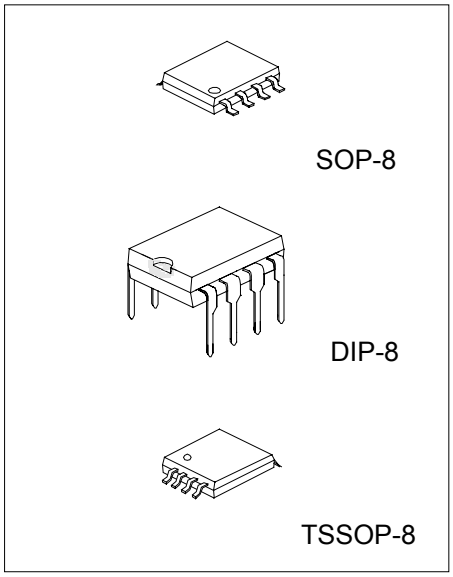
UTC MC4580 LINEAR INTEGRATED CIRCUIT

DUAL OPERATIONAL AMPLIFIER



DESCRIPTION

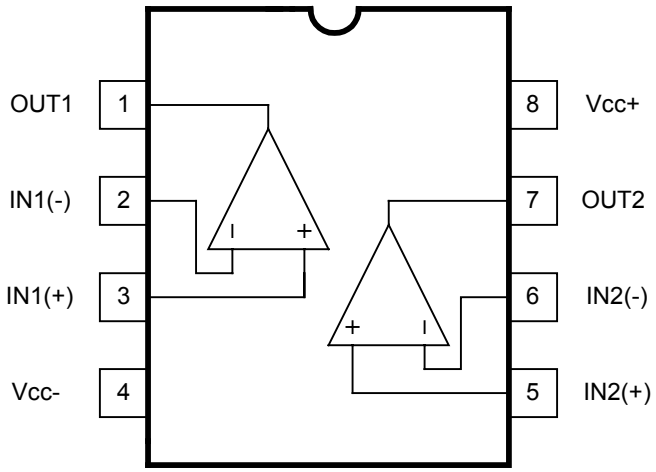
The UTC MC4580 is the dual operational amplifier, specially designed for improving the tone control, which is most suitable for the audio application.

Featuring noiseless, higher gain bandwidth, high output current and low distortion ratio, and it is most suitable not only for acoustic electronic parts of audio pre-amp and active filter, but also for the industrial measurement tools. It is also suitable for the head phone amp at higher output current, and further more, it can be applied for the handy type set operational amplifier of general purpose in application of low voltage single supply type which is properly biased of the input low voltage source.

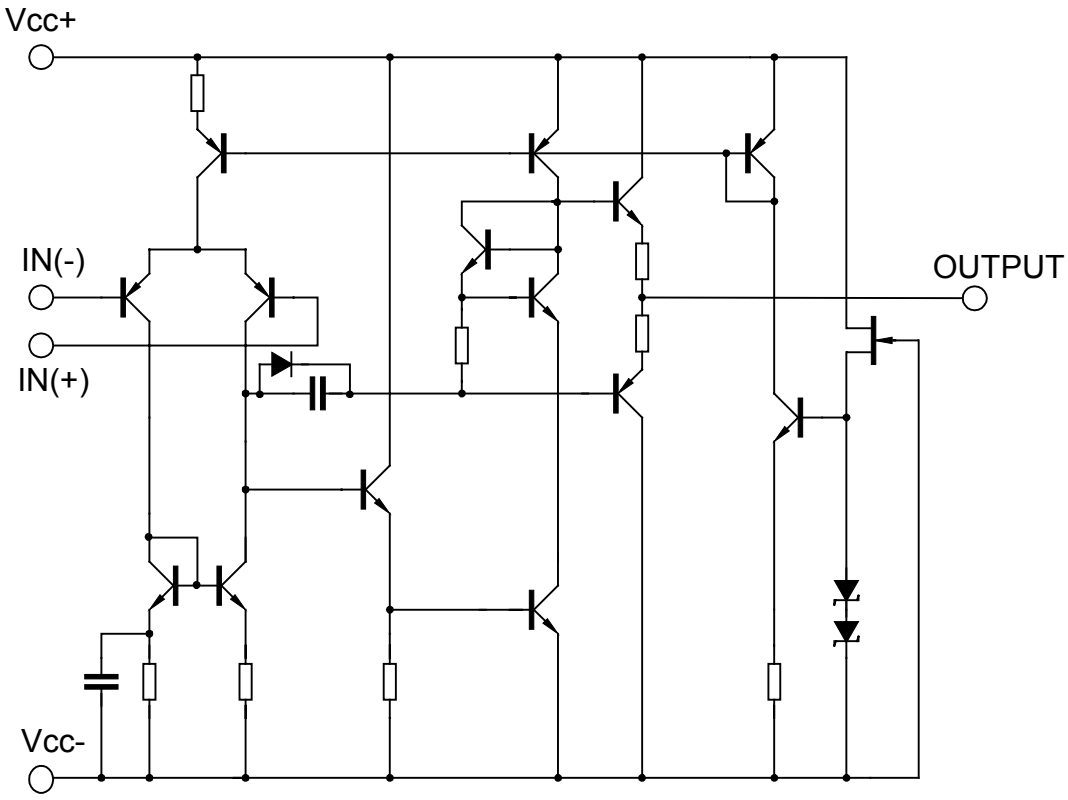
FEATURES

*Operating Voltage (±2V to±18V)
*Low Input Noise Voltage (0.8μVrms typ.)
*Wide Gain Bandwidth Product (15MHz typ.)
*Low Distortion (0.0005% typ.)
*Slew Rate (5V/μs typ.)
*Bipolar Technology

PIN CONFIGURATION



TEST CIRCUIT



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

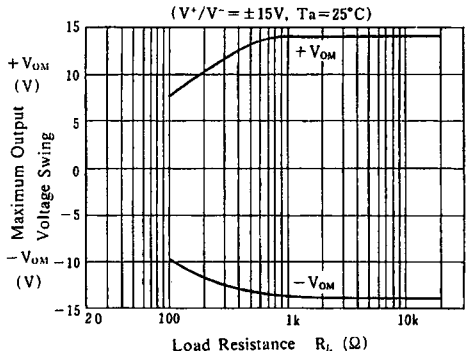
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	±18	V
Input Voltage	V_{IC}	±15	V
Differential Input Voltage	V_{ID}	±30	V
Output Current	Io	±50	mA
Power Dissipation	P_D	300 (SOP-8) 800 (DIP-8) 250(TSSOP-8)	mW
Operating Temperature Range	Topr	-40 to+85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

ELECTRICAL CHARACTERISTICS ($V^+/V^-=\pm15V$, Ta=25°C)

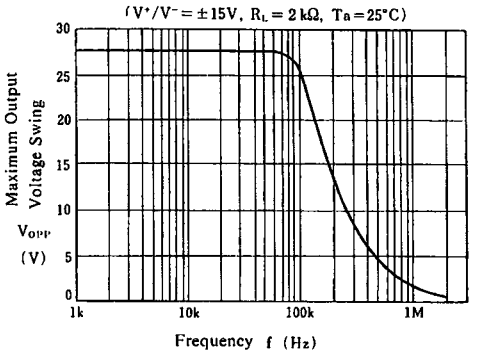
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Offset Voltage	V_{IO}	$R_S\leq10k\Omega$	-	0.5	3	mV
Input Offset Current	I_{IO}		-	5	200	nA
Input Bias Current	I_B		-	100	500	nA
Large Signal Voltage Gain	A_V	$Vo=\pm10V$, $R_L\geq2k\Omega$	90	110	-	dB
Output Voltage Swing	V_{OM}	$R_L>=2k\Omega$	±12	±13.5	-	V
Input Common Mode Voltage Range	V_{ICM}		±12	±13.5	-	V
Common Mode Rejection Ratio	CMR	$R_S\leq10k\Omega$	80	110	-	dB
Supply Voltage Rejection Ratio	SVR	$Rs\leq10k\Omega$	80	110	-	dB
Operating Current	Icc		-	6	9	mA
Slew Rate	SR	$R_L\geq2k\Omega$	-	5	-	V/μs
Gain bandwidth Product	GB	f=10KHz	-	15	-	MHz
Total Harmonic Distortion	THD	Av=20dB,Vo=5V, R_L=2kΩ, f=1KHz	-	0.0005	-	%
Input Noise Voltage	V_{NI}	RIAA Rs=2.2 kΩ,30kHzLPF	-	0.8	-	μVrms

TYPICAL CHARACTERISTICS

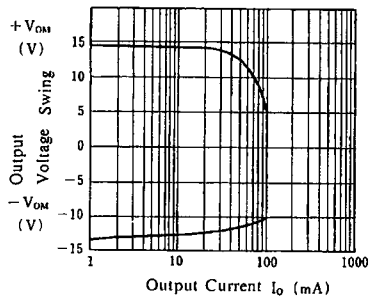
Maximum Output Voltage Swing vs. Load Resistance



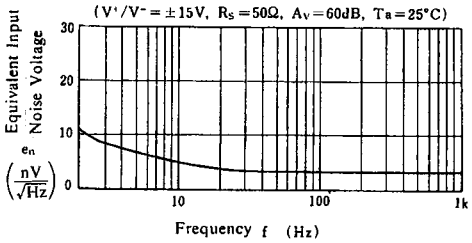
Maximum Output Voltage Swing vs. Frequency



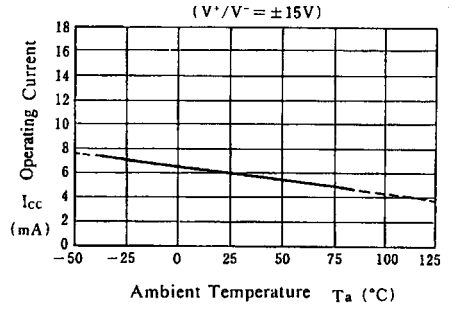
Output Voltage Swing vs. Output Current



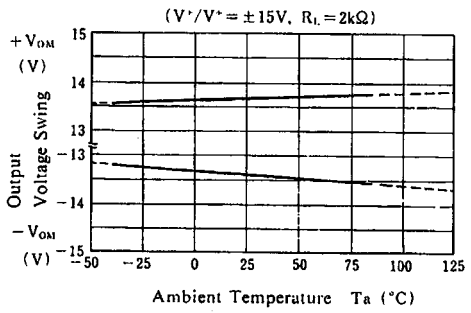
Equivalent Input Noise Voltage vs. Frequency



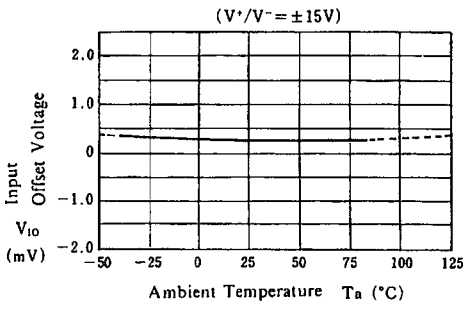
Operating Current vs. Temperature



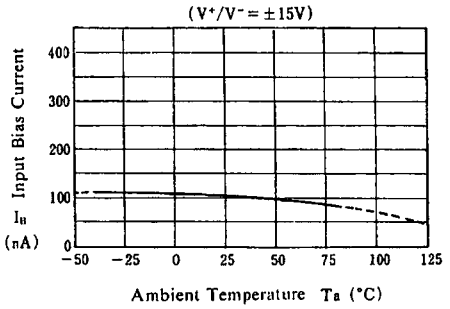
Output Voltage Swing vs. Temperature



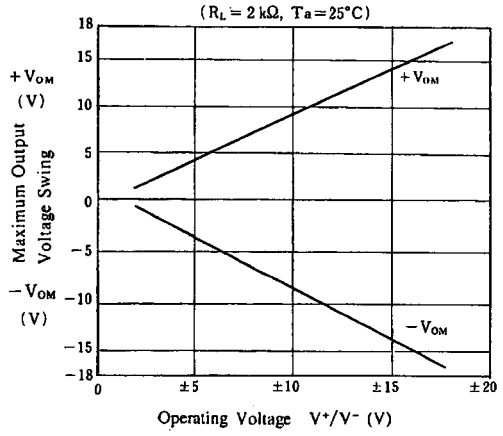
Input Offset Voltage vs. Temperature



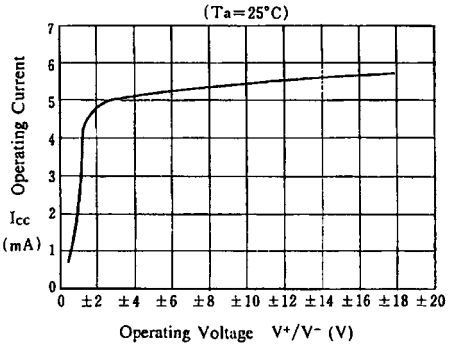
Input Bias Current vs. Temperature



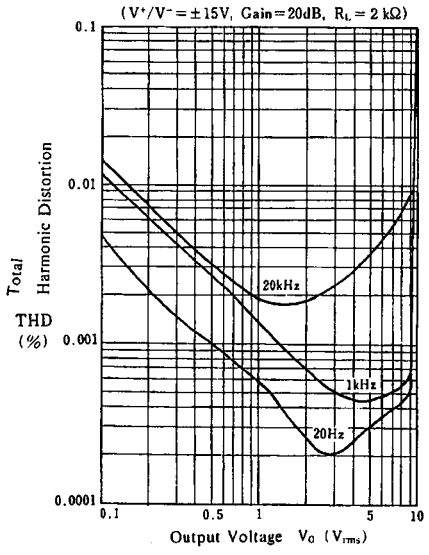
Maximum Output Voltage Swing vs. Operating Voltage



Operating Current vs. Operating Voltage



Total Harmonic Distortion vs. Output Voltage



Voltage Gain, Phase vs. Frequency