

2.4W Audio Amplifier Stereo

General Description: CM2038A is an audio amplifier of class AB, when connected to a 5V supply, THD+N less than 10%, will deliver 2.4W to a 4 Ω load or 1.5W to a 8 Ω load. The CM2038A is unity-gain stable and can be configured by external gain-setting resistors, It features a low-power consumption shutdown mode with very low shutdown current, and thermal shutdown protection. It also utilizes circuitry to reduce “clicks and pops” during device turn-on and turn-off. It can also be applied in headphone function mode.

Features:

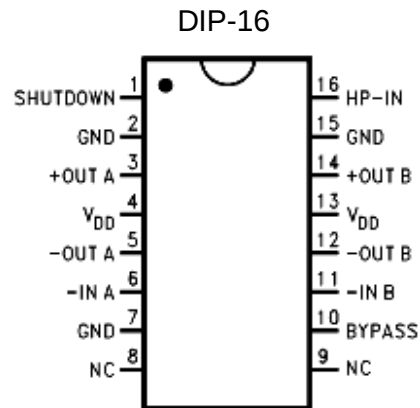
1. Power output at 5V supply, 4 Ω load, THD+N<10%, is 2.4W.
2. Power output at 5V supply, 8 Ω load, THD+N<10%, is 1.5W.
3. Operating supply voltage: VDD =2.2V~5.5V。
4. Typical shutdown current: 0.2uA。
5. Improved pop & click circuitry eliminates noise during turn-on and turn-off transitions
6. DIP-16 packages.

Electrical Characteristics:

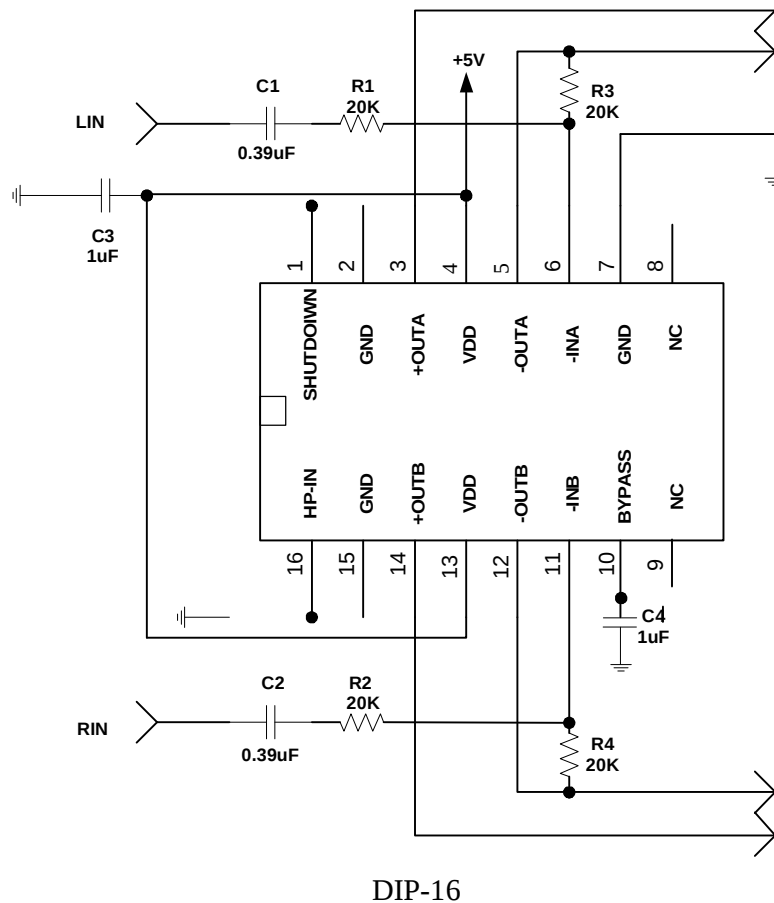
Symbol	Parameter	Conditions	Typical	Limit	Units
I _{DD}	Quiescent power supply current	V _{IN} =0V, I _O =0A, No Load	6.5	14	mA
I _{SD}	Shutdown current	V _{SD} = V _{DD}	0.2	4.0	μ A
V _{SDIH}	Shutdown voltage input high	V _{DD} =5V	1.5		V
V _{SDIL}	Shutdown voltage input low	V _{DD} =5V	1.3		V
V _{OS}	Output offset voltage	V _{IN} =0V, No Load	9	50	mV
P _O	Output power (8 Ω load)	THD+N=10%(max); f=1kHz	1.5	1.8	W
	Output power (4 Ω load)		2.4	2.7	
T _{WU}	Wake-up time		100		ms
THD+N	Total harmonic distortion + noise	P _O =0.5Wrms;f=1kHz	0.3	0.6	%

PSRR	Power supply rejection ratio	$V_{\text{ripple}}=200\text{mV}$	-63 (217Hz) -77 (1kHz)	-55	dB
X_{TALK}	Channel separation	$f=1\text{kHz}$, $C_B=1.0\mu\text{F}$	-65	-55	dB

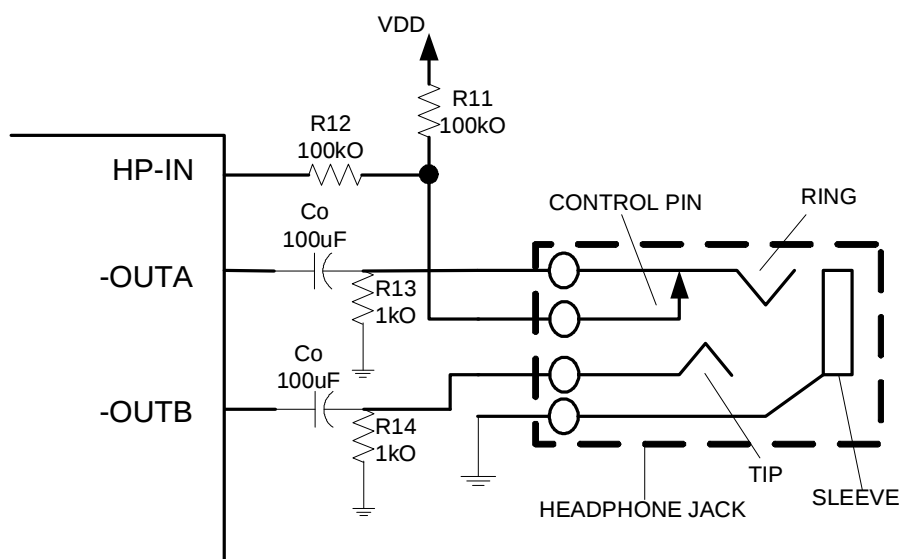
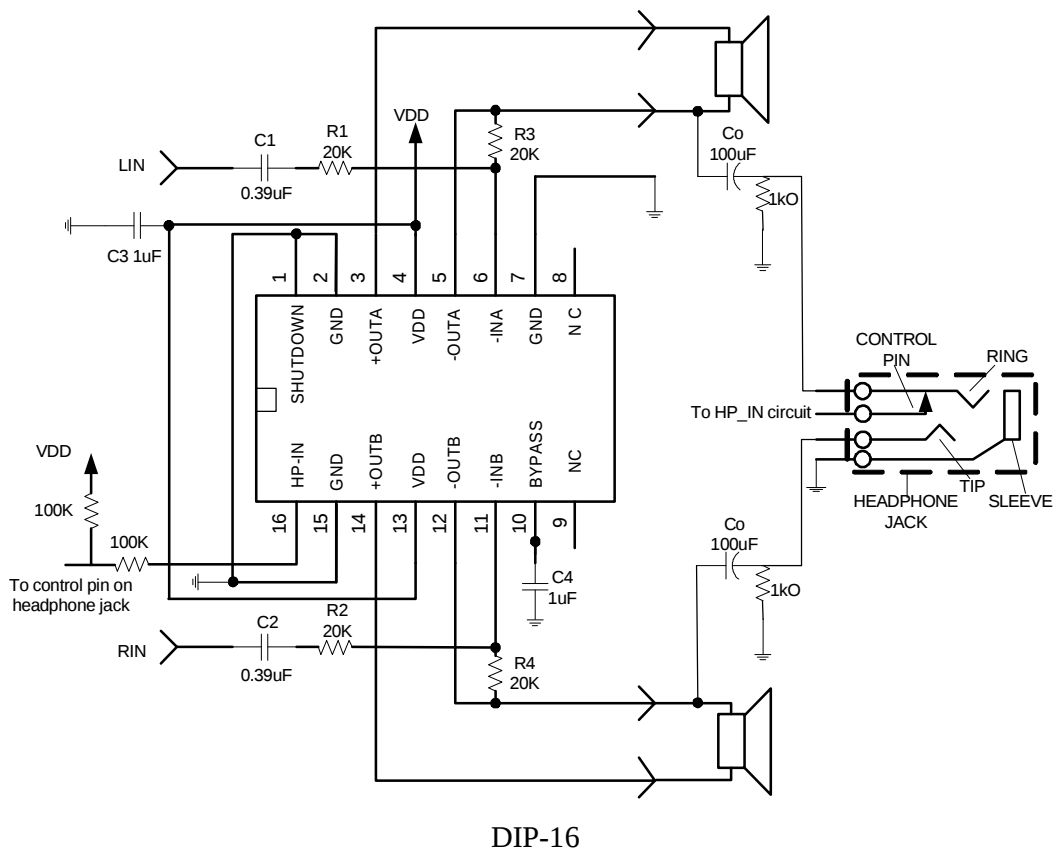
Packaging information:



Typical application:



Application information(Include headphone mode)



Application of headphone mode:

If with no headphones connected to the headphone jack, there is a low voltage applied to HP-IN pin, this voltage placing the amplifier in bridged mode operation to drive the speakers. If connecting headphones to the headphone jack, the voltage applied to HP-IN pin is pulled up to VDD by resistor R11, this enables the headphone function, and mutes the bridged speakers.

