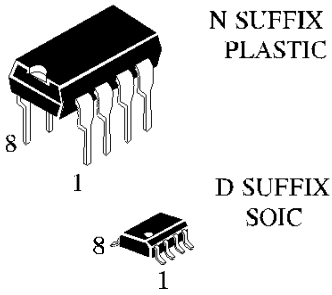
Dual Operational Amplifiers

The HT4558A is dual general purpose operational amplifiers.

The high common-mode input voltage range and the absence of latch-up make these amplifiers ideal for voltage follower application.

The devices are short circuit protected and the internal frequency compensation ensures stability without external components.

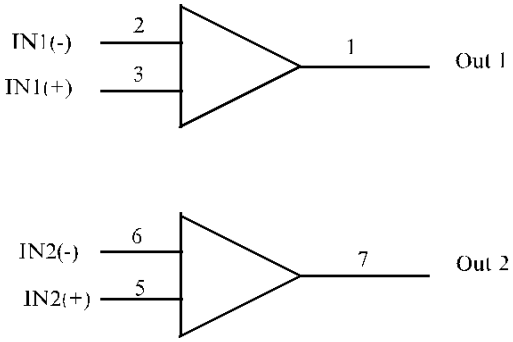
Short Circuit Protection
Wide common-mode and differential ranges
No frequency compensation required
Low power consumption
No latch-up
3 MHz unity gain bandwidth guaranteed
Gain and phase match between amplifiers



ORDERING INFORMATION

HT4558AN DIP8
HT4558AR SOP8
T_A = 0 to 70 C for
all packages

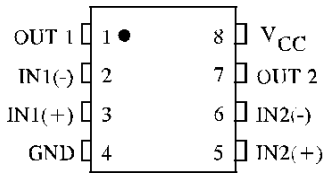
BLOCK DIAGRAM



PIN 4 = GND (V^-)

PIN 8 = V_{CC} (V+)

PIN ASSIGNMENT



MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
V^+	Supply Voltage	18	V
V^-	Supply Voltage	-18	V
V_{IDR}	Differential Input Voltage	30	V
V_{IN}	Input Voltage	15	V
P_D	Power Dissipation in Still Air	570	mW
Tstg	Storage Temperature Range	-55 to 125	C

* Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

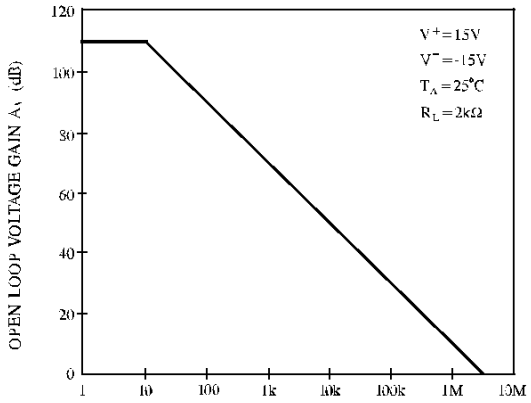
RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
V^+	Supply Voltage		16	V
V^-	Supply Voltage		-16	V

ELECTRICAL CHARACTERISTICS(T_A = 25 C, V^+ = +15 V, V^- = -15 V)

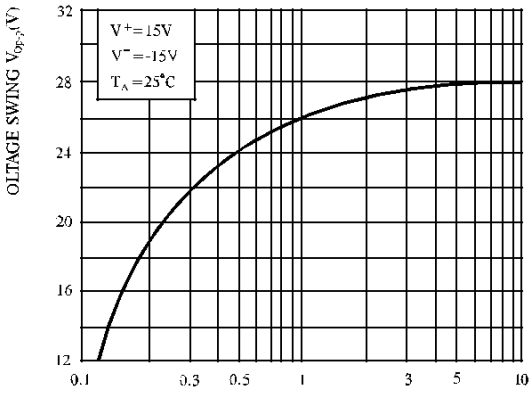
Symbol	Parameter	Test Conditions	Guaranteed Limits		Unit
			Min	Max	
V_{IO}	Input Offset Voltage	R_S 10K		5.0	mV
I_{IO}	Input Offset Current			200	nA
I_{IB}	Input Bias Current			- 500	nA
r_i	Input Resistance		0.3		M
A_V	Large-Signal Voltage Gain	R_L 2K , V_C = 10V	20		V/mV
V_{OM}	Output Voltage Swing	R_L 10K	12		V
		R_L 2K	10		V
V_{ICR}	Input Common-Mode Voltage Range		12		V
CMRR	Common Mode Rejection Ratio	R_S 10K	70		dB
PSRR	Supply Voltage Rejection Ratio	R_S 10K		150	V/V
SR	Slew Rate	R_L 2K	0.8	1.6	
I^+, I^-	Supply Current			5.6	mA
SR	Slew Rate	R_L = 2K			V/ s
P_C	Power Consumption	R_L =		170	mW
V_N	Input Noise Voltage	R_S = 1K f = 30Hz 30KHz		3.5	Vrms
I_{source}	Sourse Current		- 20		mA
I_{sink}	Sink Current		20		mA

TYPICAL PERFORMANCE CURVES



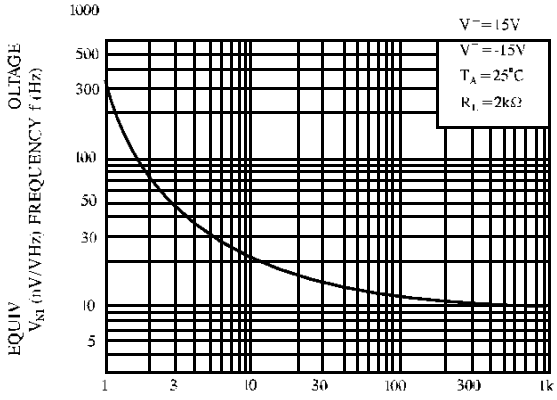
PREQUENCY f (Hz)

V_{Op-p} - R_L



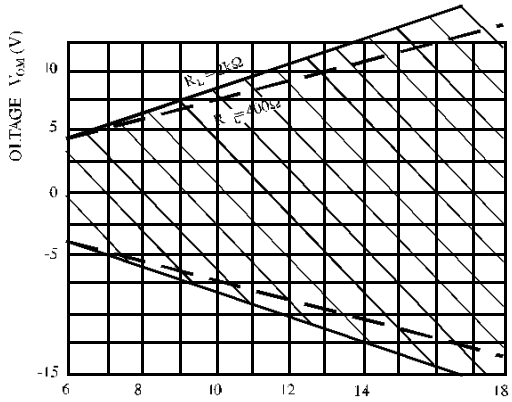
LOAD RESISTANCE R_L (k)

V_{NI} - f



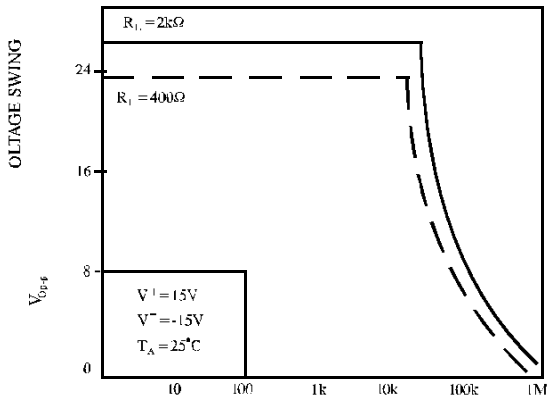
FRQUENCY f (Hz)

V_{OM} - V_{CC}, V_{EE}



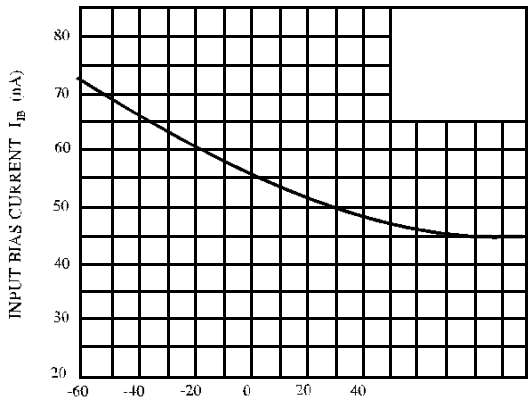
SUPPLY VOLTAGE V^+, V^- (V)

V_{Op-p}- f



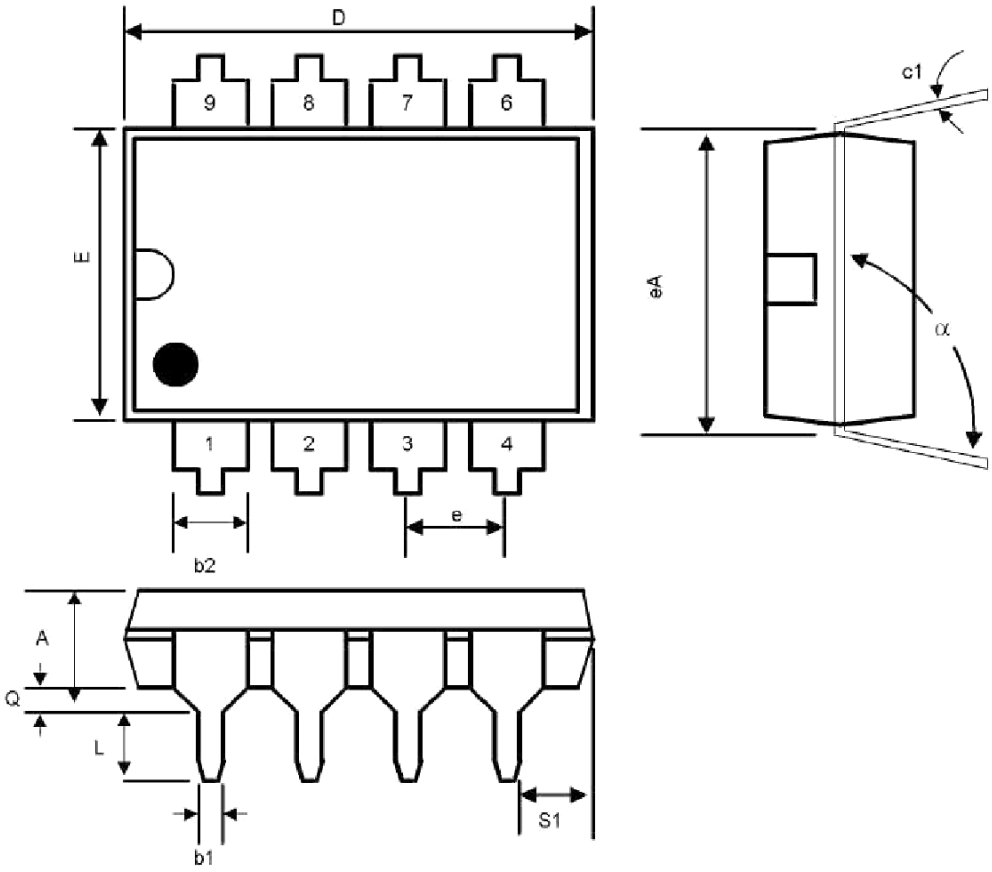
FRQUENCY f (Hz)

I_I - T_A



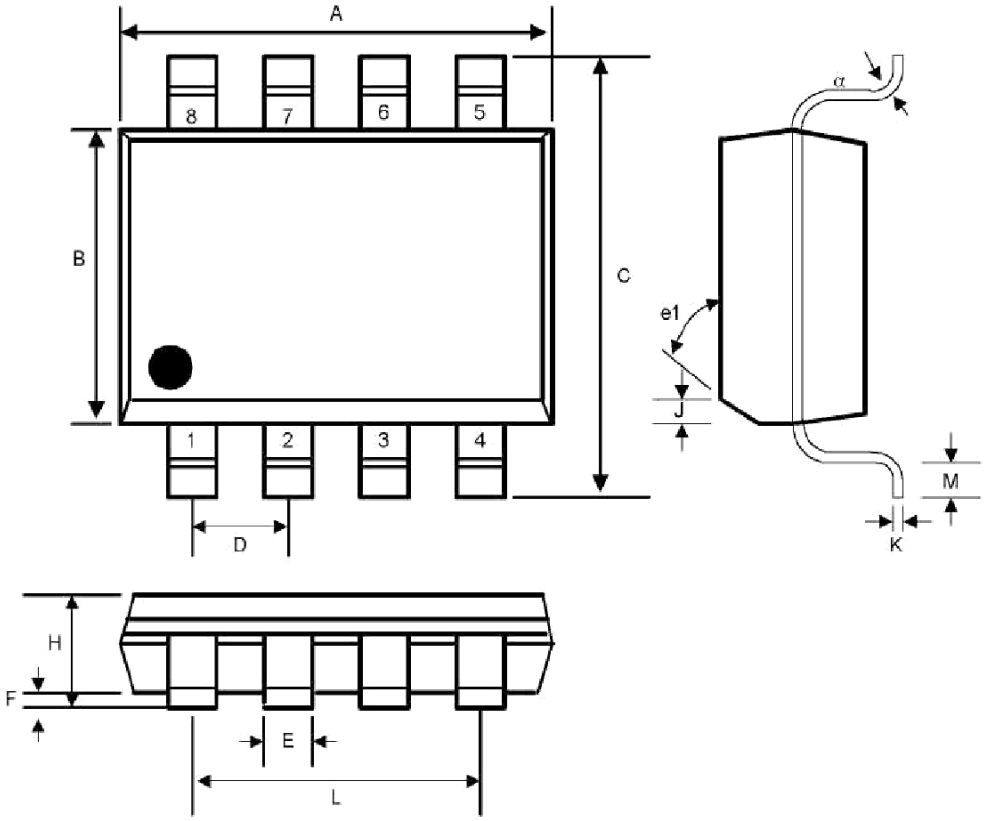
AMBIENT TEMPERATURE T_A (C)

Package Outlines: DIP-8



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	-	0.200	-	5.08	-
b1	0.014	0.023	0.36	0.58	-
b2	0.045	0.065	1.14	1.65	-
c1	0.008	0.015	0.20	0.38	-
D	0.355	0.400	9.02	10.16	-
E	0.220	0.310	5.59	7.87	-
e	0.100 BSC		2.54 BSC		-
eA	0.300 BSC		7.62 BSC		
L	0.125	0.200	3.18	5.08	-
Q	0.015	0.060	0.38	1.52	-
s1	0.005	-	0.13	-	-
α	90^0	105^0	90^0	105^0	-

Small Outline SOP-8



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.188	0.197	4.80	5.00	-
B	0.149	0.158	3.80	4.00	-
C	0.228	0.244	5.80	6.20	-
D	0.050 BSC		1.27 BSC		-
E	0.013	0.020	0.33	0.51	-
F	0.004	0.010	0.10	0.25	-
H	0.053	0.069	1.35	1.75	-
J	0.011	0.019	0.28	0.48	
K	0.007	0.010	0.19	0.25	-
M	0.016	0.050	0.40	1.27	
L	0.150 REF		3.81 REF		-
e1	45^0		45^0		-
α	0^0	8^0	0^0	8^0	-

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