



# TDA7297

## LINEAR INTEGRATED CIRCUIT

### 10+10W DUAL BRIDGE AMPLIFIER

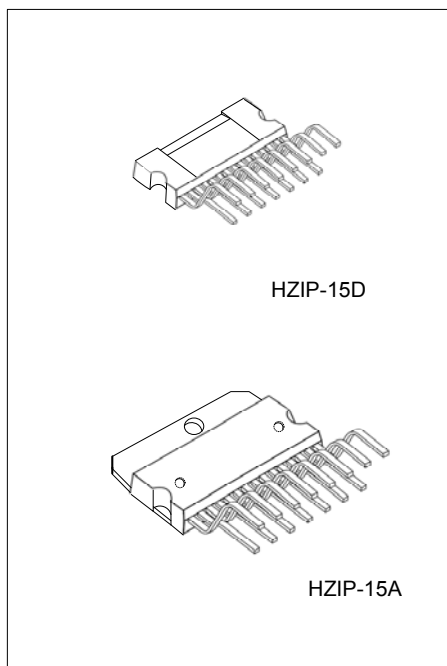
#### DESCRIPTION

The UTC **TDA7297** is a dual bridge amplifier, it uses UTC advanced technology to provide customers with wide supply voltage, stand-by function, mute function, thermal overload protection and short circuit protection, etc.

The UTC **TDA7297** is suitable for TV and Portable Radio applications, etc.

#### FEATURES

- \* St-by and mute functions
- \* OTP and short circuit protections
- \* Work with a minimum external components
- \* Wide supply voltage range (6.5V~18V)



#### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
TDA7297L-J15-A-T	TDA7297G-J15-A-T	HZIP-15A	Tube
TDA7297L-J15-D-T	TDA7297G-J15-D-T	HZIP-15D	Tube

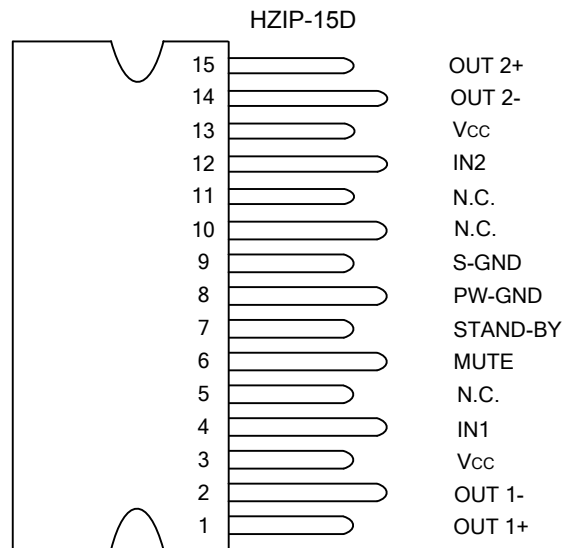
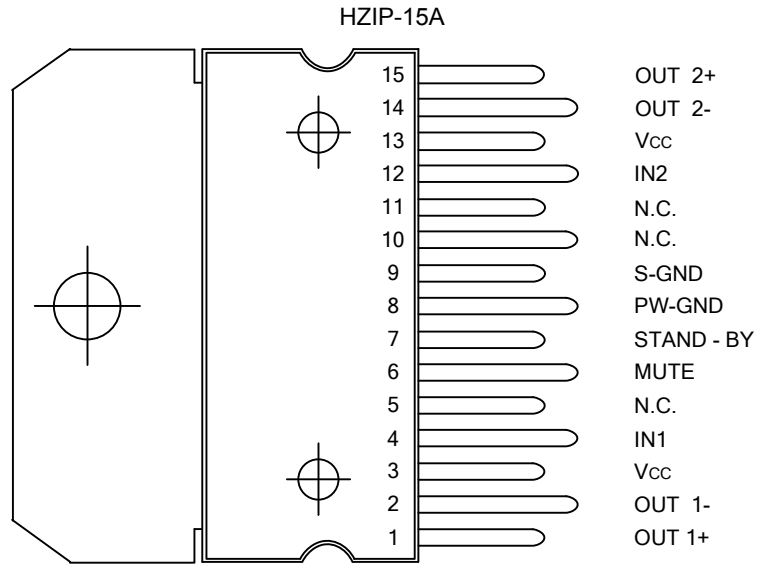
Note: xx: Output Voltage, refer to Marking Information.

<p>TDA7297L-J15-D-T</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) T: Tube</li> <li>(2) J15-A: HZIP-15A, J15-D: HZIP-15D</li> <li>(3) L: Lead Free, G: Halogen Free and Lead Free</li> </ul>
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#### MARKIN

HZIP-15A	HZIP-15D

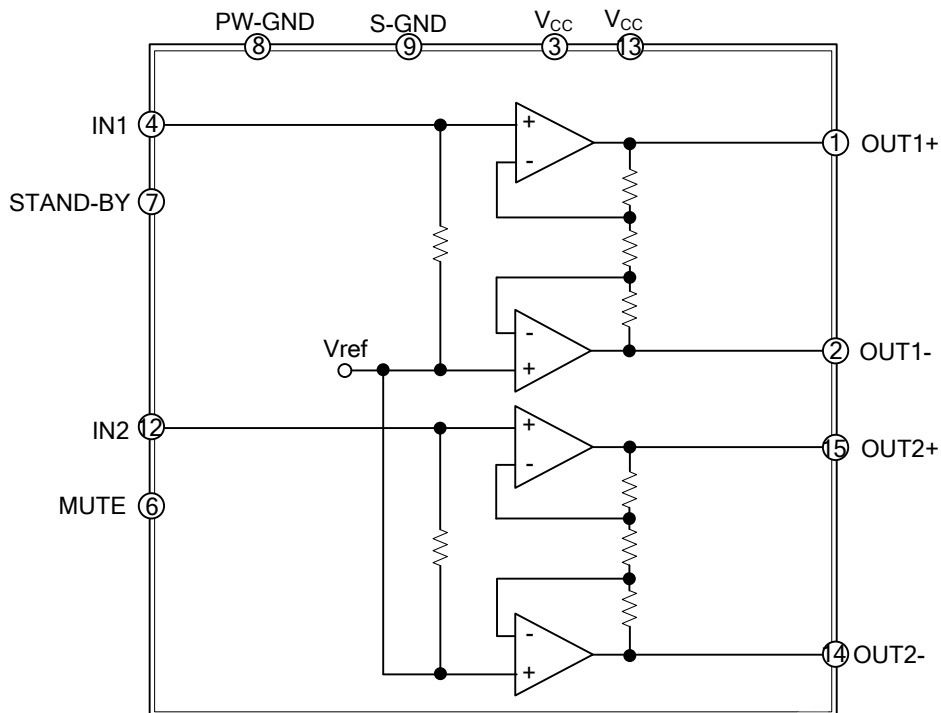
### ■ PIN CONFIGURATION



### ■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	OUT1+	Non-Inverting Output of Channel 1
2	OUT1-	Inverting Output of Channel 1
3	V <sub>CC</sub>	Supply Voltage
4	IN1	Input of Channel 1
5	N.C.	Not Connected
6	MUTE	Mute Function Terminal
7	STAND-BY	Stand-by Function Terminal
8	PW-GND	Power Ground
9	S-GND	Signal Ground
10	N.C.	Not Connected
11	N.C.	Not Connected
12	IN2	Input of Channel 2
13	V <sub>CC</sub>	Supply Voltage
14	OUT2-	Inverting Output of Channel 2
15	OUT2+	Non-Inverting Output of Channel 2

### ■ BLOCK DIAGRAM



### ■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_S$	20	V
Output Peak Current (Internally Limited)	$I_O$	2	A
Total Power Dissipation ( $T_C=70^\circ\text{C}$ )	$P_{TOT}$	30	W
Operating Temperature	$T_{OPR}$	0~70	$^\circ\text{C}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40~+150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ THERMAL DATA

DESCRIPTION	SYMBOL	RATINGS	UNIT	
Junction to Ambient	$\theta_{JA}$	HZIP-15A	38	$^\circ\text{C/W}$
		HZIP-15D	48	$^\circ\text{C/W}$
Junction to Case	$\theta_{JC}$	HZIP-15A	1.5	$^\circ\text{C/W}$
		HZIP-15D	1.8	$^\circ\text{C/W}$

### ■ ELECTRICAL CHARACTERISTICS

( $V_{CC}=13\text{V}$ ,  $R_L=8\Omega$ ,  $f=1\text{kHz}$ ,  $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Range	$V_{CC}$		6.5		18	V
Total Quiescent Current	$I_q$	$R_L=\infty$		50	65	mA
Output Offset Voltage	$V_{OS}$				120	mV
Output Power	$P_O$	THD=10%	8.3	10		W
Total Harmonic Distortion	THD	$P_O=1\text{W}$		0.1	0.3	%
		$P_O=0.1\text{W}\sim 2\text{W}$ , $f=100\text{Hz}\sim 15\text{kHz}$			1	%
Supply Voltage Rejection	SVR	$f=100\text{Hz}$ $V_R=0.5\text{V}$	40	56		dB
Crosstalk	CT		46	60		dB
Mute Attenuation	$A_{MUTE}$		60	80		dB
Thermal Threshold	$T_W$			150		$^\circ\text{C}$
Closed Loop Voltage Gain	$G_V$		31	32	33	dB
Voltage Gain Matching	$\Delta G_V$				0.5	dB
Input Resistance	$R_i$		25	30		k $\Omega$
Mute Threshold	$V_{TMUTE}$	$V_O=-30\text{dB}$	2.3	2.9	4.1	V
ST-BY Threshold	$V_{TST-BY}$		0.8	1.3	1.8	V
ST-BY Current $V_6=\text{GND}$	$I_{ST-BY}$				100	$\mu\text{A}$
Total Output Noise Voltage	$e_N$	A curve		150		$\mu\text{V}$
		$f=20\text{Hz}\sim 20\text{kHz}$		220	500	$\mu\text{V}$

### ■ APPLICATION SUGGESTION

#### STAND-BY AND MUTE FUNCTIONS

##### a. Microprocessor Application

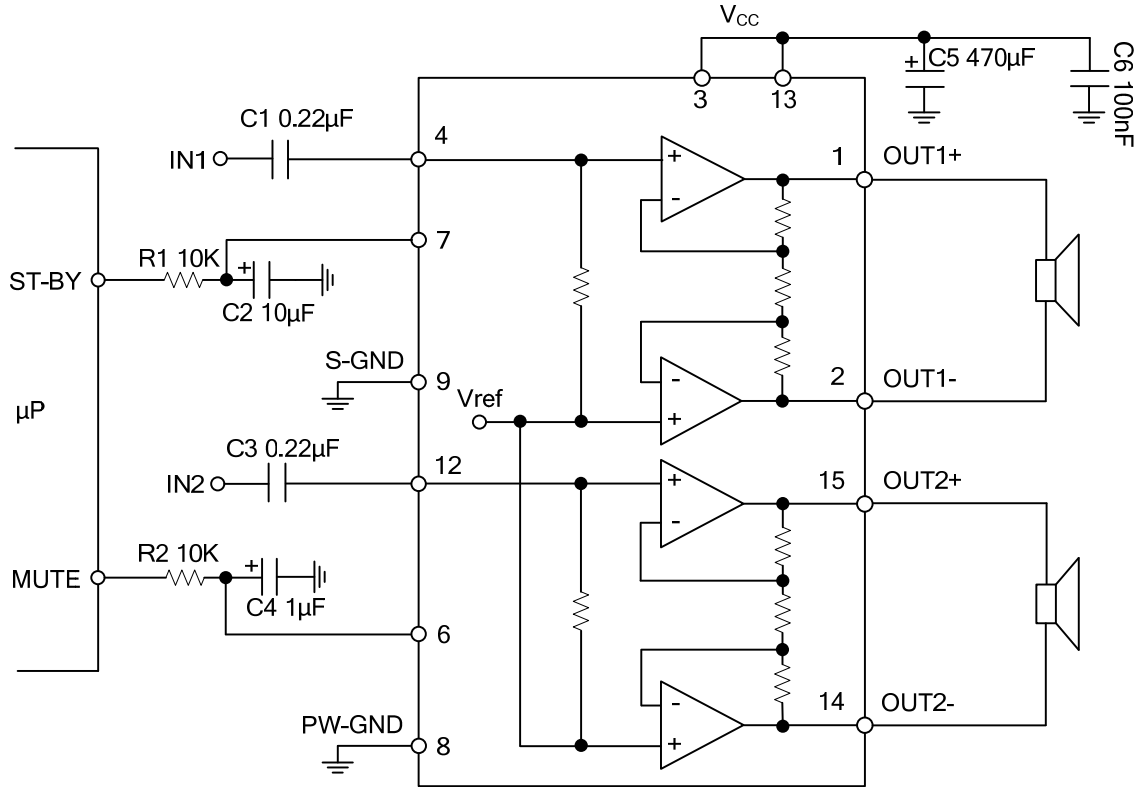


Fig. 1 Microprocessor Application

■ APPLICATION SUGGESTION(Cost.)

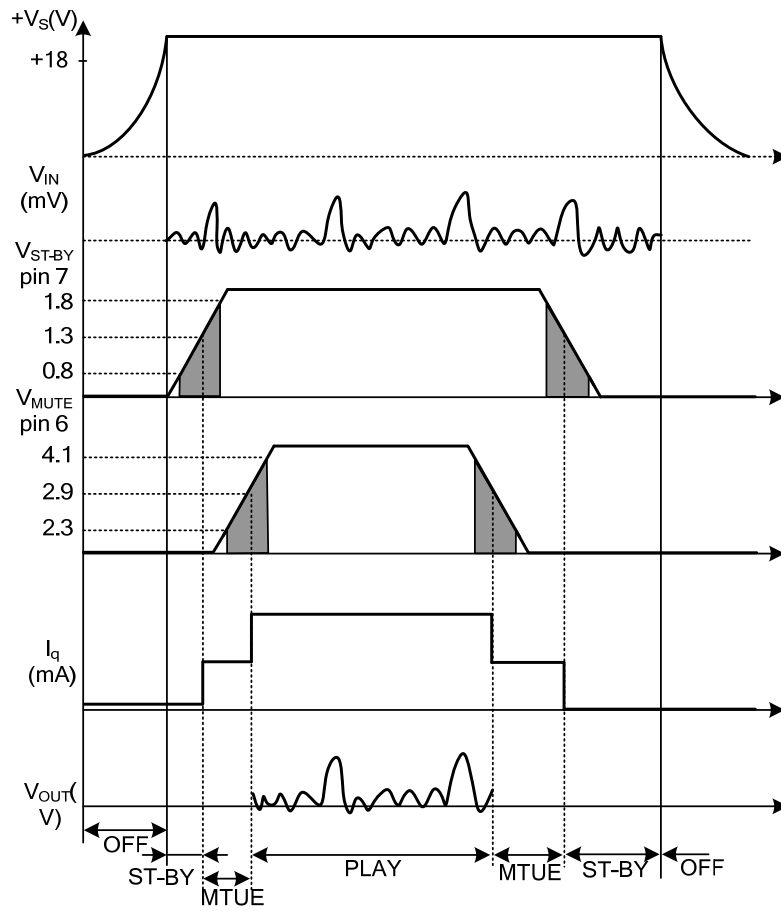


Fig. 2 Microprocessor Driving Signals

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■ APPLICATION SUGGESTION(Cost.)

b. Low Cost Application

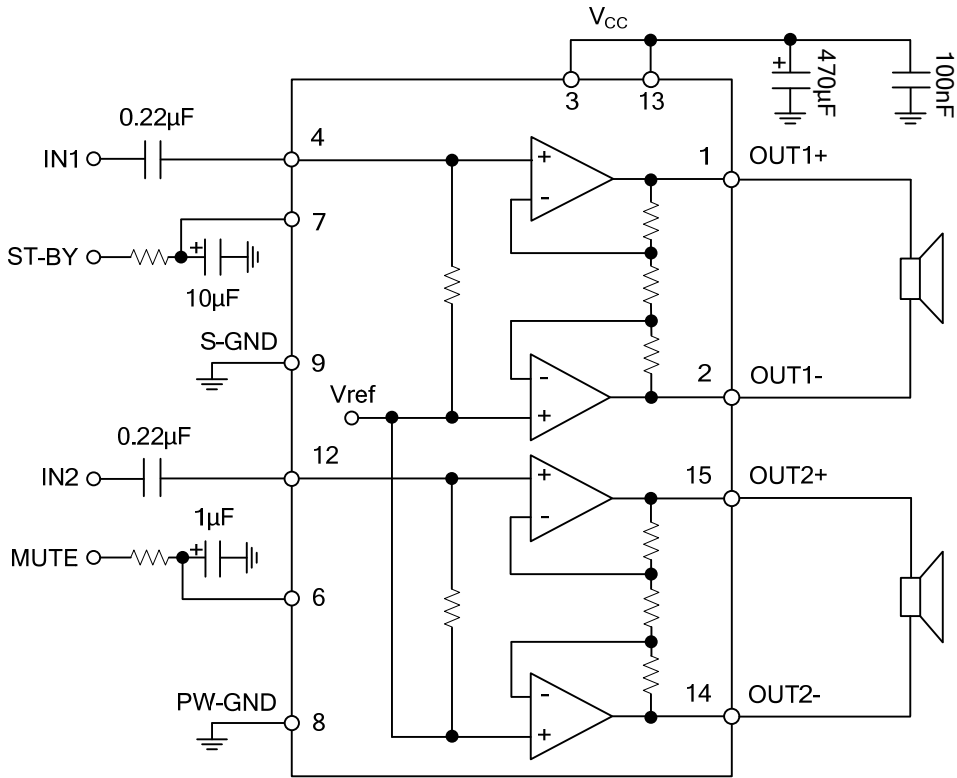
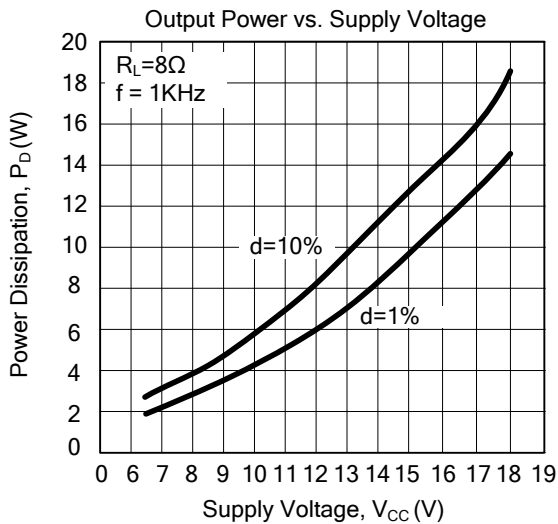
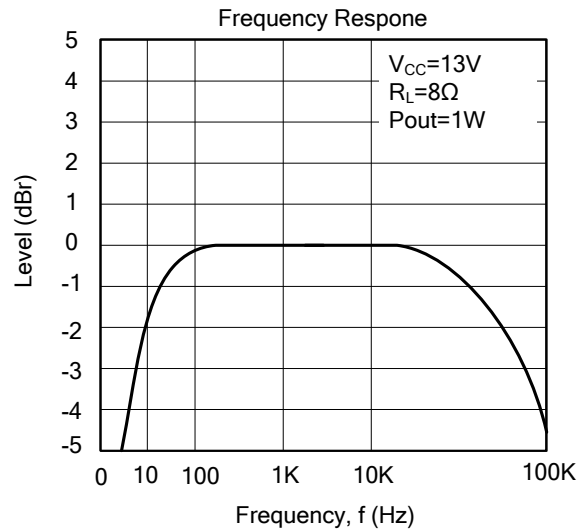
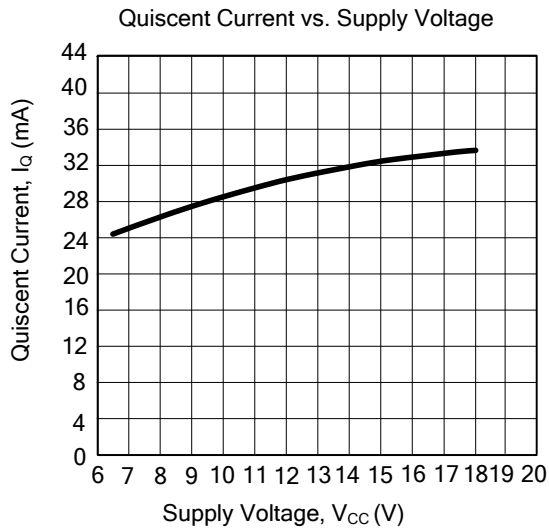


Fig. 3 Stand-alone Low-cost Application

## ■ TYPICAL CHARACTERISTICS



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