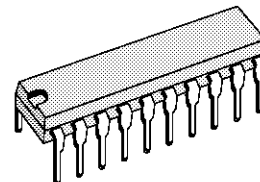


TV SOUND CHANNEL

- HIGH SENSITIVITY
- EXCELLENT AM REJECTION
- DC VOLUME CONTROL
- PERITELEVISION FACILITY
- 4W OUTPUT POWER
- LOW DISTORTION
- THERMAL PROTECTION
- TURN-ON AND TURN-OFF MUTING



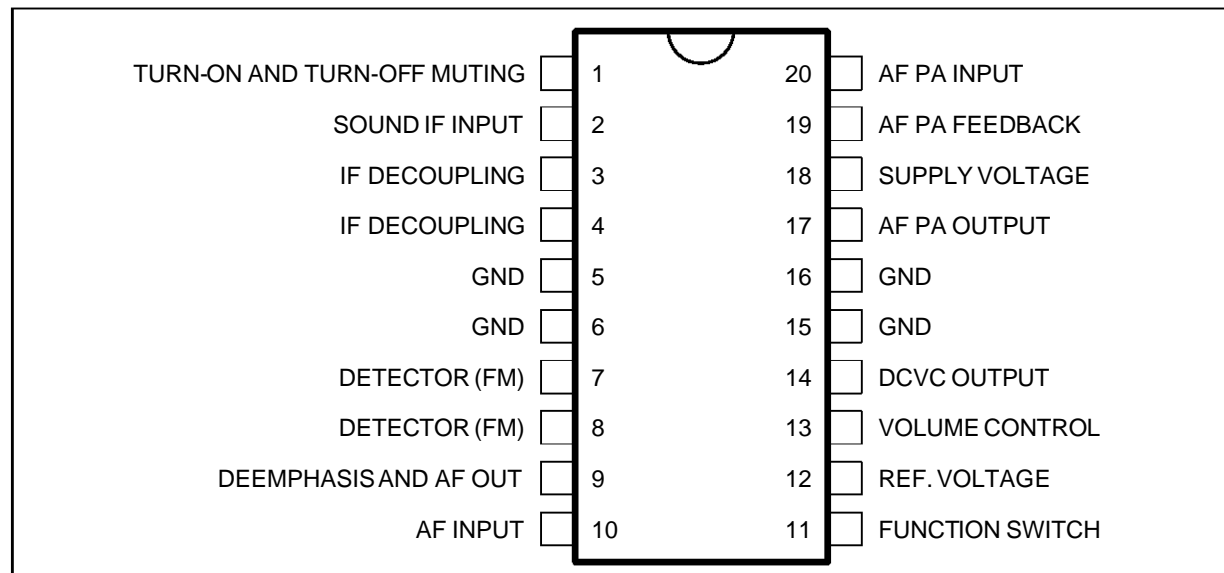
DIP20
(Plastic Package)

ORDER CODE : TDA8191

DESCRIPTION

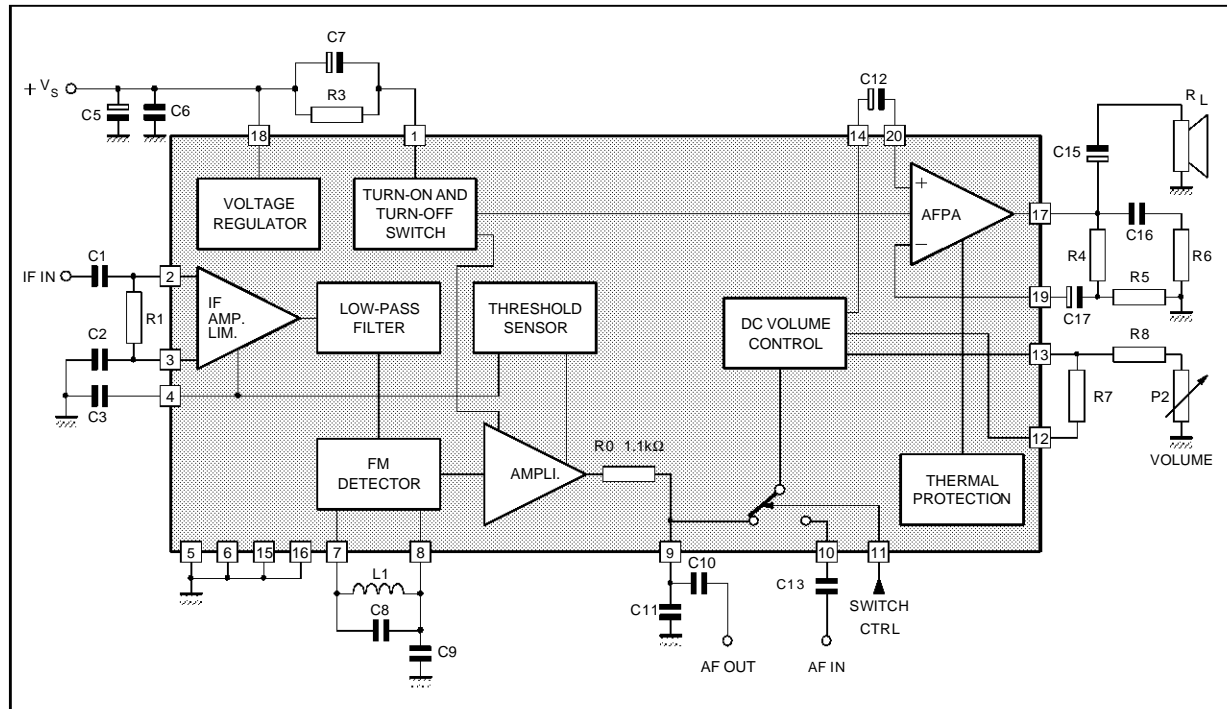
The TDA8191 is a monolithic integrated circuit that includes all the functions needed for a complete TV sound channel. The TDA8191 is assembled in a 20 pin dual in line power package.

PIN CONNECTION



8191-01.EPS

BLOCK DIAGRAM



8191-02.EPS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (pin 18)	28	V
V_I	Voltage at Pin 1	$\pm V_S$	
V_I	Input Voltage (pin 2)	1	V _{PP}
I_o	Output Peak Current (repetitive)	1.5	A
I_o	Output Peak Current (non repetitive)	2	A
P_{tot}	Total Power Dissipation : at $T_{pins} = 90^\circ\text{C}$ at $T_{amb} = 70^\circ\text{C}$	4.3 1	W W
T_{stg}, T_j	Storage and Junction Temperature	- 40 to 150	$^\circ\text{C}$

8191-01.TBL

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th(j-pins)}$	Junction-pins Thermal Resistance	Max 14	$^\circ\text{C/W}$
$R_{th(j-a)}$	Junction-ambient Thermal Resistance	Max 80	$^\circ\text{C/W}$

8191-02.TBL

ELECTRICAL CHARACTERISTICS

(Refer to fig. 1 ; $V_S = 24\text{V}$, $R_L = 16\Omega$, Pin 11 floating, $\Delta f = \pm 50\text{kHz}$, $V_i = 1\text{mV}$, $f_o = 5.5\text{MHz}$, $f_m = 1\text{kHz}$, $T_{amb} = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Supply Voltage (Pin 18)	$V_C = 4.5\text{V}$	10.8	24	27	V
V_O	Quiescent Output Voltage (Pin 17)	$V_C = 4.5\text{V}$	11	12	13	V
V_1	Pin 1 DC Voltage	$V_C = 4.5\text{V}$		5.3		V
I_D	Quiescent Drain Current	$V_C = 4.5\text{V}$		35		mA
V_I	Input Limiting Voltage at Pin 2 (-3dB)	$V_O = 4V_{RMS}$		50	100	μV

8191-03.TBL

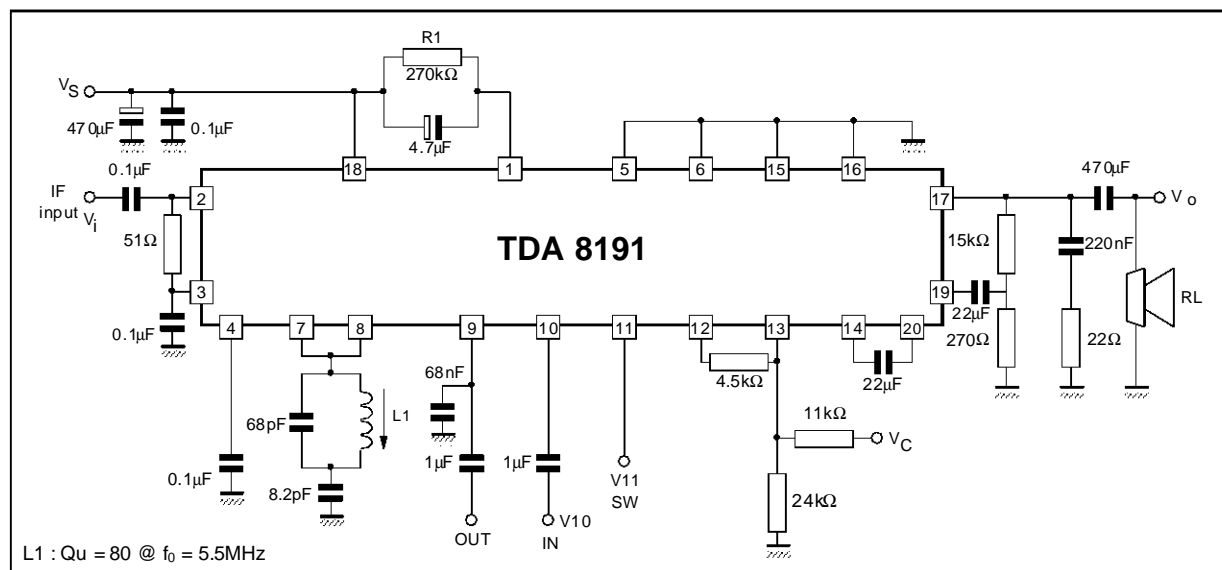
ELECTRICAL CHARACTERISTICS (continued)

(Refer to fig. 1 ; $V_S = 24V$, $R_L = 16\Omega$, Pin 11 floating, $\Delta f = \pm 50kHz$, $V_i = 1mV$, $f_o = 5.5MHz$, $f_m = 1kHz$, $T_{amb} = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_9	Recovered Audio Voltage (pin 9)	$V_C = 4.5V$, $\Delta f = \pm 15kHz$	200		400	mV _{RMS}
R_9	Deemphasis Resistance	$f = 20Hz$ to $20kHz$	500	700	1000	Ω
AMR	Amplitude Modul. Rejection	$m = 0.3$, $V_O = 4V_{RMS}$	45	60		dB
R_I	Input Resistance (pin 2)	$\Delta f = 0$		30		k Ω
C_I	Input Capacitance (pin 2)	$\Delta f = 0$, $V_C = 4.5V$		6		pF
V_{12}	DCVC Reference Voltage		5.6		6.2	V
K_v	Volume Attenuation	$V_C = 0.5V$; Fig. 2 $V_C = 4.5V$; Fig. 2	80		1.0	dB dB
$\frac{\Delta K_v}{\Delta T_j}$	Volume Attenuation Thermal Drift	$T_j = 300$ to $380^\circ K$ Fig. 3		- 0.05	-0.1	dB/ $^\circ C$
P_O	Output Power (d = 10%)		3.5	4		W
SVR	Supply Voltage Rej. (Pin 17) (Pin 9)	$V_C = 4.5V$ $f_{ripple} = 100Hz$	20 50	26 60		dB dB
V_{11}	Function Switch. - Television Broadc. Reproduction - Peritelevision Reproduction		0 8		2 12	V V
R_{11}	Input Resistance		10			k Ω
V_{10}	Input Voltage (d \leq 2%)	$V_O = 4V_{RMS}$; $V_{11} = 12V$		0.5	2.0	V _{RMS}
R_{10}	Input Resistance	$f = 20Hz$ to $20kHz$	10			k Ω
CT	Crosstalk between Pins 9, 10		60			dB
$\frac{S+N}{N}$	Signal to Noise Ratio	$\Delta f = 0$; $V_O = 4V_{RMS}$	60	70		dB
d	Distortion ($P_O = 250mV$)				2	%
Δf	Deviation Sens.	$V_C = 0.5V$; $V_O = 4V_{RMS}$		± 4	± 10	kHz

8191-04.TBL

Figure 1 : Test Circuit



8191-03.EPS

TYPICAL APPLICATION

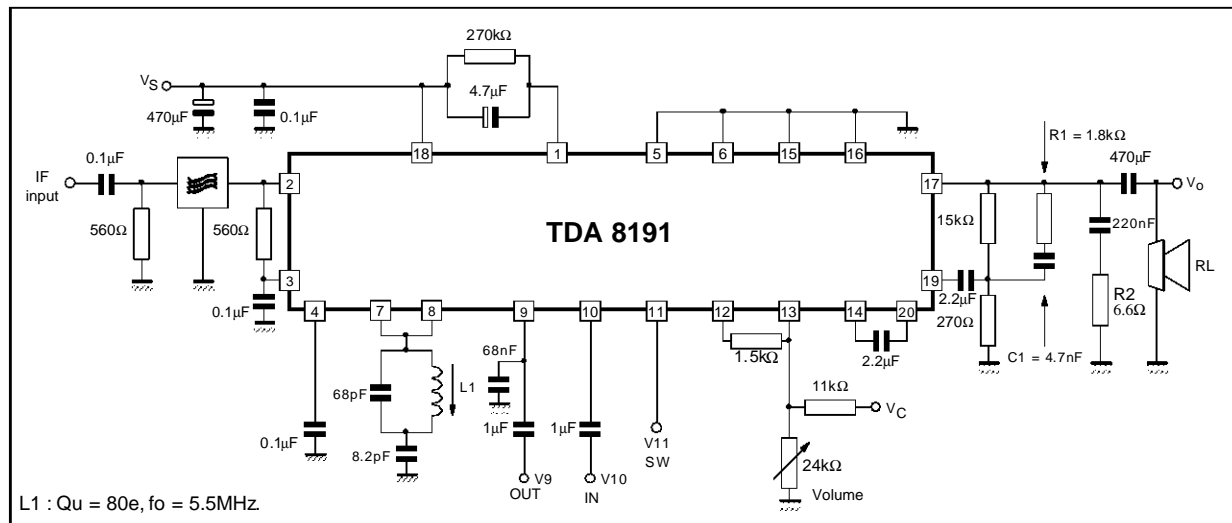


Figure 2 : Volume Attenuation versus DC Volume Control Voltage

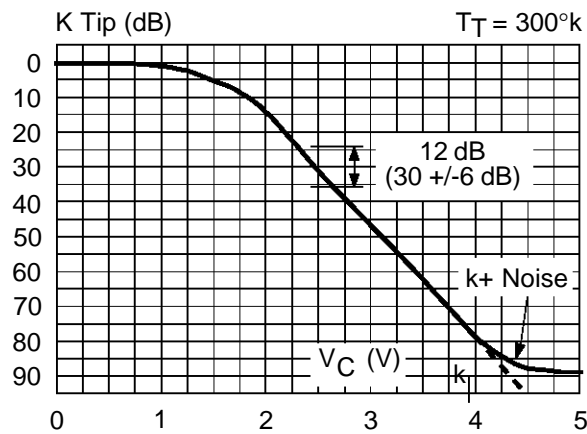


Figure 4 : Relative Audio Output Voltage and Output Noise versus Input Signal

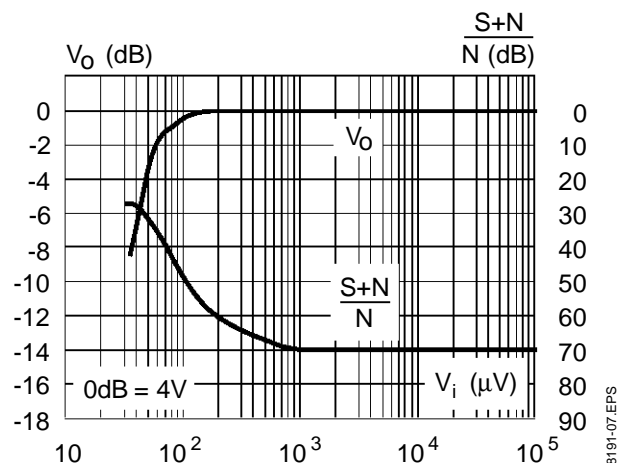


Figure 3 : Volume Attenuation Thermal Drift

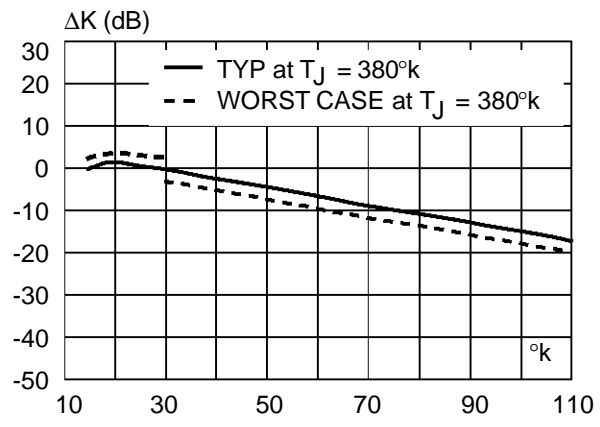


Figure 5 : Distortion versus Output Power

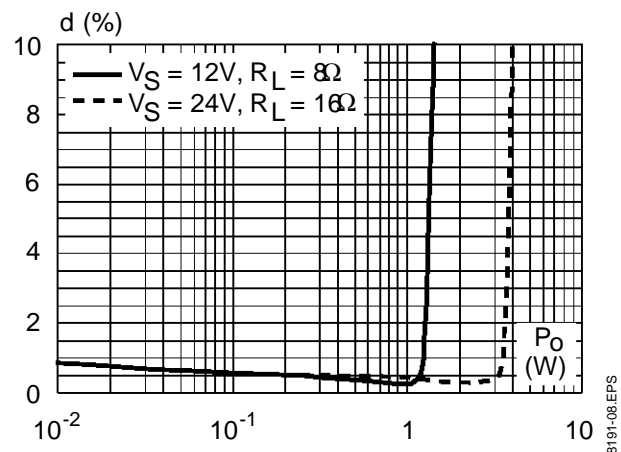


Figure 6 : Audio Amplifier Frequency Response

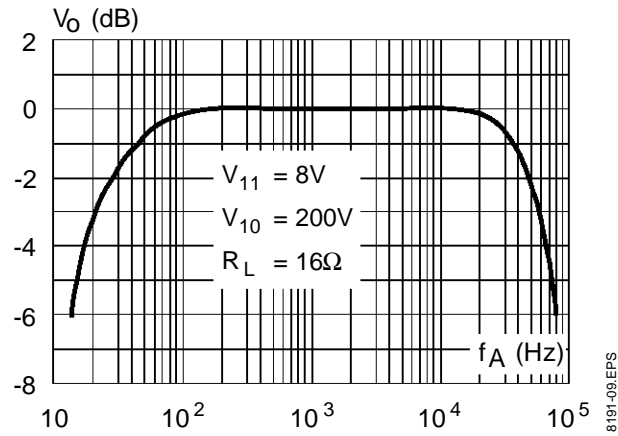


Figure 7 : Output Power versus Supply Voltage

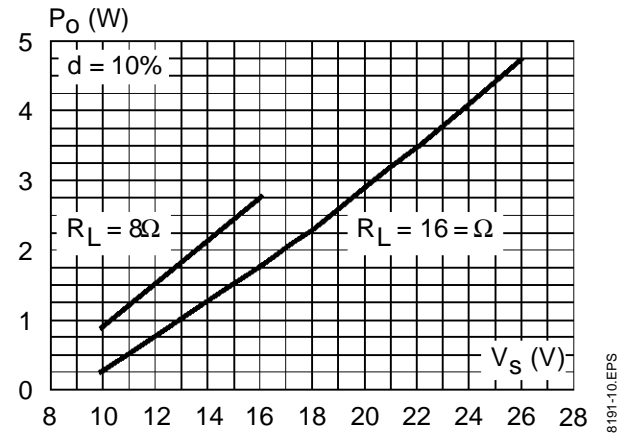


Figure 8 : Power Dissipation versus Supply Voltage (sine wave operation)

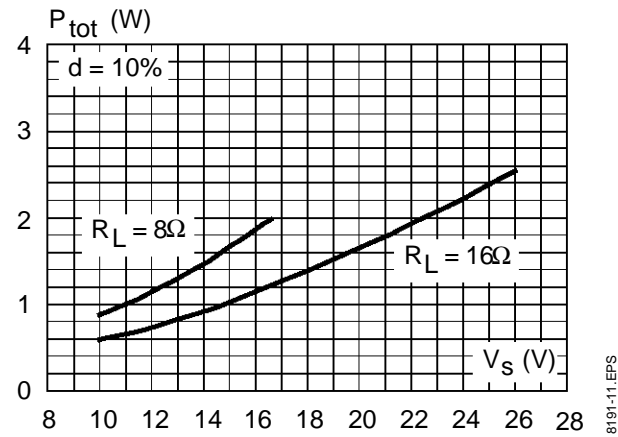


Figure 9 : Power Dissipation and Efficiency versus Output Power

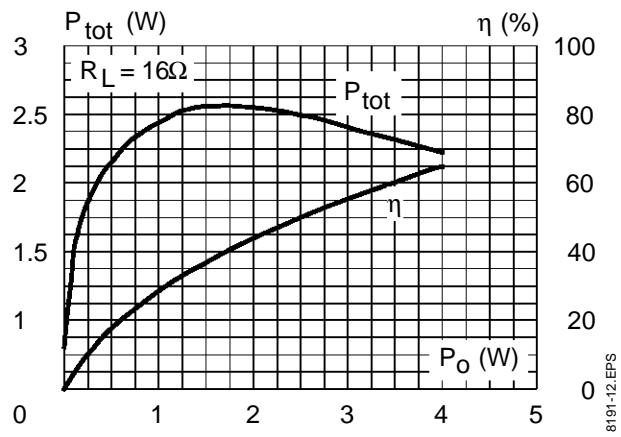
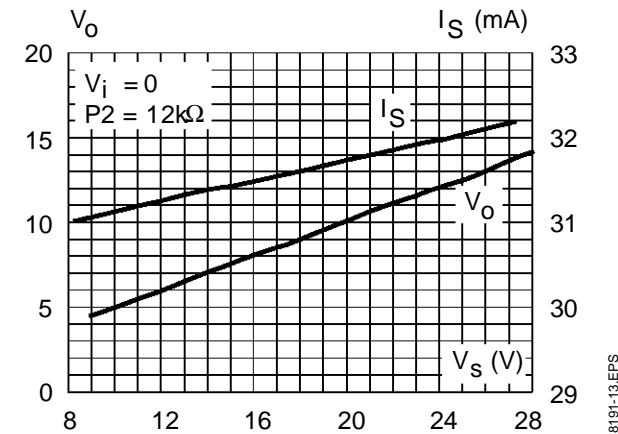


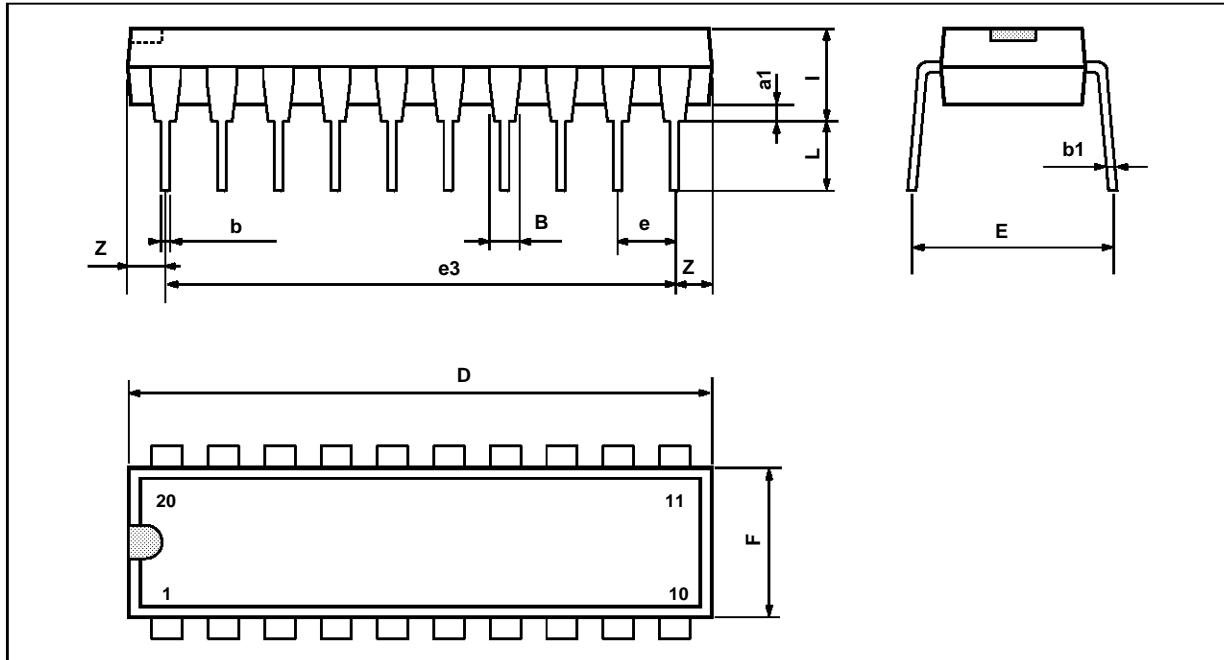
Figure 10 : Quiescent Drain and Quiescent Output Voltage versus Supply Voltage



TDA8191

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

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