

## DESCRIPTION

The PT2831 is a Class-D power amplifier designs for audio system; the maximum output power could up to 15W x 2. It is housing in a small, thermal enhanced package, the best benefits of the PT2831 are high efficiency and less external components. Fabricated by high voltage BCD process to improve ESD and electro stress handling capabilities.

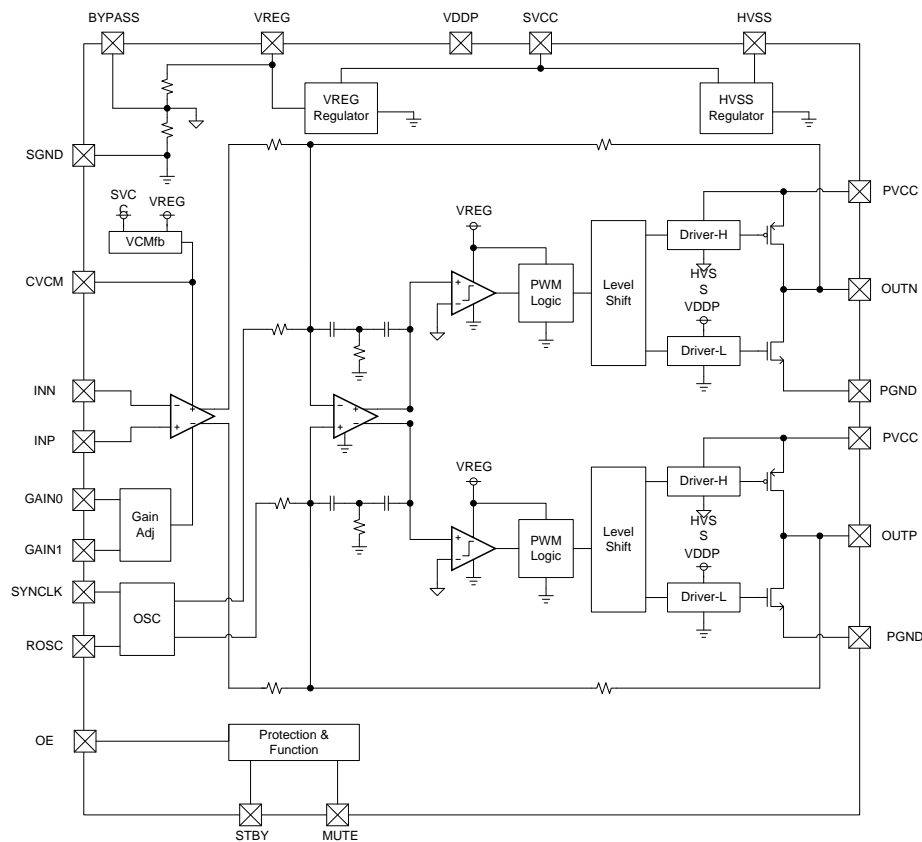
## APPLICATIONS

- Sound Bar
- Mini Audio System
- Docking Speaker System
- Consumer Audio Applications

## FEATURES

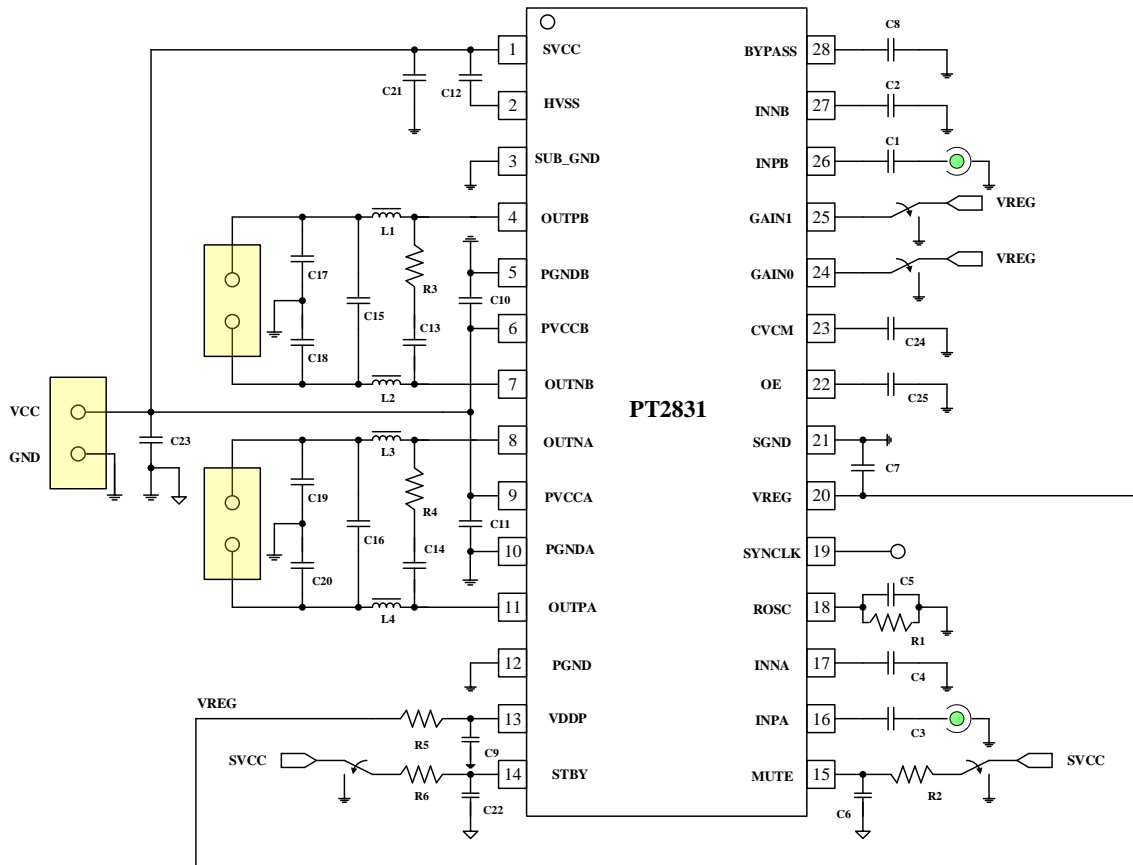
- Supports Multiple Output Configurations (THD=10%)
  - 2 x 5W into a 8Ω BTL at 9V
  - 2 x 10W into a 8Ω BTL at 12V
  - 2 x 15W into a 8Ω BTL at 15V
- 4Ω minimum load
- Single power supply reduces component count (Built-in 5V regulator)
- Master/Slave Synchronization
- 4 voltage gains setting
- Power ON de-pop enable
- Integrated Self-Protection Circuits including Under / Over supply voltage, short circuit and over temperature protection
- Wide Voltage Range: 4.5V~16V
- Small size 28 Pins HT-SSOP package with thermal pad

## BLOCK DIAGRAM



\*Shows the block diagram of one of the two identical channels

# APPLICATION CIRCUIT DIAGRAM



LC Filter components		
R_load	L1, L2, L3, L4	C15, C16
4Ω	15uH	470nF
6Ω	22uH	220nF
8Ω	33uH	220nF

## PARTS RECOMMENDATION

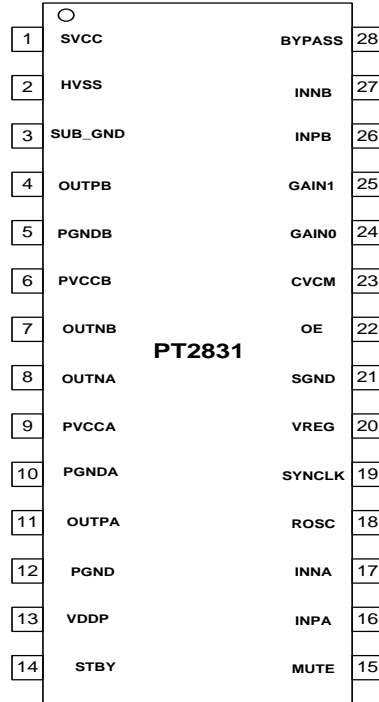
Capacitor	Resistor
C1, C2, C3, C4---0.47μF	R1---39KΩ
C5, C10, C11, C12, C17~C21---0.1μF	R2, R6---33KΩ
C6, C8, C22 ---2.2μF	R3, R4, R5---22Ω
C7, C9,---1μF	
C13, C14---330pF	
C23---1000μF	
C25---0.22μF	
C24---4.7μF	

For better THD+N performance the X7R material SMD capacitor is recommended.

## ORDER INFORMATION

Part Number	Package Type	Top Code
PT2831-HT	28 pins, HTSSOP, 173mil	PT2831-HT

## PIN CONFIGURATION



## PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.
SVCC	Power	Signal power supply	1
HVSS	O	Regulator output referred to power supply	2
SUB_GND	Power	Connect to the frame	3
OUTPB	O	Positive PWM for right channel	4
PGNDB	Power	Power stage ground for right channel	5
PVCCB	Power	Power supply for right channel	6
OUTNB	O	Negative PWM output for right channel	7
OUTNA	O	Negative PWM output for left channel	8
PVCCA	Power	Power supply for left channel	9
PGNDA	Power	Power stage ground for left channel	10
OUTPA	O	Positive PWM for left channel	11
PGND	Power	Power stage ground	12
VDDP	I	Regulator output referred to ground for power stage	13
STBY	I	Standby mode control	14
MUTE	I	Mute mode control	15
INPA	I	Positive differential input of left channel	16
INNA	I	Negative differential input of left channel	17
ROSC	O	Master Oscillator frequency-setting pin	18
SYNCLK	I/O	Clock in/out for external oscillator	19
VREG	O	Regulator output referred to ground for power stage	20
SGND	Power	Signal ground	21
OE	O	Open-drain diagnostic output	22
CVCM	O	Supply voltage rejection	23
GAIN0	I	Gain setting input 1	24
GAIN1	I	Gain setting input 2	25
INPB	I	Positive differential input of right channel	26
INNB	I	Negative differential input of right channel	27
BYPASS	O	Half VREG referred to ground	28

## **IMPORTANT NOTICE**

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