
BM3414

Single-Supply Dual High

Current Operational/Audio Amplifier

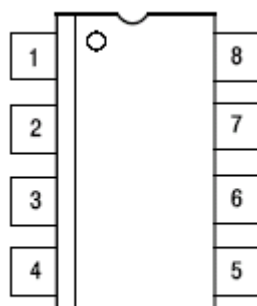
GENERAL DESCRIPTION

The BM3414 is integrated circuit is a high gain, high output current, high output voltage swing dual operational amplifier capable of driving 100mA, good for earphone output driver.

FEATURES

- Single Supply
- Operating Voltage (+3~+15V), much improved from CM8608 on input voltage.
- High Output Current (100mA)
- Slew Rate (1.0V/ μ s)
- Package Outline SOP8
- Bipolar Technology

PIN CONFIGURATION



(Top View)

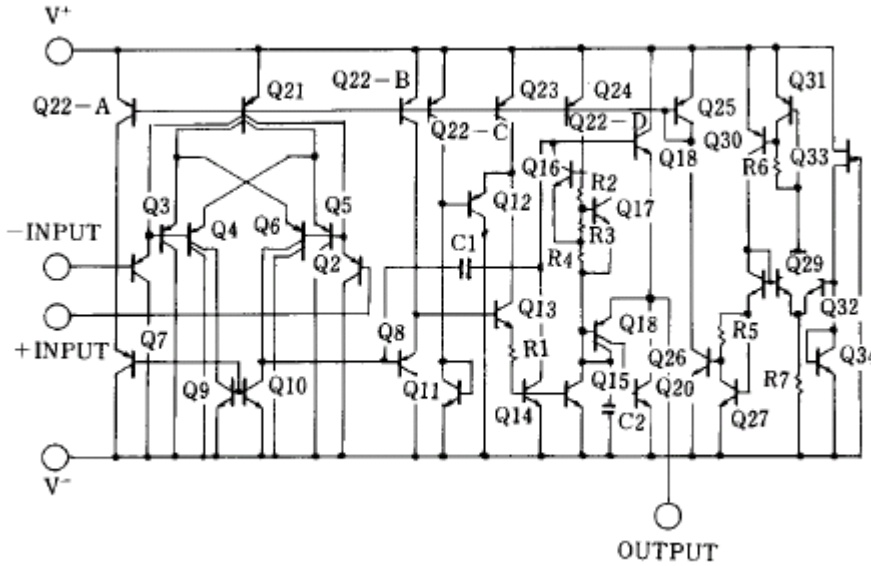
PIN FUNCTION

- 1 A OUTPUT
- 2 A-INPUT
- 3 A+INPUT
- 4 GND
- 5 B+INPUT
- 6 B-INPUT
- 7 B OUTPUT
- 8 V⁺

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ (V ⁺ /V)	15V(or ± 7.5 V)	V
Differential Input Voltage	V _{ID}	15	V
Input Voltage	V _{IC}	-0.3~+15	V
Power Dissipation	P _D	(DIP) 500 (SOP) 300	mW
Operating Temperature Range	T _{opr}	-20~+75	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

EQUIVALENT CIRCUIT (1/2 Shown)

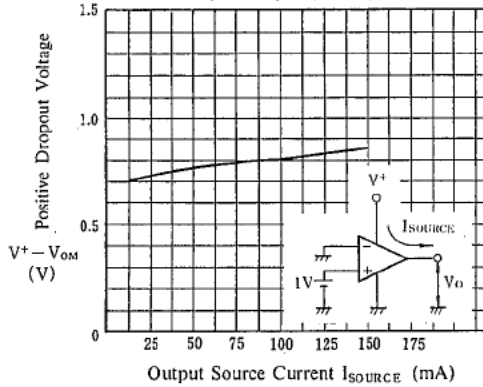


ELECTRICAL CHARACTERISTICS

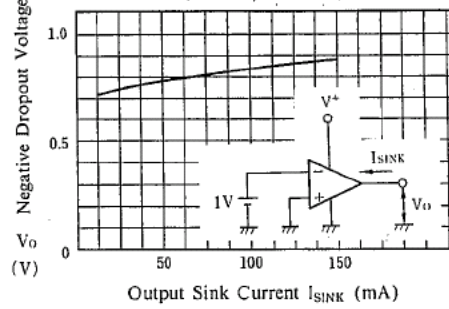
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V_{IO}	$R_s=0\ \Omega$		2	5	mV
Input Offset Current	I_{IO}			5	100	nA
Input Bias Current	I_B			100	500	nA
Large Signal Voltage Gain	A_V	$R_L=2K\ \Omega$	88	100		dB
Input Common Voltage Range	V_{ICM}		V^+-2			V
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 2K\ \Omega, V^+=5V$	3.5			V
Maximum Output Voltage Swing 2	V_{OM2}	$I_o=70mA, V^+=5V$	3.2			V
Common Mode Rejection Ratio	CMR		80	90		dB
Supply Voltage Rejection Ratio	SVR		80	90		dB
Operating Current	I_{CC}	$R_L=\infty$	3	4	5	mA
Slew Rate	SR			1.0		V/ μ s
Gain Bandwidth Product	GB			1.3		MHZ
Operating Voltage Range	V^+				15	V

TYPICAL APPLICATIONS

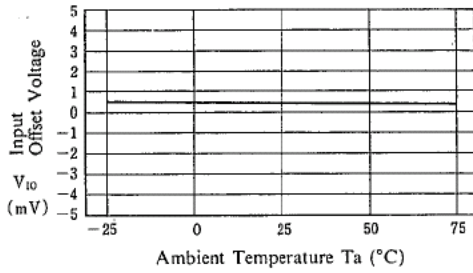
Output Source Current vs. V_{sat}^+
($V^+ = 5V, T_a = 25^\circ C$)



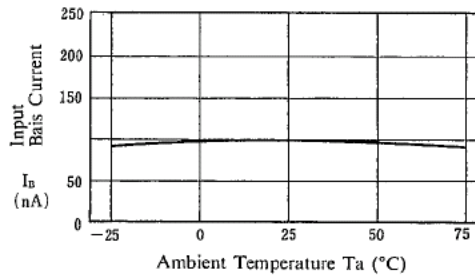
Output Sink Current vs. V_{sat}^-
($V^+ = 5V, T_a = 25^\circ C$)



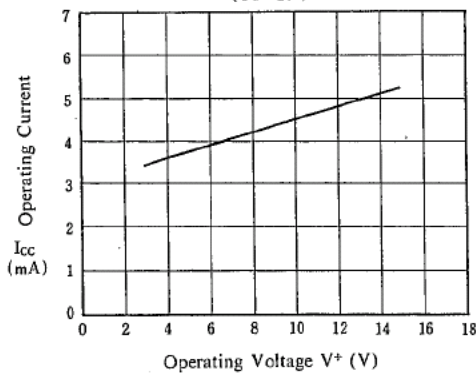
Input Offset Voltage vs. Temperature
($V^+/V^- = \pm 4.3V$)



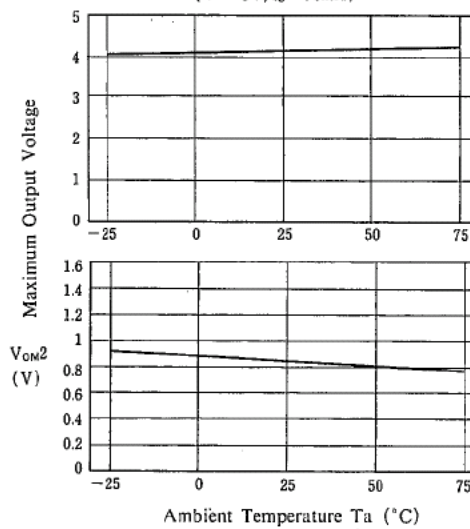
Input Bias Current vs. Temperature
($V^+/V^- = \pm 4.3V$)



Operating Voltage vs. Operating Current
($T_a = 25^\circ$)

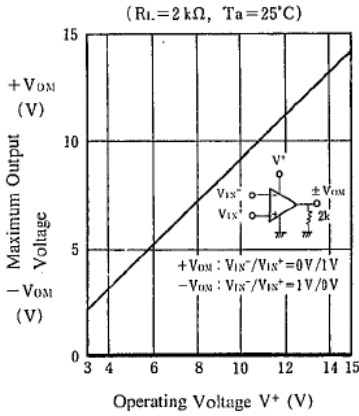


Maximum Output Voltage Swing 2 vs. Temperature
($V^+ = 5V, I_o = 70mA$)

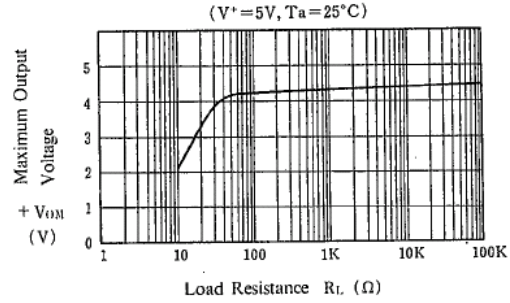


TYPICAL APPLICATIONS

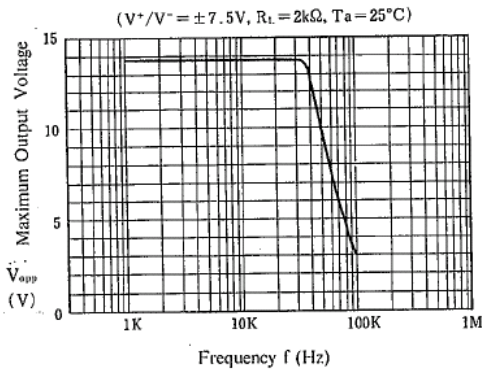
Maximum Output Voltage vs. Operating Voltage



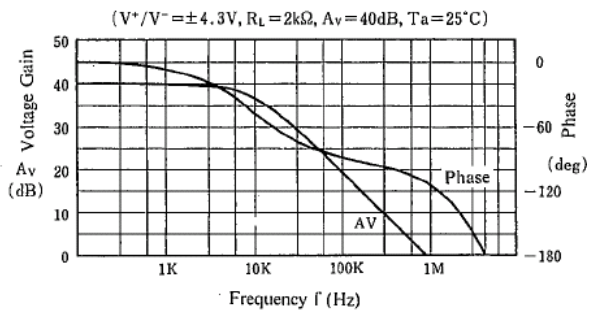
Maximum Output Voltage vs. Load Resistance



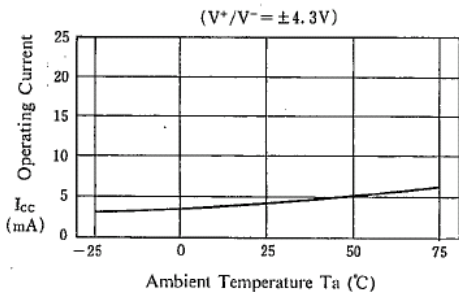
Maximum Output Voltage vs. Frequency



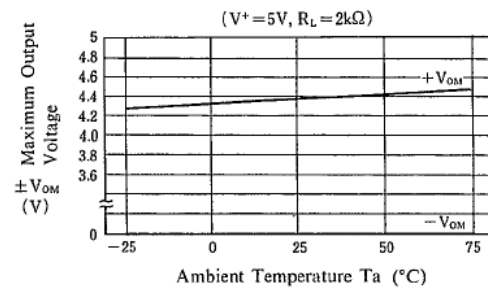
Voltage Gain, Phase vs. Frequency



Operating Current vs. Temperature



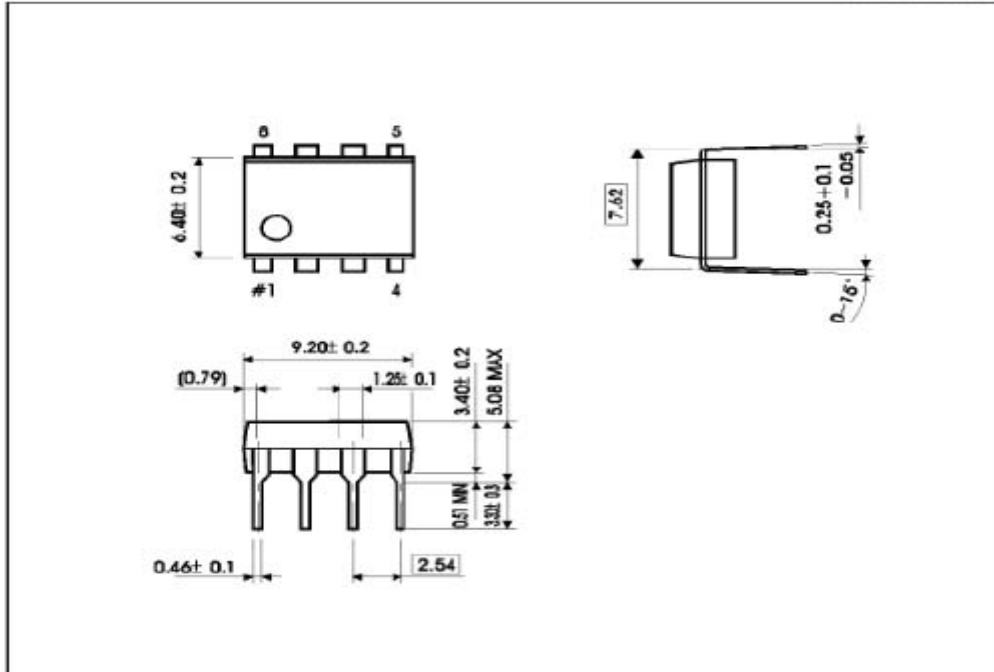
Maximum Output Voltage vs. Temperature



PACKAGE OUTLINE

DIP8

UNIT: MM



SOP8

UNIT: MM

