# UTC UNISONIC TECHNOLOGIES CO., LTD

## **TDA7297**

#### LINEAR INTEGRATED CIRCUIT

## 10+10W DUAL BRIDGE **AMPLIFIER**

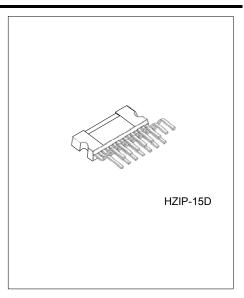
#### DESCRIPTION

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**

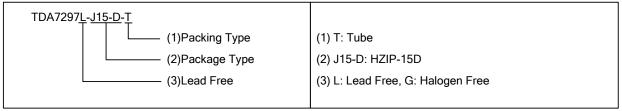
- \* St-by and mute functions
- \* OTP and short circuit protections
- \* Work with a minimum external components
- \* Wide supply voltage range (6.5V~18V)



#### **ORDERING INFORMATION**

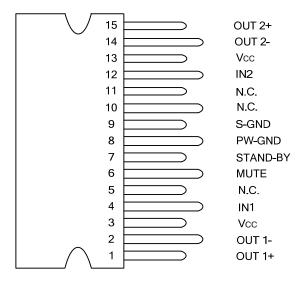
Ordering	Number	Daalaasa	Packing	
Lead Free	Halogen Free	Package		
TDA7297L-J15-D-T	TDA7297G-J15-D-T	HZIP-15D	Tube	

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



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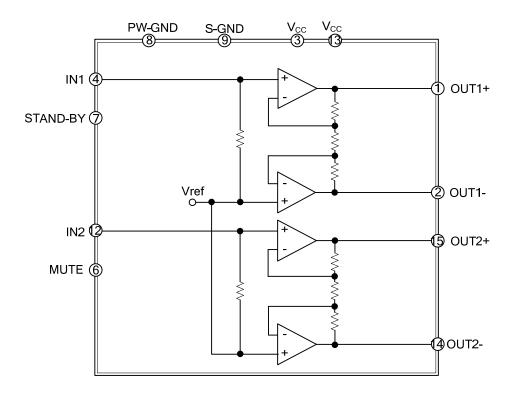
#### **■ PIN CONFIGURATION**



#### **■ 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	$V_{CC}$	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	Vs	20	V
Output Peak Current (Internally Limited)	lo	2	Α
Total Power Dissipation (T <sub>C</sub> =70°C)	P <sub>TOT</sub>	30	W
Operating Temperature	$T_OPR$	0~70	°C
Junction Temperature	$T_J$	150	°C
Storage Temperature	T <sub>STG</sub>	-40~+150	°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	$\theta_{JA}$	48	°C/W
Junction to Case	$\theta_{JC}$	1.8	°C/W

#### ■ ELECTRICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Range	Vcc		6.5		18	V
Total Quiescent Current	$I_q$	R <sub>L</sub> =∞		50	65	mA
Output Offset Voltage	Vos				120	mV
Output Power	Po	THD=10%	8.3	10		W
Total Harmania Distortion	THD	P <sub>O</sub> =1W		0.1	0.3	%
Total Harmonic Distortion		P <sub>O</sub> =0.1W~2W, f=100Hz~15kHz			1	%
Supply Voltage Rejection	SVR	f=100Hz V <sub>R</sub> =0.5V	40	56		dB
Crosstalk	СТ		46	60		dB
Mute Attenuation	A <sub>MUTE</sub>		60	80		dB
Thermal Threshold	Tw			150		°C
Closed Loop Voltage Gain	G <sub>V</sub>		31	32	33	dB
Voltage Gain Matching	$\Delta G_V$				0.5	dB
Input Resistance	Rı		25	30		kΩ
Mute Threshold	$VT_{MUTE}$	V <sub>O</sub> =-30dB	2.3	2.9	4.1	V
ST-BY Threshold	VT <sub>ST-BY</sub>		8.0	1.3	1.8	V
ST-BY Current V6=GND	I <sub>ST-BY</sub>				100	μΑ
Total Output Naiga Valtage	e <sub>N</sub>	A curve		150		μV
Total Output Noise Voltage		f=20Hz~20kHz		220	500	μV

#### **■ APPLICATION SUGGESTION**

STAND-BY AND MUTE FUNCTIONS

#### a. Microprocessor Application

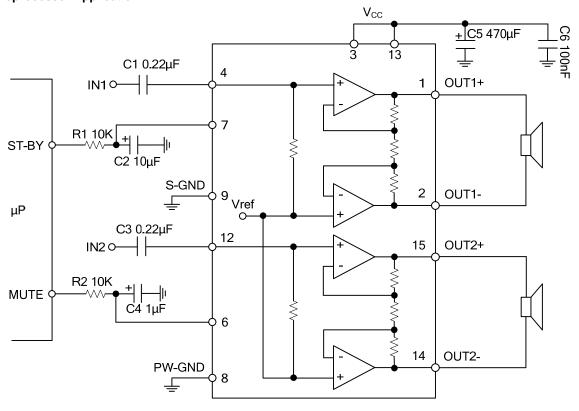


Fig. 1 Microprocessor Application

### ■ APPLICATION SUGGESTION(Cost.)

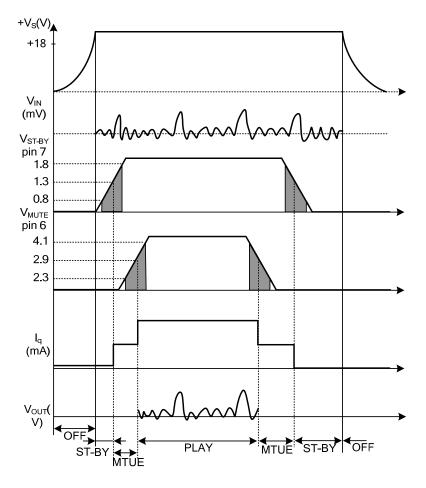


Fig. 2 Microprocessor Driving Signals

#### ■ APPLICATION SUGGESTION(Cost.)

#### b. Low Cost Application

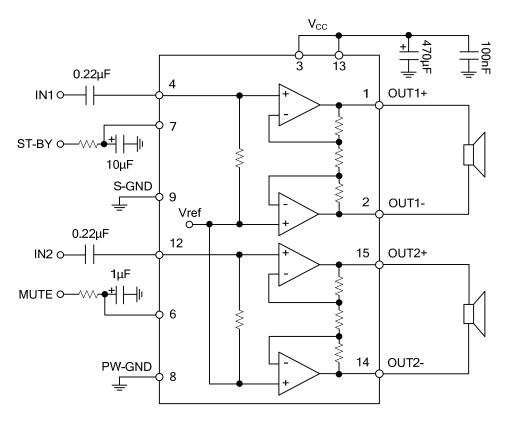
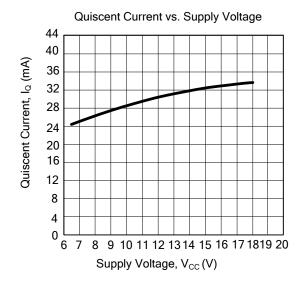
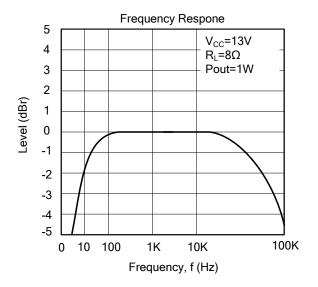
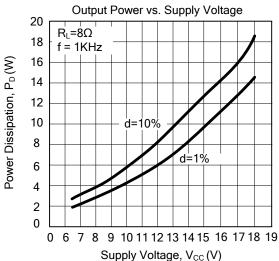


Fig. 3 Stand-alone Low-cost Application

#### **■ TYPICAL CHARACTERISTICS**







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