

3.3W Ultra Low-EMI Anti-Clipping Stereo Class D Audio Power Amplifier

• LCD TV/Monitor

• Portable Gamers

■ FEATURES

- Patented technology (EDMA) to reduce the internal $R_{ds(on)}$ and heat loss, increase the output power
 $P_o=3.3\text{ W}$ ($V_{DD}=5.0\text{V}$, $R_L=4\Omega$, $\text{THD+N}=10\%$)
 $P_o=1.7\text{ W}$ ($V_{DD}=3.6\text{V}$, $R_L=4\Omega$, $\text{THD+N}=10\%$)
- Excellent EMI Suppression Performance
 - Using Patented technology (AROC, Active edge Ringing and Overshoot Control circuitry)
 - The emission level is highly lower than FCC Part15 Class B standard;
 - Without interference to FM radio, CMMB, GSM, CDMA, Bluetooth and any other sensitive modules with different bands;
 - The difficulty of system design is reduced
- $\text{THD+N}=0.15\%$ ($R_L=4\Omega$, $P_o=1\text{W}$, $f=1\text{kHz}$)
- Low noise, High SNR
 $3.0\text{ W}\times 2\text{ch}$ ($V_{DD}=5.0\text{V}$, $R_L=4\Omega$, $\text{THD+N}=10\%$)
 $1.9\text{ W}\times 2\text{ch}$ ($V_{DD}=5.0\text{V}$, $R_L=8\Omega$, $\text{THD+N}=10\%$)
- Anti-Clipping Function (ACF)
- Excellent Click-Pop Noise reduction function
- Low Shutdown Current, $0.01\mu\text{A}$
- Filter-less Modulation, Eliminating Output Filter
- MUTE Function
- Independent Channel Power Down Function
- Over Current Protection, Thermal Protection, Low Voltage Malfunction Prevention Function Included
- Pb-Free Package, TSSOP-20, SOP-16

■ APPLICATIONS

- Bluetooth Speakers
- Portable Speakers
- 2.1 Channel Speakers
- Megaphone
- iPhone/iPad docking
- MP4/GPS
- Tablet PC/Note Book
- Smart phones

■ GENERAL DESCRIPTION

HT6818 is an Ultra Low-EMI Anti-Clipping stereo Class D audio power amplifier IC with maximum output power of 3.3W ($V_{DD}=5\text{V}$, $\text{THD+N}=10\%$, $R_L=4\Omega$), providing high quality performance which compare favorably with AB class amplifiers while efficiency is much higher.

HT6818 has excellent EMI radiation suppression characteristics with AROC technology integrated, and is well below the FCC Part15 Class B standards without any filters (with a 20cm wire connecting to the speakers).

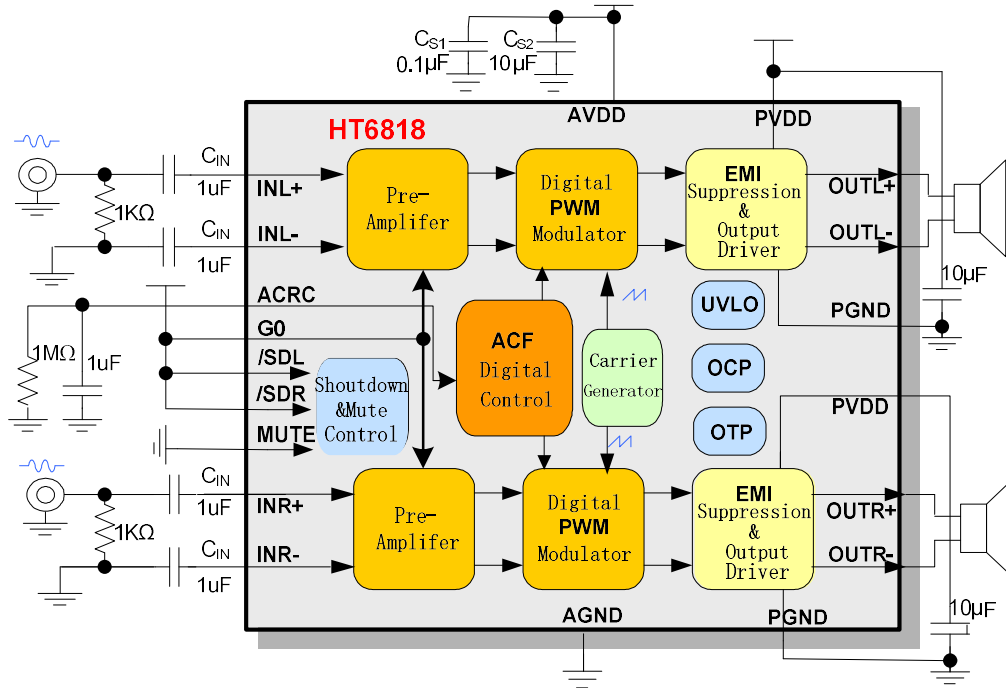
HT6818 features Anti-Clipping Function (ACF) which detects output signal clip caused by the over input signal or the voltage drops from battery, and suppresses the output signal clip automatically. It can significantly improves the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage. In addition the sound quality and output power can be freely set by external resistance or capacitance of ACRC.HT6818 also supply ACF OFF mode.

HT6818 has a "Pure Pulse Direct Speaker Drive Circuit" which directly drives speakers while reducing distortion of pulse output signal and reducing noise on the signal, and realizes the highest standard low distortion rate characteristics and low noise characteristics among digital amplifier ICs for portable use.

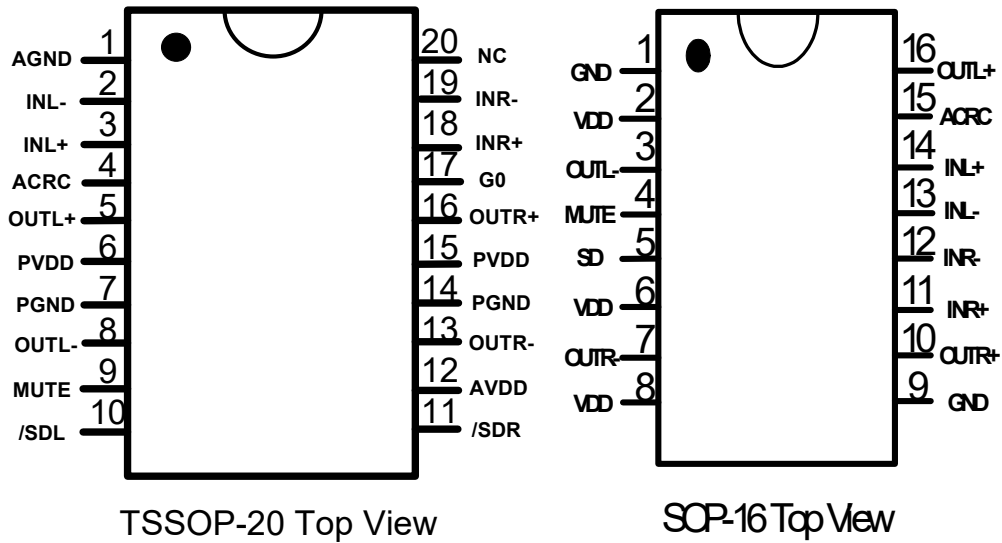
HT6818 has the independent Shutdown function which can minimize the power consumption at standby and MUTE function. As for protection function, over current protection function for speaker output terminals, over temperature protection function, and low supply voltage malfunction preventing function are also prepared.

HT6818 is available in Pb-Free TSSOP-20 and SOP-8 package.

■ TYPICAL APPLICATION



■ **TERMINAL CONFIGURATION**

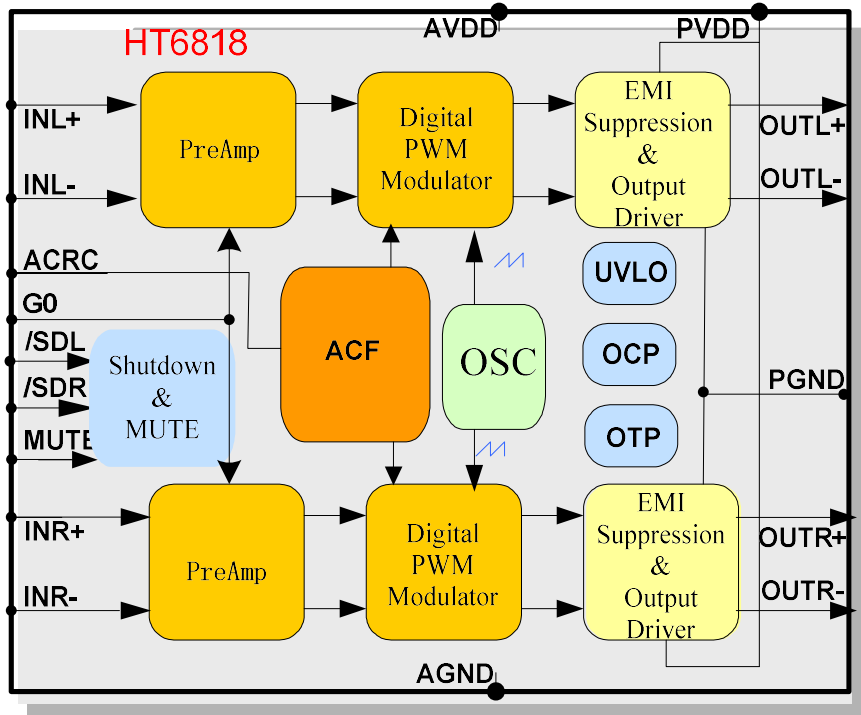


■ **TERMINAL FUNCTION *1**

Terminal No.		Name	I/O	Function
TSSOP20	SOP16			
1	1	AGND	GND	GND for analog circuits
2	13	INL-	A	Negative input terminal (differential -) Lch
3	14	INL+	A	Positive input terminal (differential +) Lch
4	15	ACRC	I/O	Anti-clipping control terminal
5	16	OUTL+	O	Positive output terminal (differential +) Lch
6	2	PVDD	Power	Power supply for output
7	1	PGND	GND	GND for output
8	3	OUTL-	O	Negative output terminal (differential -) Lch
9	4	MUTE	I	Mute control terminal
10	5	/SDL	I	Shut-down terminal for Lch
11	5	/SDR	I	Shut-down terminal for Rch
12	6	AVDD	Power	Power supply for analog circuits
13	7	OUTR-	O	Negative output terminal (differential -) Rch
14	9	PGND	GND	GND for output
15	8	PVDD	Power	Power supply for output
16	10	OUTR+	O	Positive output terminal (differential +) Rch
17	/	G0	I	Gain setting terminal
18	11	INR+	A	Positive input terminal (differential +) Rch
19	12	INR-	A	Positive input terminal (differential +) Rch
20	/	NC	—	Non connection

*1 I: Input terminal O: Output terminal A: Analog terminal

■ BLOCK SCHEME



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