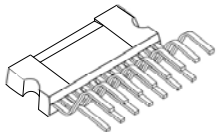
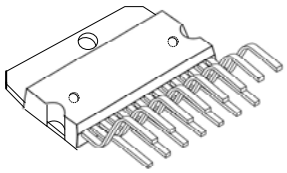
TDA7297

LINEAR INTEGRATED CIRCUIT

10+10W DUAL BRIDGE AMPLIFIER



HZIP-15D



HZIP-15A

■ 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)

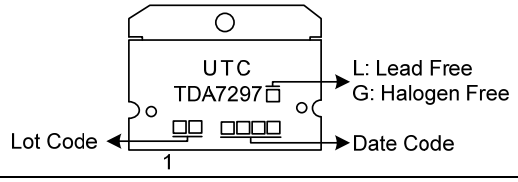
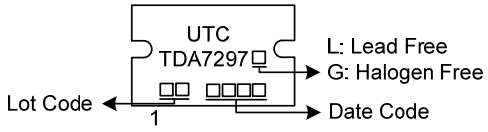
■ ORDERING INFORMATION

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.

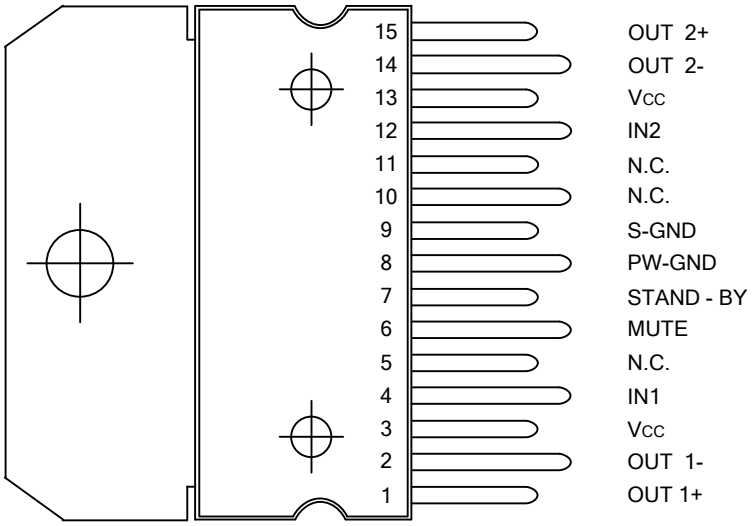
TDA7297G-J15-D-T (1)Packing Type (2)Package Type (3)Green Package	(1) T: Tube (2) J15-A: HZIP-15A, J15-D: HZIP-15D (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

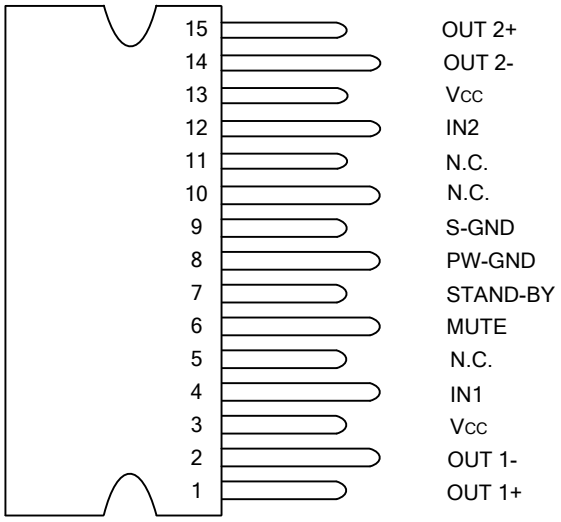
HZIP-15A	HZIP-15D
	

■ PIN CONFIGURATION

HZIP-15A



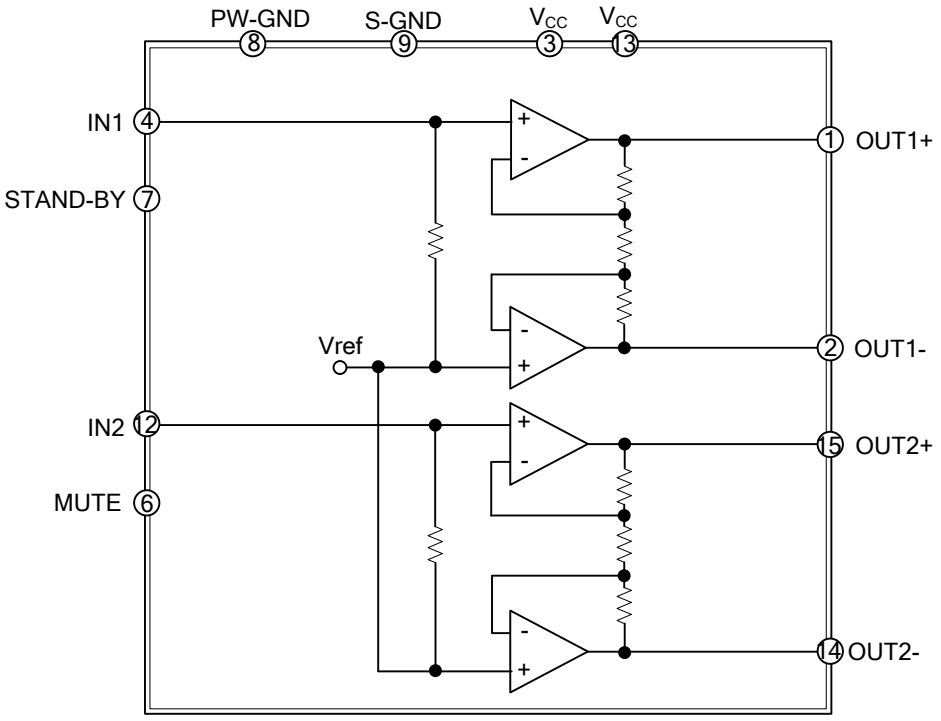
HZIP-15D



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	OUT1+	Non-Inverting Output of Channel 1
2	OUT1-	Inverting Output of Channel 1
3	V_{CC}	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	V_S	20	V
Output Peak Current (Internally Limited)	I_O	2	A
Total Power Dissipation (T_C=70°C)	P_{TOT}	30	W
Operating Temperature	T_{OPR}	0 ~ +70	°C
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-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	HZIP-15A	θ_{JA}	38	°C/W
	HZIP-15D		48	°C/W
Junction to Case	HZIP-15A	θ_{JC}	1.5	°C/W
	HZIP-15D		1.8	°C/W

■ ELECTRICAL CHARACTERISTICS

(V_{CC}=13V, R_L=8Ω, f=1kHz, T_A=25°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=∞		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=1W		0.1	0.3	%
		P_O=0.1W~2W, f=100Hz~15kHz			1	%
Supply Voltage Rejection	SVR	f=100Hz V_R=0.5V	40	56		dB
Crosstalk	CT		46	60		dB
Mute Attenuation	A_{MUTE}		60	80		dB
Thermal Threshold	T_W			150		°C
Closed Loop Voltage Gain	G_V		31	32	33	dB
Voltage Gain Matching	ΔG_V				0.5	dB
Input Resistance	R_I		25	30		kΩ
Mute Threshold	VT_{MUTE}	V_O=-30dB	2.3	2.9	4.1	V
ST-BY Threshold	VT_{ST-BY}		0.8	1.3	1.8	V
ST-BY Current V6=GND	I_{ST-BY}				100	μA
Total Output Noise Voltage	e_N	A curve		150		μV
		f=20Hz~20kHz		220	500	μV

■ APPLICATION SUGGESTION

STAND-BY AND MUTE FUNCTIONS

a. Microprocessor Application

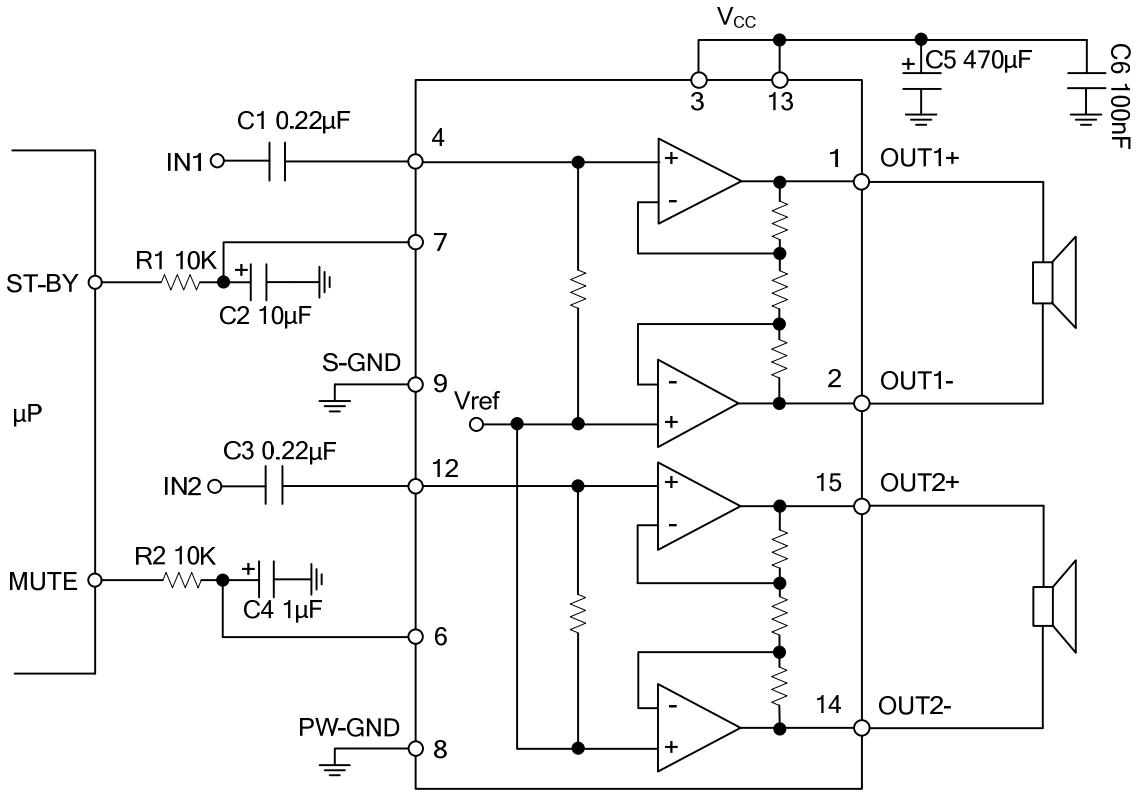


Fig. 1 Microprocessor Application

■ APPLICATION SUGGESTION (Cost.)

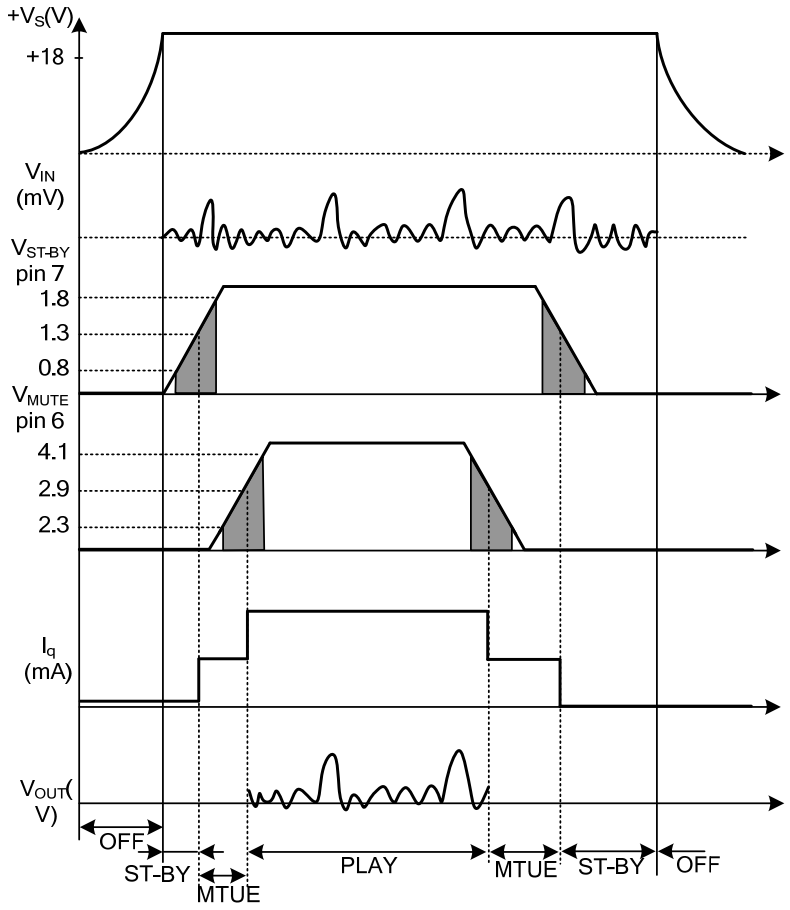


Fig. 2 Microprocessor Driving Signals

■ APPLICATION SUGGESTION (Cost.)

b. Low Cost Application

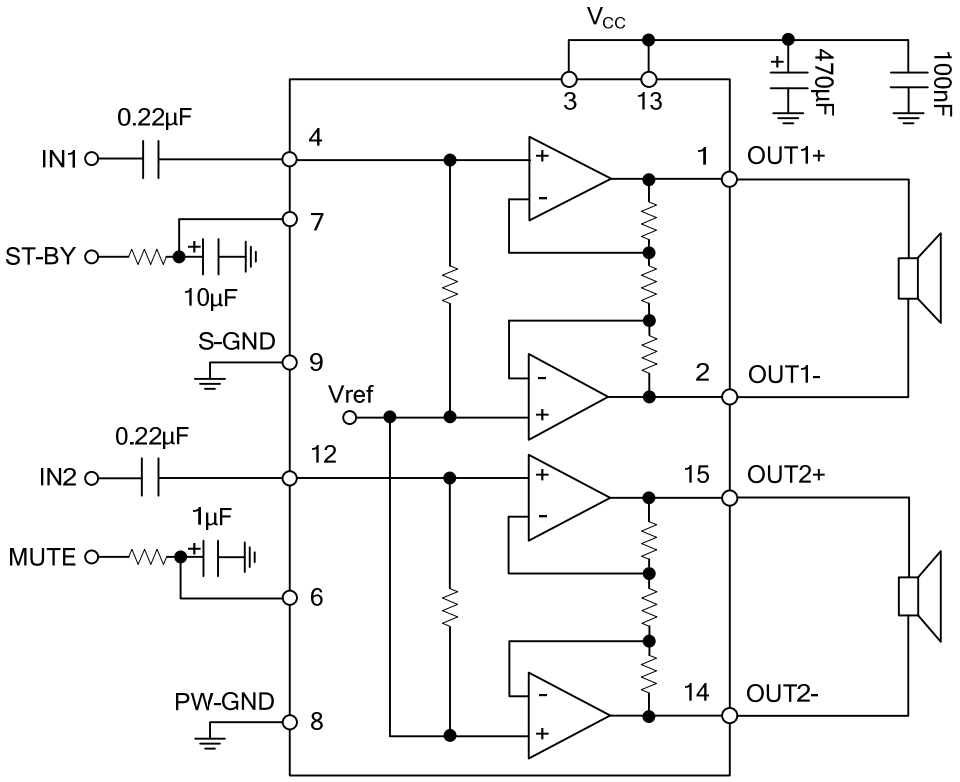
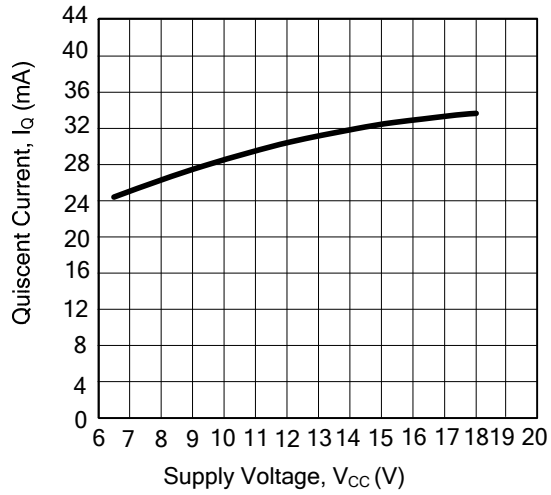


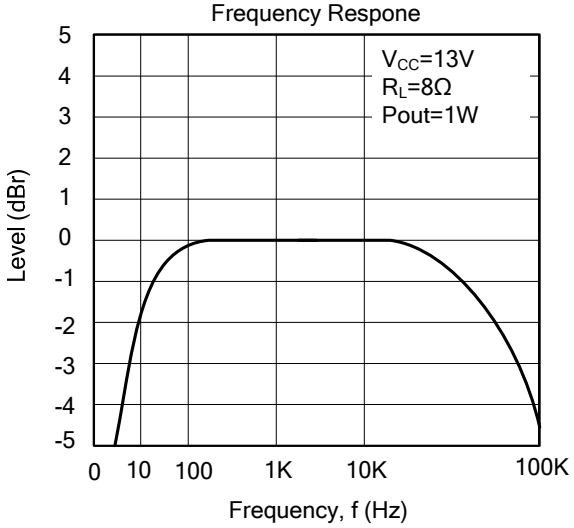
Fig. 3 Stand-alone Low-cost Application

■ TYPICAL CHARACTERISTICS

Quiscent Current vs. Supply Voltage



Frequency Respone



Output Power vs. Supply Voltage