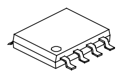
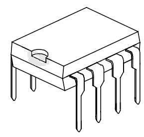
DUAL OPERATIONAL AMPLIFIER



SOP-8



DIP-8

DESCRIPTION

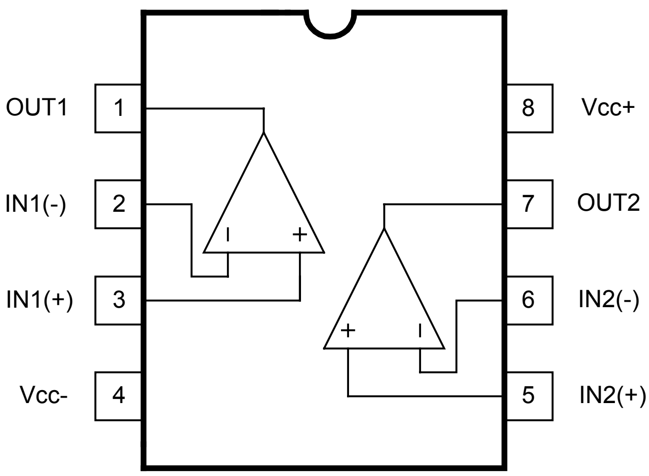
The UTC MC4556 integrated circuit is a high-gain, high output current dual operational amplifier capable of driving ±70mA into 150Ω loads (±10.5V output voltage), and operating low supply voltage (V+/V- = ±2V~).

The UTC MC4556 combines many of the features of the popular UTC MC4558 as well as having the capability of driving 150Ω loads. In addition, the wide band-width, low noise, high slew rate an low distortion of the UTC MC4556 make it ideal for many audio, telecommunications and instrumentation applications.

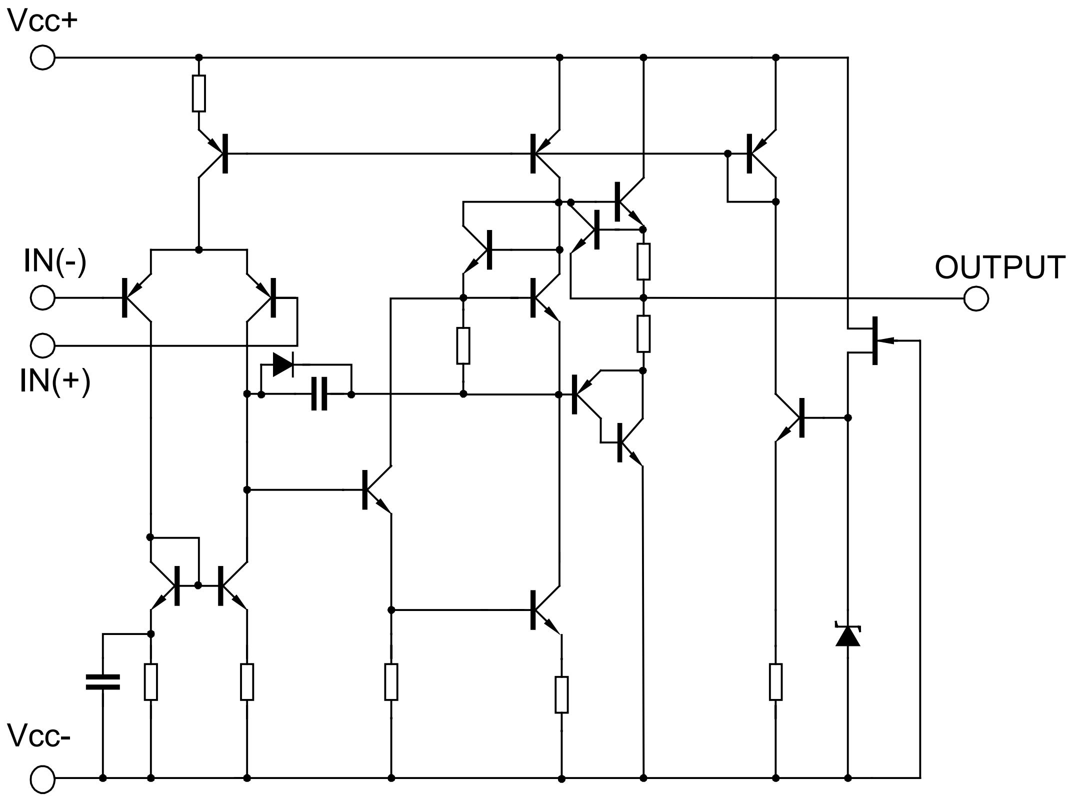
FEATURES

*Operating Voltage (±2V~±18V)
*High Output Current (Io=70mA)
*Slew Rate (3V / µs typ.)
*Gain Band Width Product (8MHz 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	P_D		
DIP-8		700	mW
SOP-8		300	mW
Operating Temperature Range	T_{OPR}	-20 ~ +75	°C
Storage Temperature Range	T_{STG}	-40 ~ +125	°C

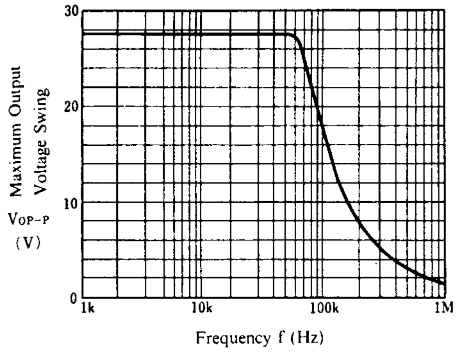
Note: For supply voltage less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

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

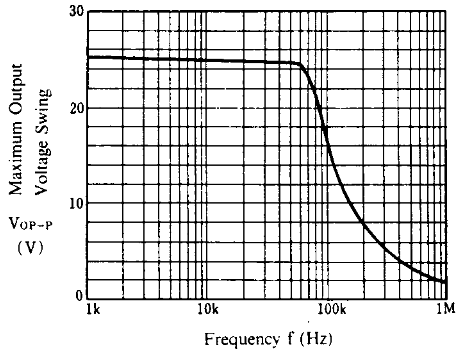
PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Input offset voltage	V_{IO}	Rs≤10kΩ	-	0.5	6	mV
Input offset current	I_{IO}		-	5	60	nA
Input bias current	I_B		-	50	500	nA
Input Resistance	R_{IN}		0.3	5	-	MΩ
Large Signal Voltage Gain	Av	R_L≥2kΩ, Vo=±10V	86	100	-	dB
Maximum Output Voltage 1	V_{OM1}	R_L≥2kΩ	±12.0	±13.5	-	V
Maximum Output Voltage 2	V_{OM2}	R_L≥150Ω	±10.5	±11.0	-	V
Input Common Mode Voltage Range	V_{ICM}		±13.5	±14.0	-	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		-	9	12	mA
Slew Rate	SR		-	3	-	V/µs
Unity Gain Bandwidth	GB		-	8	-	MHz

TYPICAL CHARACTERISTICS

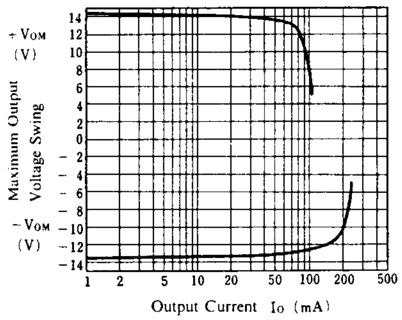
MAXIMUM OUTPUT VOLTAGE SWING vs. FREQUENCY
(V+/V- =±15V, R_L=2kΩ, Ta=25°C)



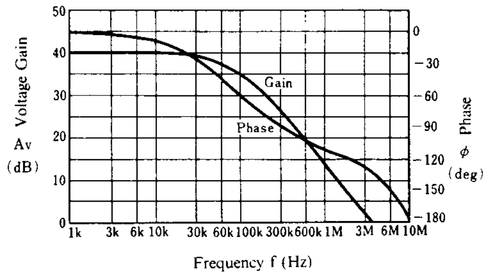
MAXIMUM OUTPUT VOLTAGE SWING vs. FREQUENCY
(V+/V- =±15V, R_L=150Ω,Ta=25°C)



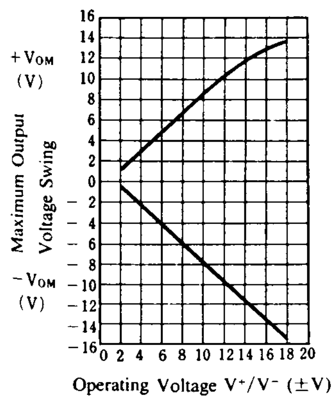
MAXIMUM OUTPUT VOLTAGE SWING vs. OUTPUT CURRENT (V+/V- =±15V, Ta=25°C)



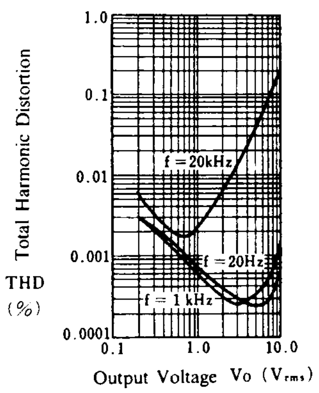
VOLTAGE GAIN, PLASE SHIFT vs. FREQUENCY
(V+/V- =±15V, R_L=2kΩ, 40dB Amp, Ta=25°C)



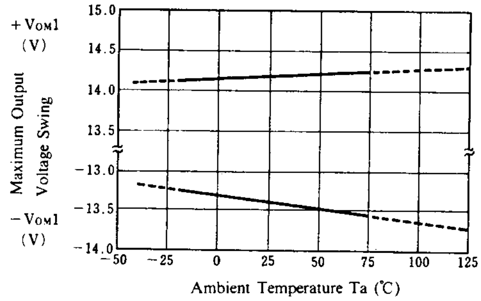
MAXIMUM OUTPUT VOLTAGE SWING vs.
OPERATING VOLTAGE (R_L=150Ω, Ta=25°C)



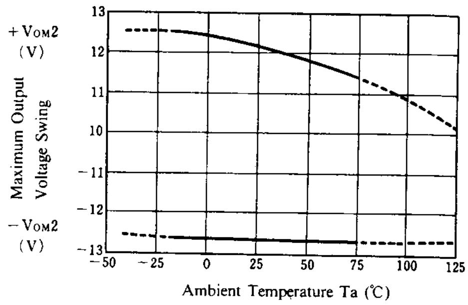
TOTAL HARMONIC DISTORTION vs. OUTPUT VOLTAGE
(V+/ V- =±15V, R_L=200Ω, GAIN=30dB, Ta=25°C)



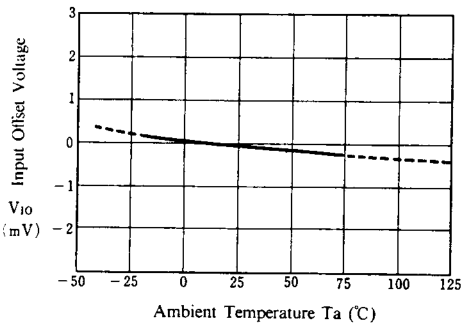
MAXIMUM OUTPUT VOLTAGE SWING vs. TEMPERATURE
(V+/ V- =±15V, R_L=2kΩ)



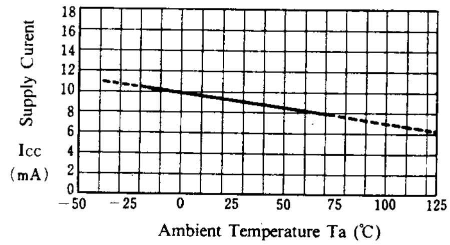
MAXIMUM OUTPUT VOLTAGE SWING vs. TEMPERATURE
(V+/ V- =±15V, R_L=150Ω)



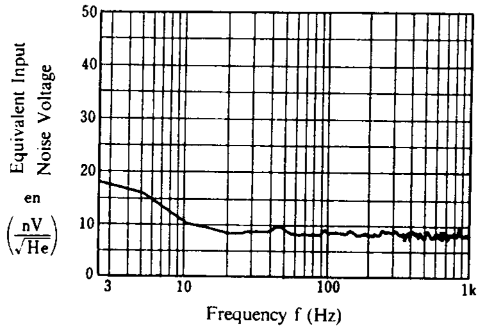
INPUT OFFSET VOLTAGE vs. TEMPERATURE
(V+/ V-=±15V)



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



EQUIVALENT INPUT NOISE VOLTAGE vs. FREQUENCY
(V+/ V-=±15V, Rs=100Ω, Av=40dB, Ta=25°C)



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