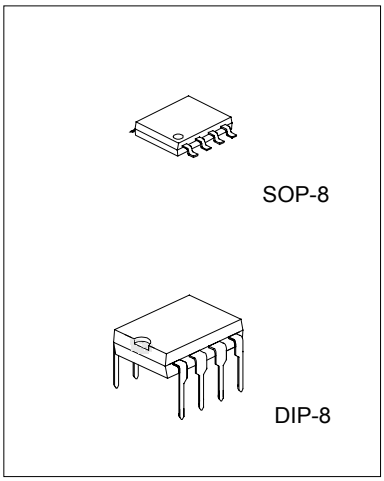
UTC MC4560 LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER



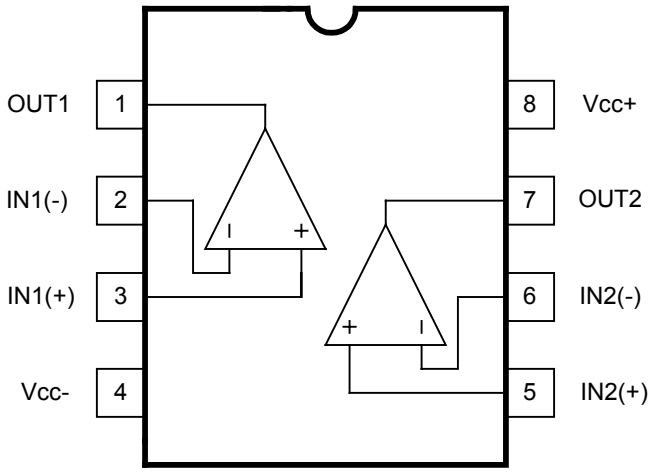
DESCRIPTION

The UTC MC4560 integrated circuit is a high-gain, wide-bandwidth, dual operational amplifier capable of driving 20V peak-to-peak into 400Ω loads. The MC4560 combines many of the features of the MC4558 as well as providing the capability of wider bandwidth, and higher slew rate make the MC4560 ideal for active filters, data and telecommunications, and many instrumentation applications. The availability of the MC4560 in the surface mounted micro-package allows the MC4560 to be used in critical applications requiring very high packing densities.

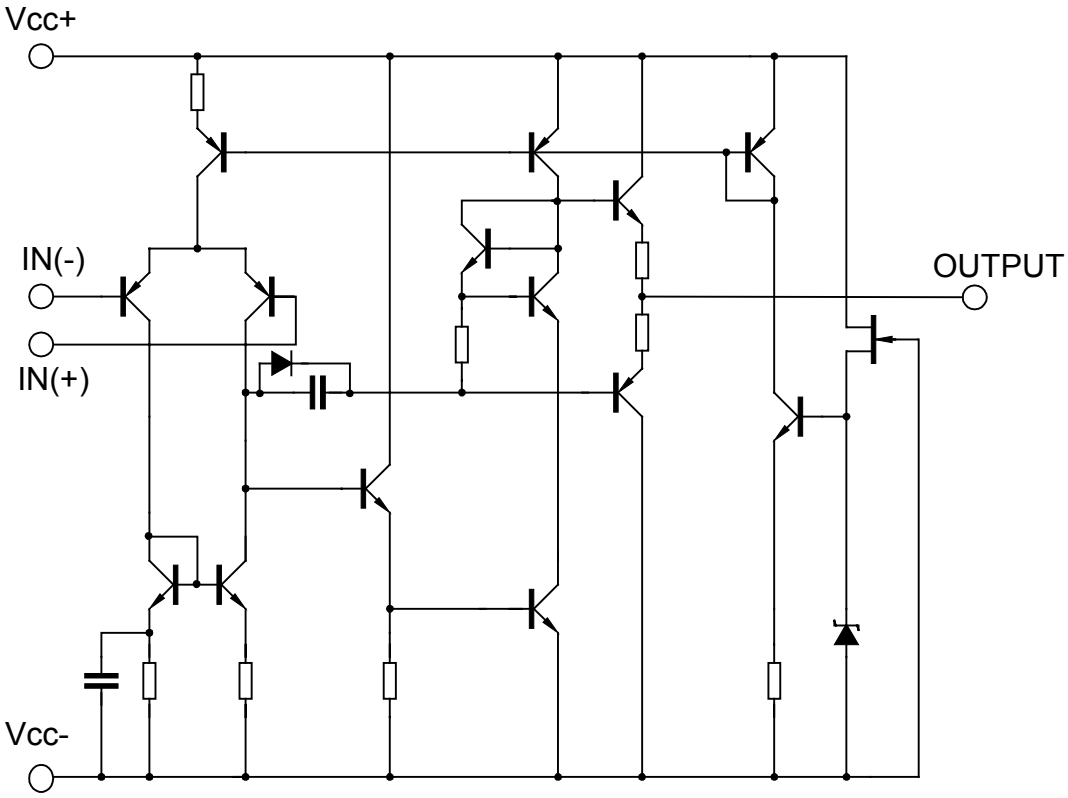
FEATURES

*Operating Voltage (±4V~±18V)
*Wide Gain Bandwidth Product. (10MHz typ.)
*Slew Rate (4V / μs typ.)
*Bipolar Technology

PIN CONFIGURATION



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V+/V-	±18	V
Differential Input Voltage	V_{ID}	±30	V
Input Voltage	V_I	±15(note)	V
Power Dissipation DIP-8 SOP-8	P_D	 500 300	 mW mW
Operating Temperature Range	T_{OPR}	-20 ~ +75	°C
Storage Temperature Range	T_{STG}	-40 ~ +125	°C

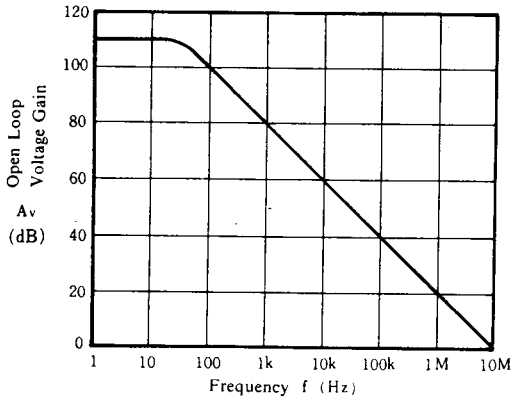
Note: For supply voltage less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

ELECTRICAL CHARACTERISTICS (Ta=25°C , V+/V-=±15V)

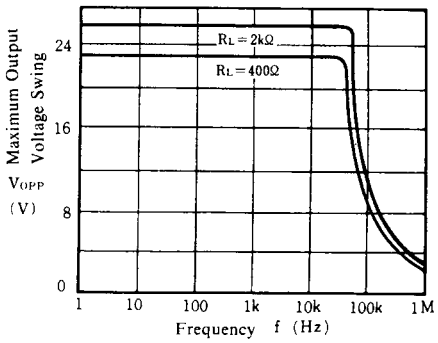
PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Input offset voltage	V_{IO}	Rs≤10kΩ	-	0.5	6	mV
Input offset current	I_{IO}		-	5	200	nA
Input bias current	I_B		-	40	500	nA
Input Resistance	R_{IN}		0.3	5	-	MΩ
Large Signal Voltage Gain	Av	R_L≥2kΩ, Vo=±10V	86	100	-	dB
Maximum Output Voltage 1	V_{OM1}	R_L≥2kΩ	±12	±14	-	V
Maximum Output Voltage 2	V_{OM2}	I_O=25mA	±10	±11.5	-	V
Input Common Mode Voltage Range	V_{ICM}		±12	±14	-	V
Common Mode Rejection Ratio	CMR	Rs≤10kΩ	70	90	-	dB
Supply Voltage Rejection Ratio	SVR	Rs≤10kΩ	76.5	90	-	dB
Operating Current	Icc		-	4.3	5.7	mA
Slew Rate	SR		-	4	-	V/μs
Gain Bandwidth Product	GB		-	10	-	MHz
Equivalent Input Noise Voltage	V_{NI}	RIAA,R_S=2kΩ, 30kHz LPF	-	1.2	-	μVrms

TYPICAL CHARACTERISTICS

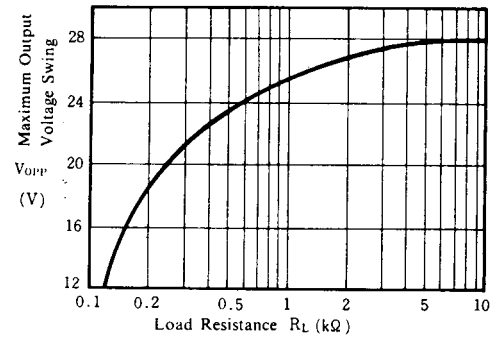
OPEN LOOP VOLTAGE GAIN vs. FREQUENCY
(V+/V- =±15V, R_L=2KΩ, Ta=25°C)



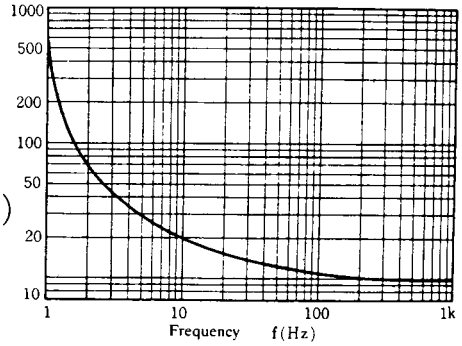
MAXIMUM OUTPUT VOLTAGE SWING vs. FREQUENCY
(V+/V- =±15V, Ta=25°C)



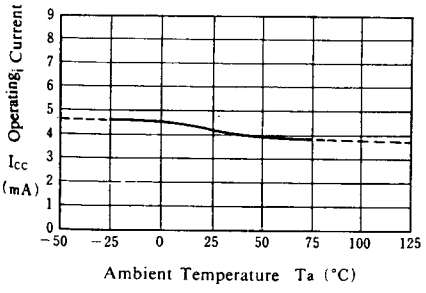
MAXIMUM OUTPUT VOLTAGE SWING vs. LOAD RESISTANCE
(V+/V- =±15V, Ta=25°C)



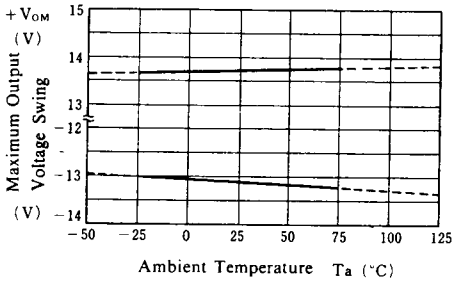
EQUIVALENT INPUT NOISE VOLTAGE vs. FREQUENCY
(V+/V- =±15V, Rs=50Ω, Av=60dB, Ta=25°C)



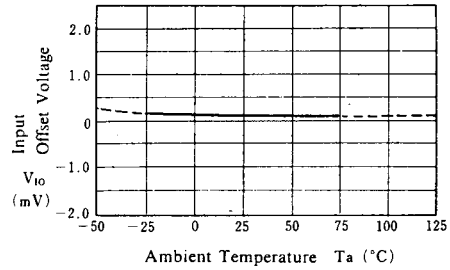
OPERATING CURRENT vs. TEMPERATURE
(V+/V- =±15V)



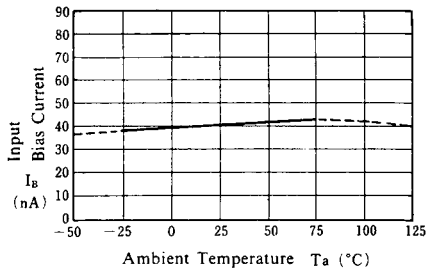
MAXIMUM OUTPUT VOLTAGE SWING vs. TEMPERATURE
(V+/V- =±15V, R_L=2kΩ)



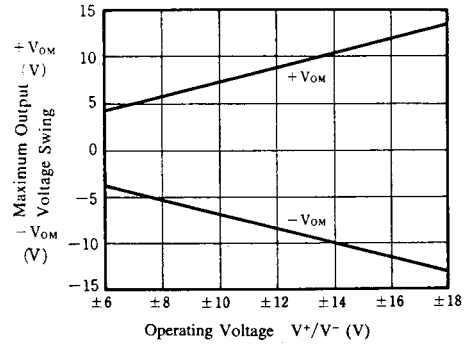
INPUT OFFSET VOLTAGE vs. TEMPERATURE
(V+/V- =±15V)



INPUT BIAS CURRENT vs. TEMPERATURE
(V+/V- =±15V)



MAXIMUM OUTPUT VOLTAGE SWING vs. SUPPLY VOLTAGE
(R_L=400Ω, Ta=25°C)



OPERATING CURRENT vs. OPERATING VOLTAGE
(Ta=25°C)