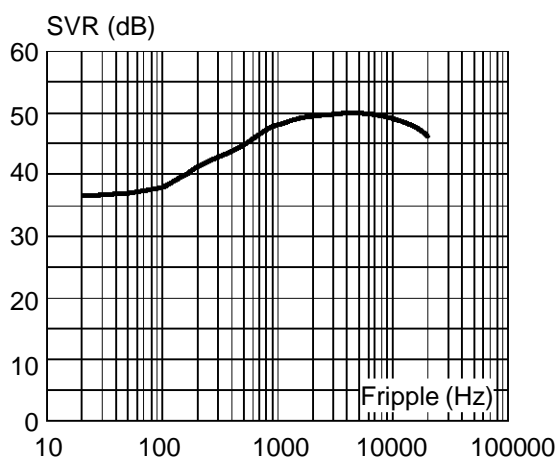
8196-05.EPS

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

Figure 4 : SVR vs. Ripple Frequency

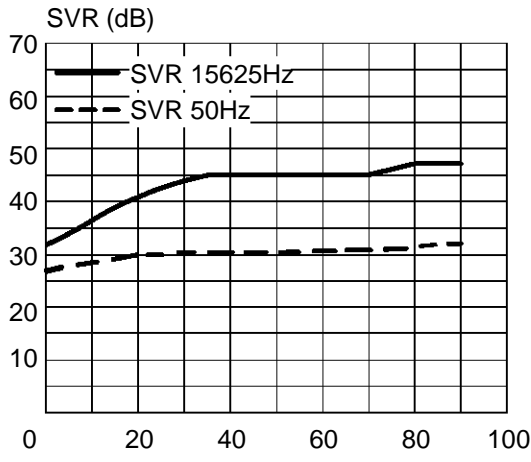


8196-06.EPS



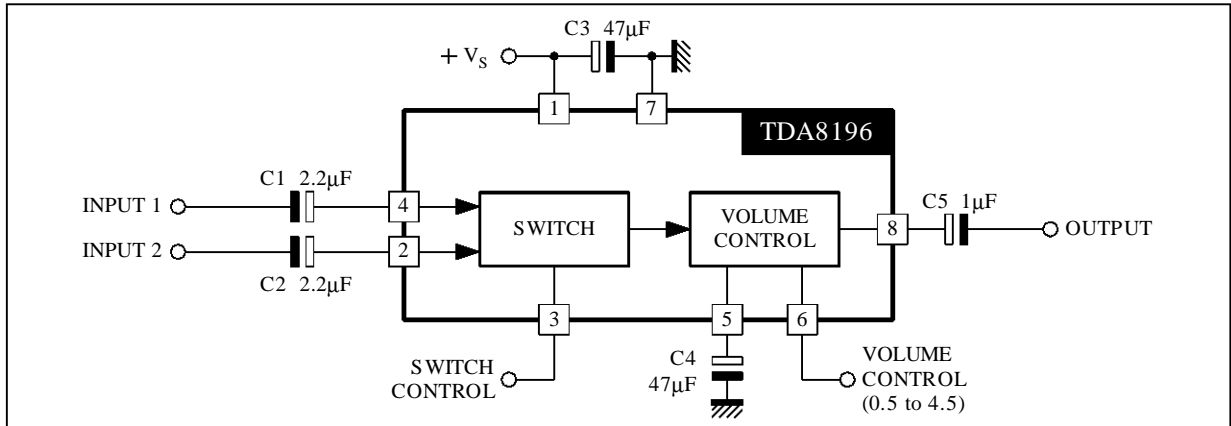
8196-07.EPS

Figure 5 : SVR vs. Volume Attenuation



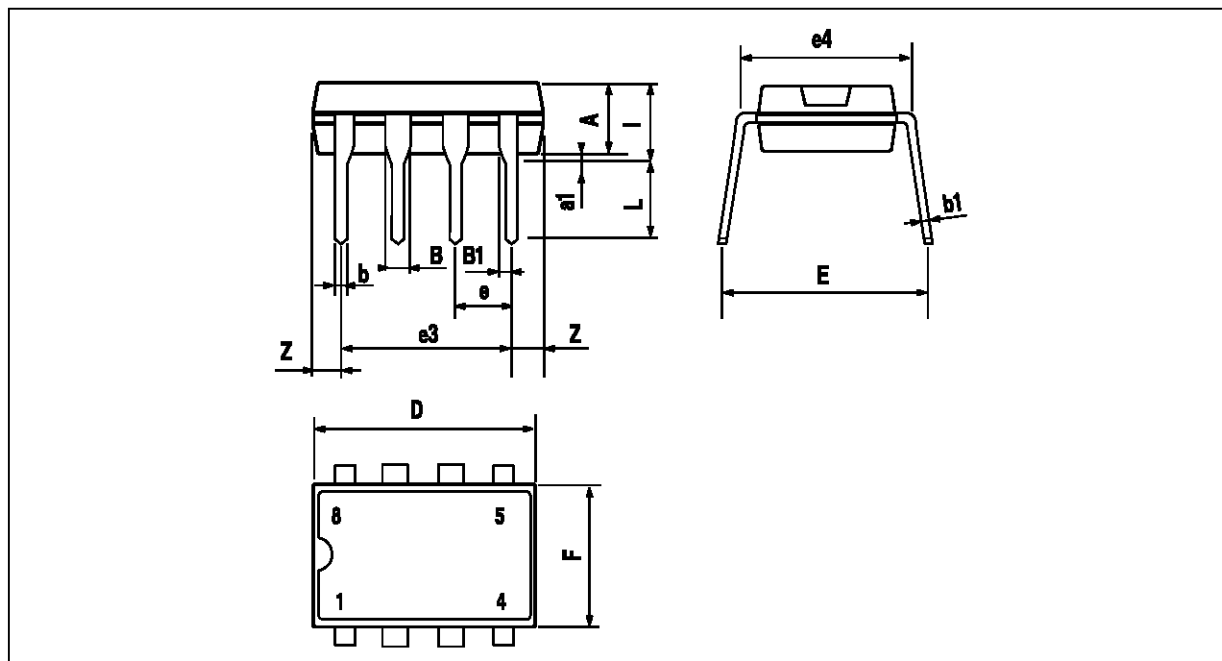
8196-08.EPS

APPLICATION CIRCUIT



8196-09.EPS

PACKAGE MECHANICAL DATA
8 PINS - PLASTIC DIP



PM-DIP8-EFS

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
l			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

DIP8-TBL

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