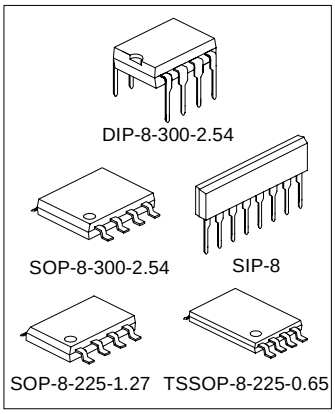
DUAL OPERATIONAL AMPLIFIER



DESCRIPTION

UTC4580 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 per-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 genenal purpose in application of low voltage single supply type which is properly biased of the input low voltage source.

FEATURES

* Operating voltage (±2~±18V)
* Low input noise voltage (0.8μVrms typ.)
* Wide gain bandwidth produce (15Mhz typ.)
* Low distortion (0.0005% typ.)
* Slew rate (5V/μs typ.)
* Package outline SOP8, SIP-8, DIP-8,TSSOP-8

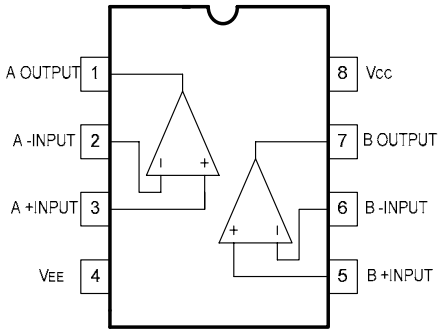
ORDERING INFORMATION

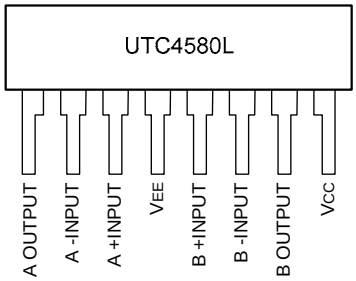
Device	package
UTC4580M	SOP-8-300-1.27
UTC4580L	SIP-8
UTC4580	DIP-8-300-2.54
UTC4580E	SOP-8-225-1.27
UTC4580V	TSSOP-8-225-0.65

AP PLICATIONS

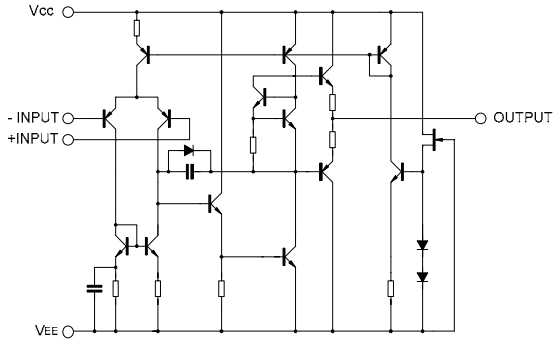
* Audio per-amp;
* Head phone amp;
* Handy type set;
* Measurement tool;

PIN CONFIGURATION





BLOCK DIAGRAM(1/2 Shown)



ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

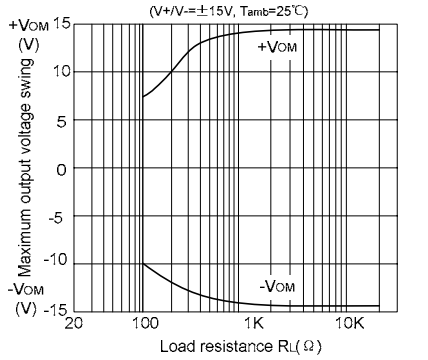
Characteristic	Symbol	Value	Unit
Differential Input Voltage	V+/V-	±18	V
Supply Voltage	VIC	±15(note)	V
Input Voltage	VID	±30(note)	V
Output Current	IO	±50	mA
Power Dissipation	PD	(UTC4580) 800 (UTC4580L) 800 (UTC4580M) 350 (UTC4580E) 300 (UTC4580V) 250	mW
Operating Temperature Range	Topr	-20~+75	°C
Storage Temperature Range	Tstg	-20~+125	°C

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

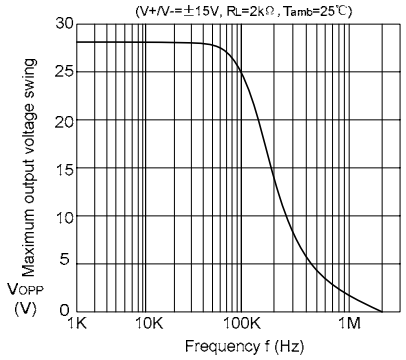
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Input Offset Voltage	VIO	Rs≤10kΩ	-	0.5	3	mV
Input Offset Current	IIO		-	5	200	nA
Input Bias Current	IIS		-	100	500	nA
Large Signal Voltage Gain	AV	RL≥2KΩ,VO=±10V	90	110	-	dB
Output Voltage Swing	VOM	RL≥2KΩ	±12	±13.5	-	V
Input Common Mode Voltage Range	VICM		±12	±13.5	-	V
Common Mode Rejection Ratio	CMR	Rs≤10kΩ	80	110	-	dB
Supply Voltage Rejection Ratio	SVR	Rs≤10kΩ	90	110	-	dB
Operating Current	ICC		-	6	9	mA
Slew Rate	SR	RL≥2KΩ	-	5	-	V/μs
Gain Bandwidth Product	GB	f=10kHz	-	15	-	MHz
Total Harmonic Distortion	THD	AV=20dB, VO=5V, RL=2kΩ,f=1kHz	-	0.0005	-	%
Input Noise Voltage	VNI	RIAA Rs=2.2kΩ,30kHzLPF	-	0.8	-	μVrms

TYPICAL CHARACTERISTICS CURVES

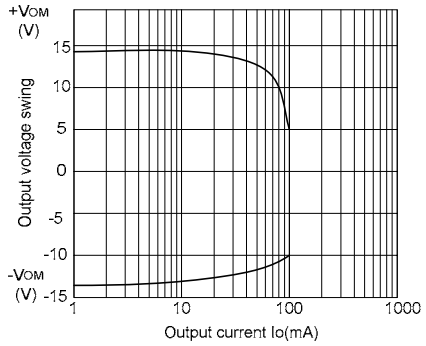
Maximum output voltage swing vs Load resistance



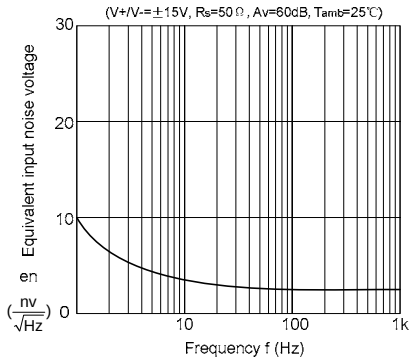
Maximum output voltage swing vs Frequency



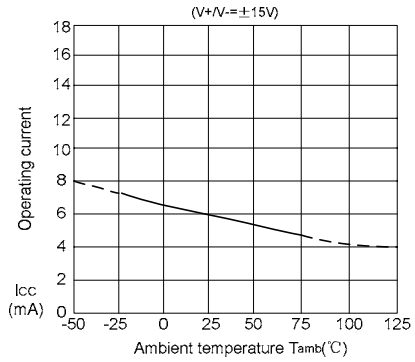
Output voltage swing vs. Output current



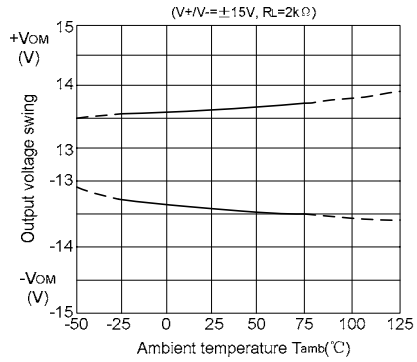
Equivalent input noise voltage vs. Frequency



Operating current vs. Temperature



Output voltage swing vs. Temperature



(To be continued)

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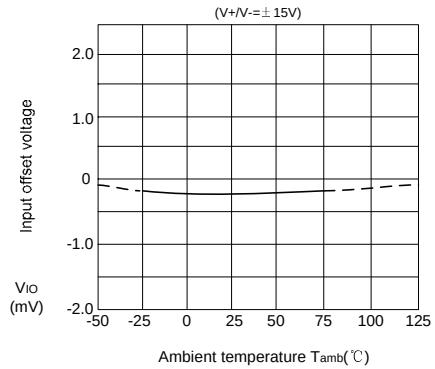
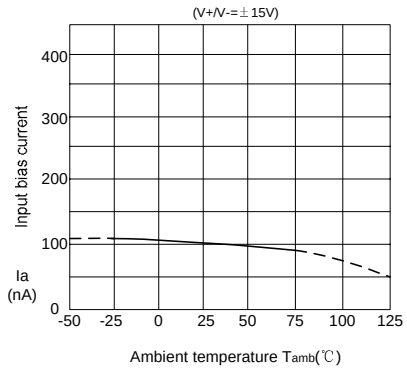
Input offset voltage vs. Temperature

(V+/V-=±15V)



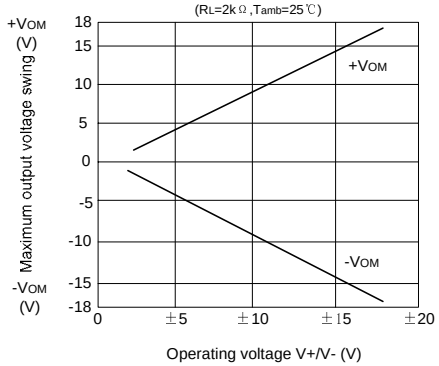
Input bias current vs. Temperature

(V+/V-=±15V)



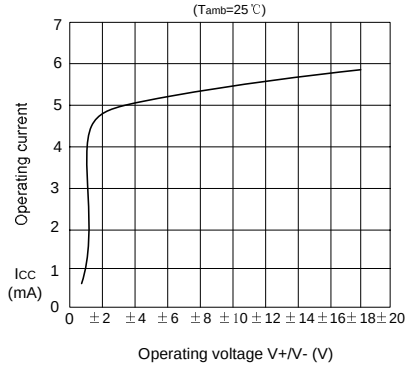
Maximum output voltage swing vs. Operating voltage

(RL=2kΩ,Tamb=25℃)



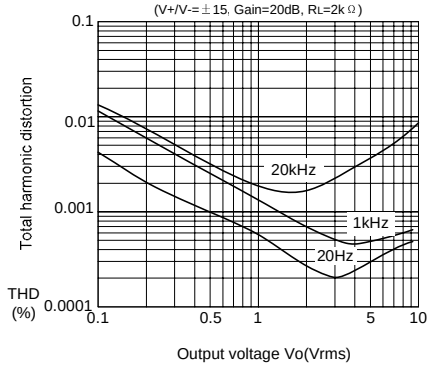
Operating current vs. Operating voltage

(Tamb=25℃)



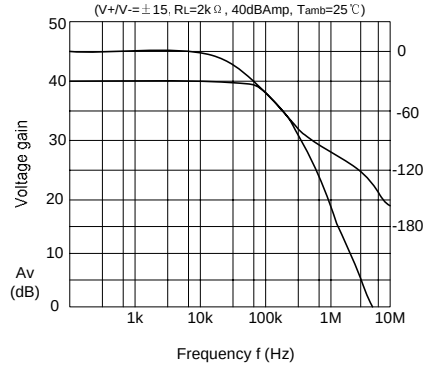
Total harmonic distortion vs. Output voltage

(V+/V-=±15, Gain=20dB, RL=2kΩ)



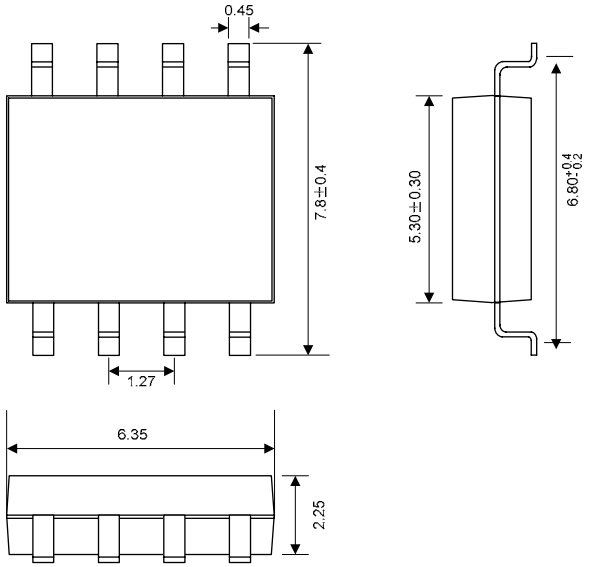
Voltage Gain, Phase vs. Frequency

(V+/V-=±15, RL=2kΩ, 40dBAmp, Tamb=25℃)

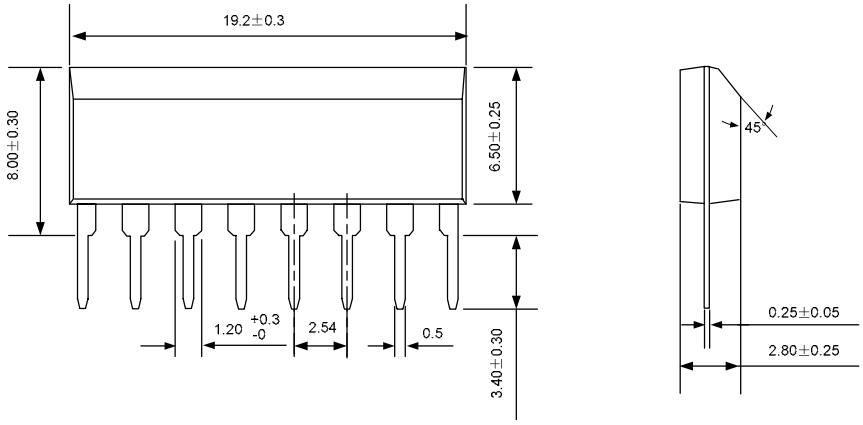


PACKAGE OUTLINE

SOP-8-300-1.27 UNIT: mm

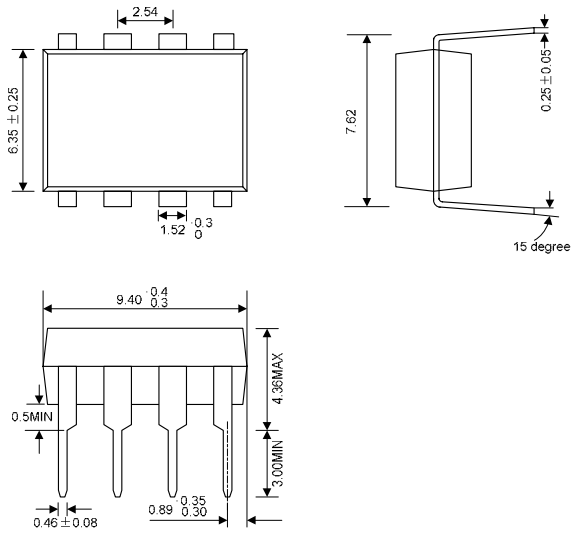


SIP-8 UNIT: mm

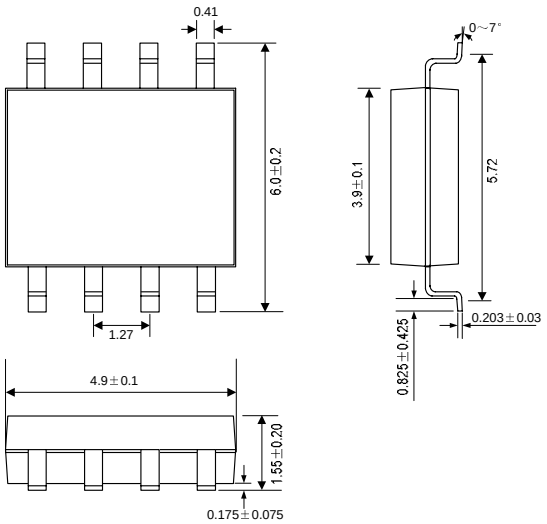


PACKAGE OUTLINE (Continued)

DIP-8-300-2.54 UNIT: mm

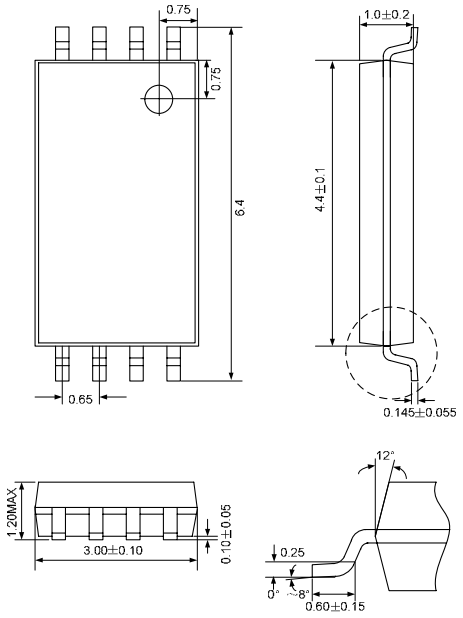


SOP-8-225-1.27 UNIT: mm



PACKAGE OUTLINE (Continued)

SSOP-8-225-0.65 UNIT: mm



Attach

Revision History

Data	REV	Description	Page
	1.0	Original	
2004.10.13	1.1	Add “Power Dissipation (4580M)350”	2