BIPOLAR ANALOG INTEGRATED CIRCUIT

μPC1032H

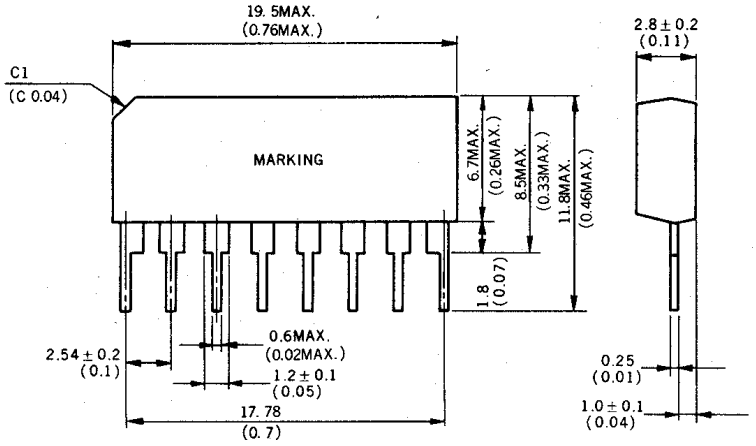
DUAL LOW NOISE PREAMPLIFIER
SILICON BIPOLAR MONOLITHIC INTEGRATED CIRCUIT

DESCRIPTION

The μPC1032H is a silicon monolithic integrated circuit designed for use as a 2 channel preamplifier for a car stereo set. The device has features of low noise, high gain, high output voltage and wide supply voltage range.
Especially, as an advanced production process is used, the device has an excellent feature of very low pulsive noise.
An internal voltage regulator circuit permits the μPC1032H to operate satisfactorily over wide variation of supply voltage.

PACKAGE DIMENSIONS

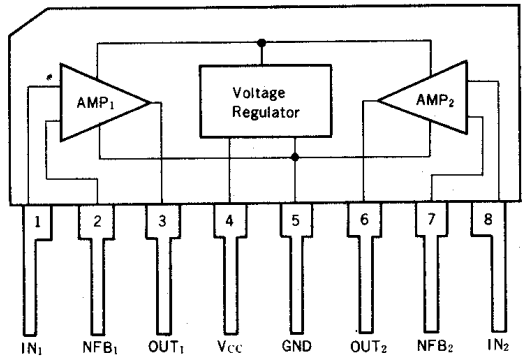
in millimeters (inches)



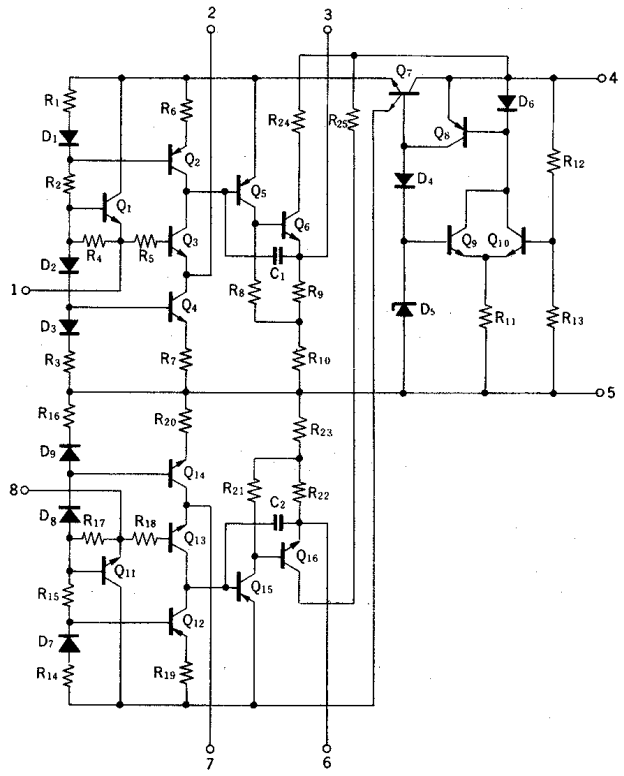
FEATURES

- Two channel
- Wide supply voltage range
- Minimum number of external parts required
- Low noise, especially low pulsive noise
- SIP assures easy mounting on printed circuit board.

CONNECTION DIAGRAM



EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Supply Voltage	V_{CC}	18	V
Package Dissipation	P_D	270*	mW
Operating Temperature	T_{opt}	-20 to +75	°C
Storage Temperature	T_{stg}	-40 to +125	°C

*Ta = 75°C

RECOMMENDED CONDITIONS (Ta = 25°C)

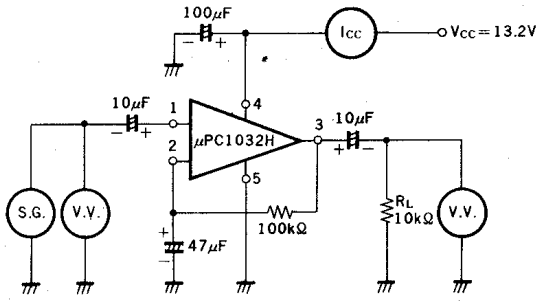
Operating Supply Voltage	V_{CC}	13.2	V
Supply Voltage Range	V_{CC}	8 to 17	V
Operating Ambient Temperature		-20 to +75	°C
Load impedance		10 kΩ TYP.	

ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 13.2V, f = 1 kHz, R_L = 10 kΩ)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CIRCUIT	TEST CONDITIONS
Circuit Current	I_{CC}		7	11.0	mA	①	v_{in} = 0
Open Loop Voltage Gain	A_{vo}	70	81		dB	①	v_o = 0.3V
Voltage Gain	A_v	33.5	35	35.5	dB	②	v_o = 0.3V, R_{NF} = 1.8 kΩ
Maximum Output Voltage	V_{OM}	1.1	1.7		V	③	T.H.D. = 1%, NAB≒35 dB
Total Harmonic Distortion	T.H.D.		0.1	0.3	%	③	v_o = 0.3V, NAB≒35 dB
Input Impedance	r_i	50	100		kΩ	③	
Equivalent Input Noise Voltage	v_{nin}		1.4	2.0	μVr.m.s.	④	R_G = 2.2kΩ, NAB≒35dB
Cross Talk			-62		dB	⑤	v_o = 1V, (The other channel v_{in} = 0, R_G = 2.2kΩ)
Channel Balance		-0.3	0	+0.3	dB	⑤	v_o = 0.3V

TEST CIRCUITS

① I_{CC}, A_{vo} Test Circuit



② A_v Test Circuit (for Ch. 1)