

UTC MC4556 LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER

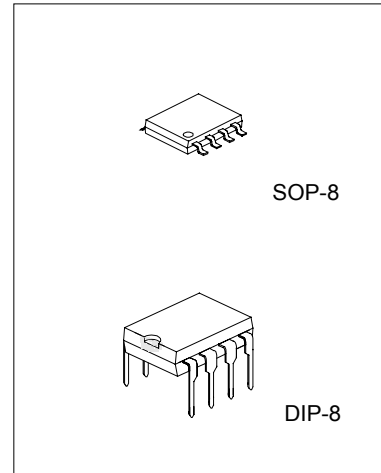
DESCRIPTION

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

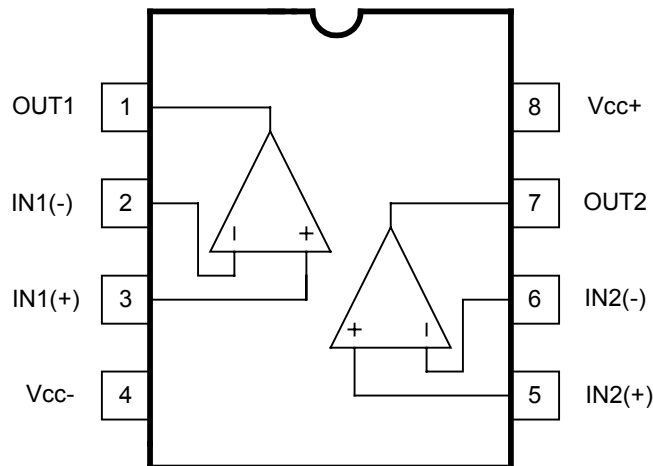
The UTC MC4556 combines many of the features of the popular UTC MC4558 as well as having the capability of driving 150Ω loads. In addition, the wide band-width, low noise, high slew rate and low distortion of the UTC MC4556 make it ideal for many audio, telecommunications and instrumentation applications.

FEATURES

- *Operating Voltage ($\pm 2\text{V} \sim \pm 18\text{V}$)
- *High Output Current ($I_o = 70\text{mA}$)
- *Slew Rate ($3\text{V} / \mu\text{s}$ typ.)
- *Gain Band Width Product (8MHz typ.)
- *Bipolar Technology

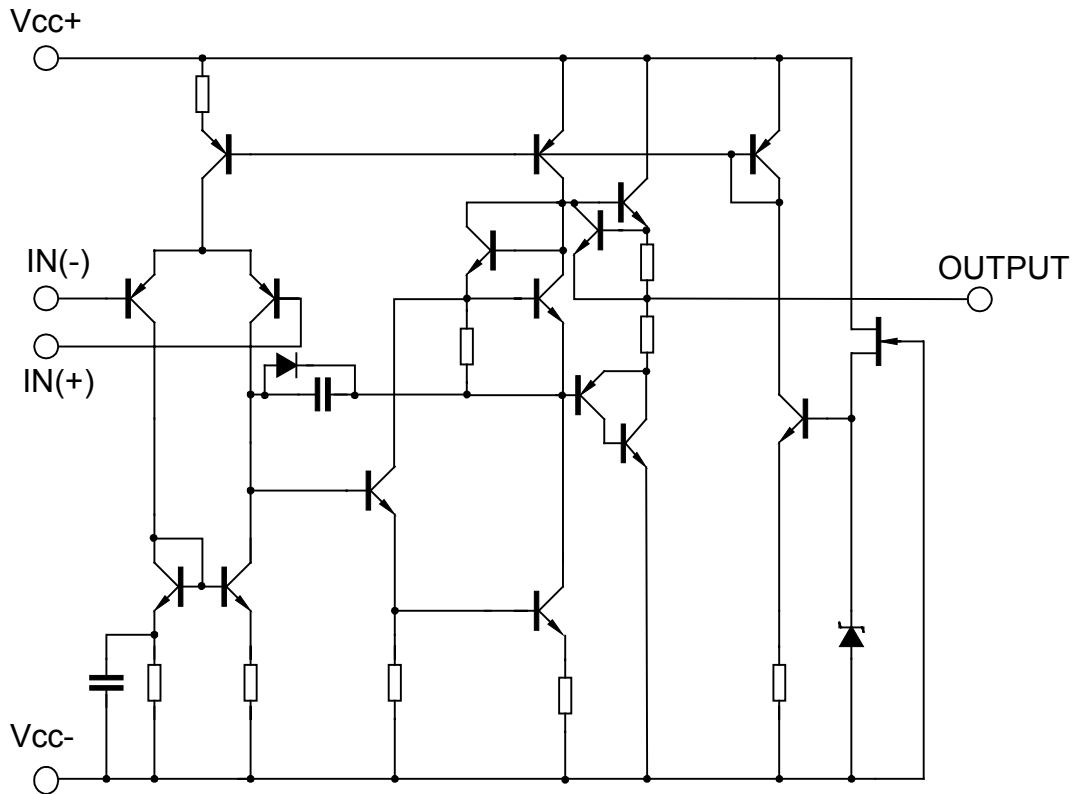


PIN CONFIGURATION



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BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

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.

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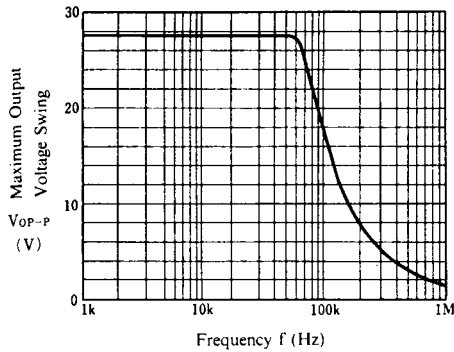
ELECTRICAL CHARACTERISTICS (Ta=25°C, V+ / V- = ±15V)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Input offset voltage	V _{IO}	R _s ≤ 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	A _V	R _L ≥ 2kΩ, V _o = ±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	R _s ≤ 10kΩ	70	90	-	dB
Supply Voltage Rejection Ratio	SVR	R _s ≤ 10kΩ	76.5	90	-	dB
Operating Current	I _{CC}		-	9	12	mA
Slew Rate	SR		-	3	-	V/μs
Unity Gain Bandwidth	GB		-	8	-	MHz

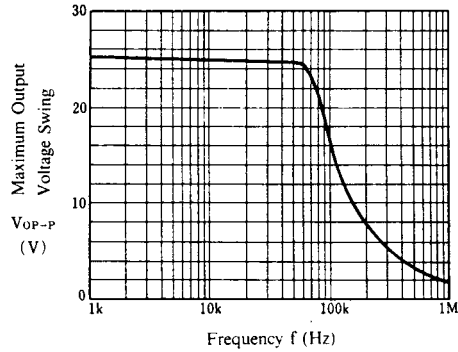
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TYPICAL CHARACTERISTICS

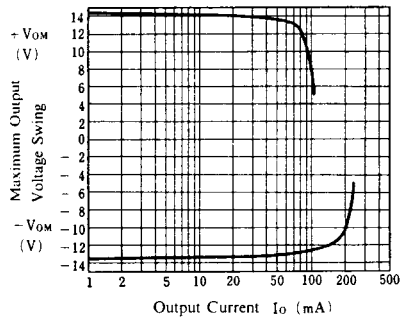
MAXIMUM OUTPUT VOLTAGE SWING vs. FREQUENCY
($V^+/V^- = \pm 15V$, $R_L = 2k\Omega$, $T_a = 25^\circ C$)



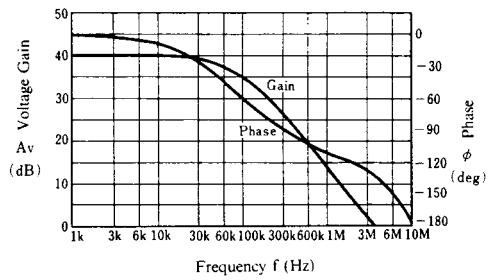
MAXIMUM OUTPUT VOLTAGE SWING vs. FREQUENCY
($V^+/V^- = \pm 15V$, $R_L = 150\Omega$, $T_a = 25^\circ C$)



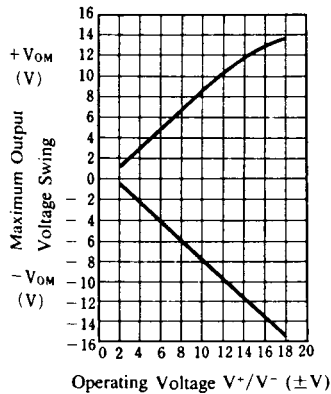
MAXIMUM OUTPUT VOLTAGE SWING vs. OUTPUT CURRENT
($V^+/V^- = \pm 15V$, $T_a = 25^\circ C$)



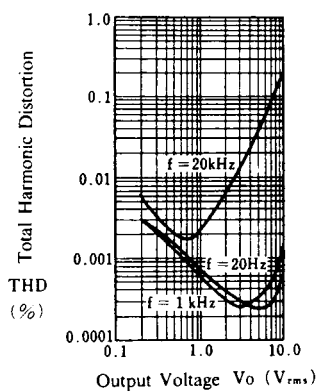
VOLTAGE GAIN, PLASE SHIFT vs. FREQUENCY
($V^+/V^- = \pm 15V$, $R_L = 2k\Omega$, 40dB Amp, $T_a = 25^\circ C$)



MAXIMUM OUTPUT VOLTAGE SWING vs. OPERATING VOLTAGE
($R_L = 150\Omega$, $T_a = 25^\circ C$)

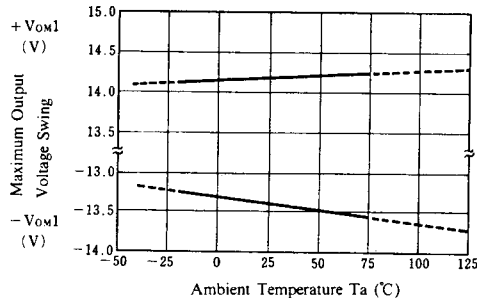


TOTAL HARMONIC DISTORTION vs. OUTPUT VOLTAGE
($V^+/V^- = \pm 15V$, $R_L = 200\Omega$, GAIN=30dB, $T_a = 25^\circ C$)

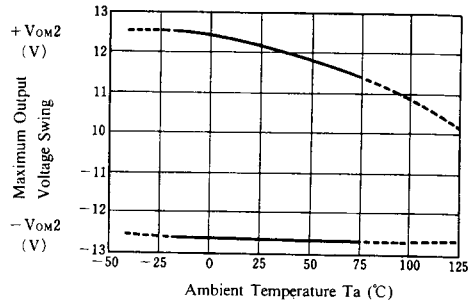


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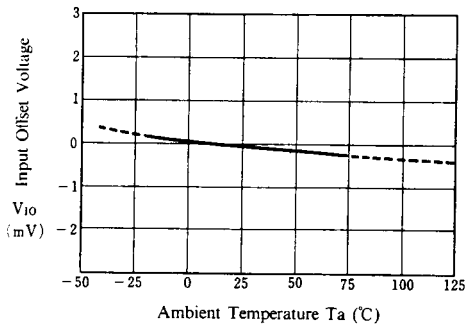
MAXIMUM OUTPUT VOLTAGE SWING vs. TEMPERATURE
($V^+/V^- = \pm 15V$, $R_L = 2k\Omega$)



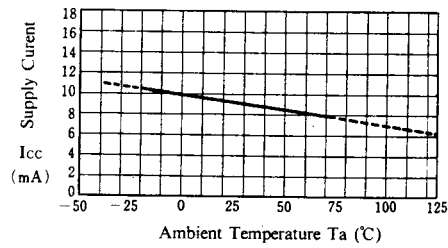
MAXIMUM OUTPUT VOLTAGE SWING vs. TEMPERATURE
($V^+/V^- = \pm 15V$, $R_L = 150\Omega$)



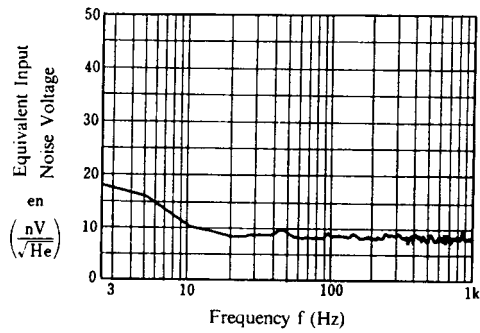
INPUT OFFSET VOLTAGE vs. TEMPERATURE
($V^+/V^- = \pm 15V$)



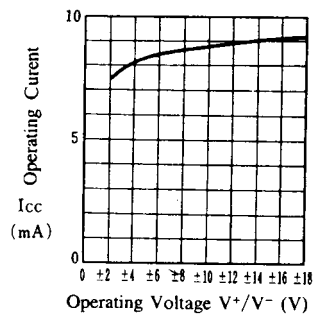
SUPPLY CURRENT vs. TEMPERATURE
($V^+/V^- = \pm 15V$)



EQUIVALENT INPUT NOISE VOLTAGE vs. FREQUENCY
($V^+/V^- = \pm 15V$, $R_s = 100\Omega$, $A_v = 40dB$, $T_a = 25^\circ C$)



OPERATING CURRENT vs. OPERATING VOLTAGE
($T_a = 25^\circ C$)



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