coolaudio

1024-Stage Low-Noise BBD Analog Delay Line

V3207

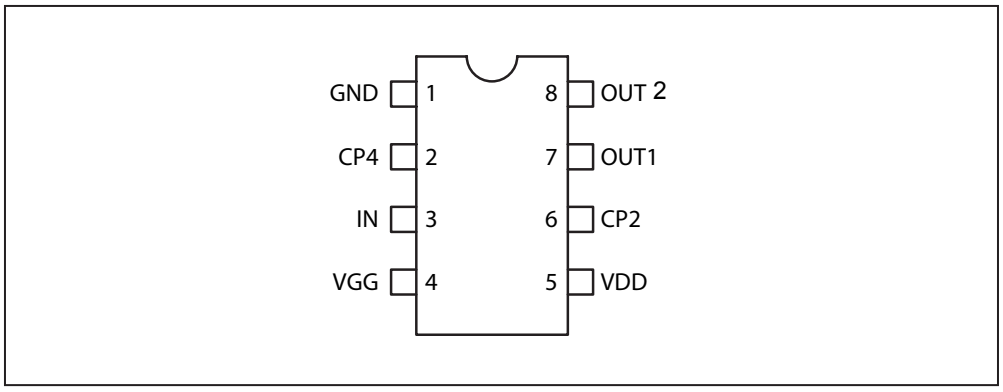
1. Description

The V3207 is a 1024-stage low-noise, low-voltage BBD analog delay line that provides analog signal delays of up to 51.2 ms and is particularly suitable for the generation of sound effects (reverb, echo, phaser, flanger, etc.) in audio equipment such as karaoke microphones, guitar effects pedals, etc.

2. Features

- Variable Delay of Audio Signals: 2.56 ms ~ 51.2 ms
- Wide Supply Voltage: 4 ~ 10 V
- Wide Dynamic Range: S/N =73 dB typ.
- Low Distortion: THD =0.4 % typ. (Vi = 0.25 Vrms)
- Clock Frequency Range: 10 kHz ~ 200 kHz
- Package outline: DIL-8 (V3207D)
- ROHS compliant (PB-free)

3. Pin Configuration



Rev. 1.0

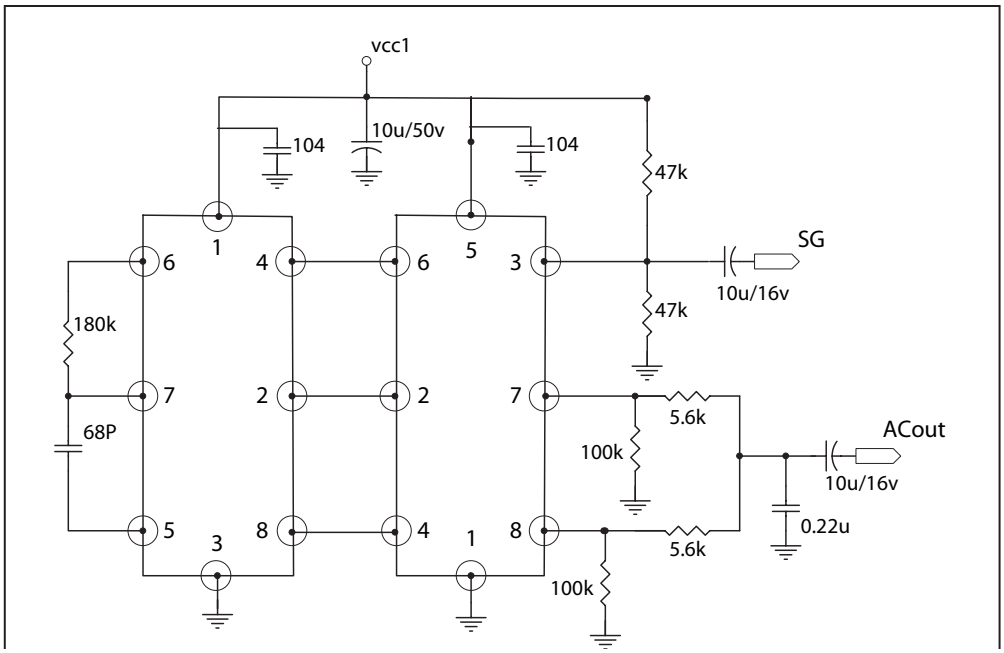
4. Absolute Maximum Ratings (Tamb = 250 °C)

Parameter	Symbol	Value		Unit
		Min	Max	
Supply Voltage	VCC, VGG, VCP, I	-0.3	V_{CC}+1	V
Output Voltage	V0	-0.3	V_{CC}+1	V
Operating Temperature	Tamb	-25	70	°C
Storage Temperature	Tstg	-55	150	°C

5. Electrical Characteristics (Ta=250 °C, V_{CC}=20 V, Unless otherwise specified)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Signal Delay Time	td		25.6			ms
Input Signal Frequency	fi	fcp = 40 KHZ, Vi = 0.35 V 3 dB down (O dB, fi = 1 KHZ)	10			kHz
Input Signal Swing	Vi	fcp = 40 KHZ; fi = 1 KHZ, THD = 2.5%	0.36			V
Insertion Loss	Li	fcp = 40 KHZ; fi = 1 KHZ, Vi = 0.35 V	-4	0	+4	dB
TotalHarmonic Distortion	THD	fcp = 40 KHZ; fi = 1 KHZ, Vi = 0.25 V		0.4%	25%	
Noise Voltage	V_N	fcp = 100 KHZ; Weighted by “A” cruve			0.25	mV
Signal to Noise Ratio	S/N	fcp = 100 KHZ; Weighted by “A” cruve		73		dB

6. Application Circuit



7. Mechanical Drawing

DIP-8 unit : mm