

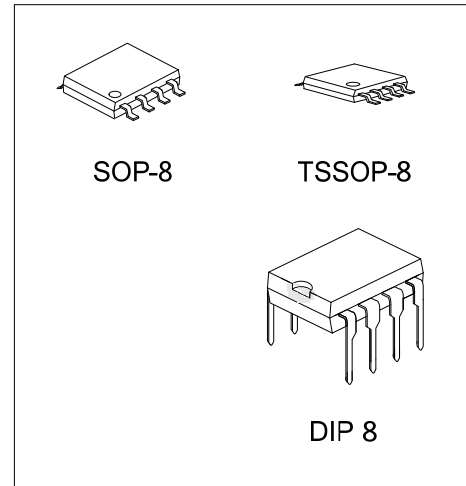
DUAL OPERATIONAL AMPLIFIER

■ DESCRIPTION

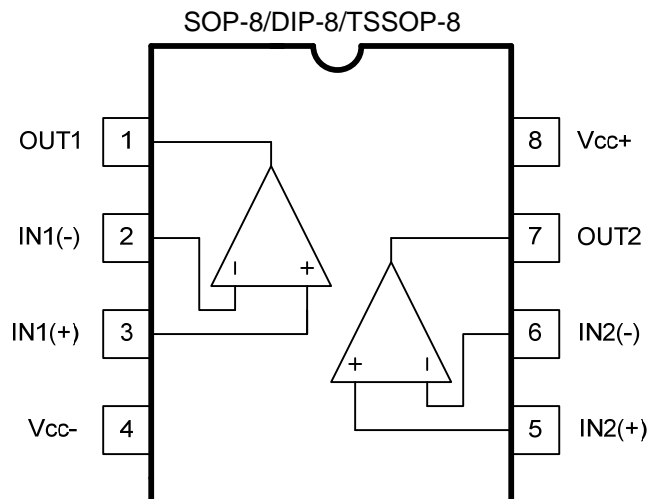
The LM4558 is a monolithic integrated circuit designed for dual operational amplifier.

■ FEATURES

- * No frequency compensation required
- * No latch-up
- * Large common mode and differential voltage range
- * Parameter tracking over temperature range
- * Gain and phase match between amplifiers
- * Internally frequency compensated
- * Low noise input transistors



■ PIN CONFIGURATIONS



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	± 22	V
Differential input voltage	$V_{I(DIFF)}$	± 18	V
Power Dissipation	DIP-8	600	mW
	SOP-8	400	mW
	TSSOP-8	250	mW
Input Voltage	V_{IN}	± 15	V
Junction Temperature	T_J	+125	°C
Operating Temperature	T_{OPR}	-20 ~ +85	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

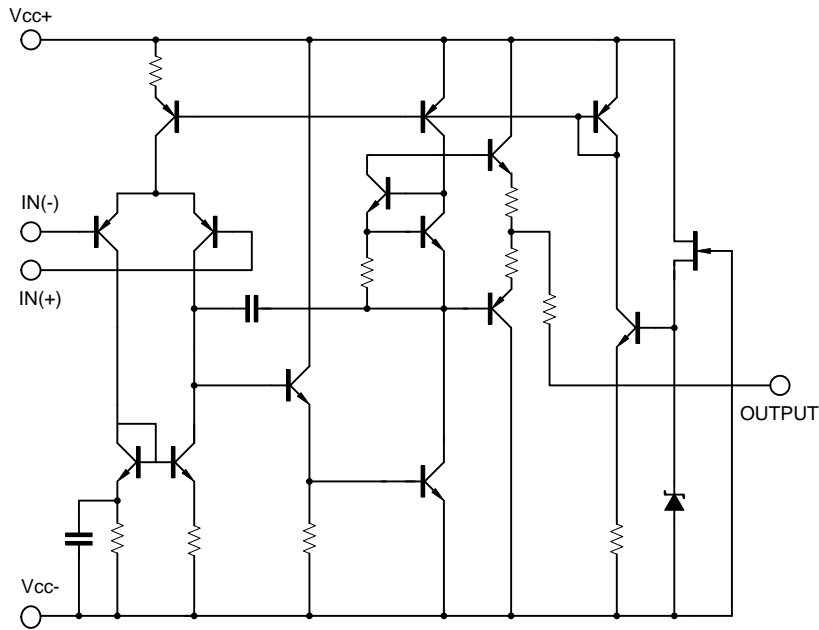
Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. The device is guaranteed to meet performance specification within 0°C ~ +70°C operating temperature range and assured by design from -20°C ~ +85°C.

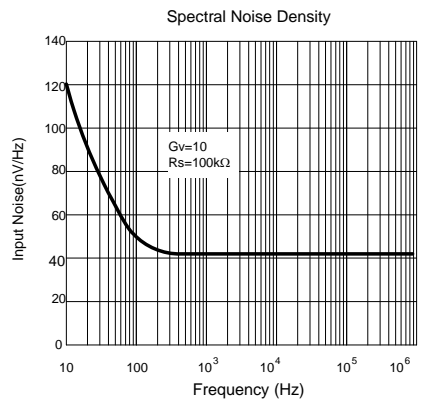
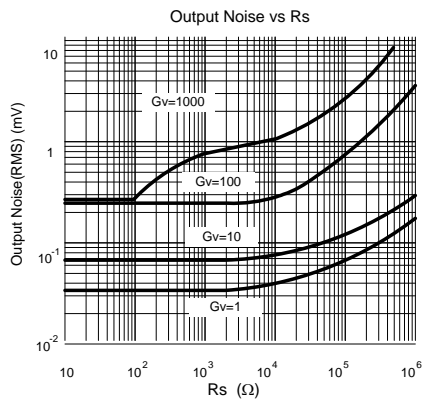
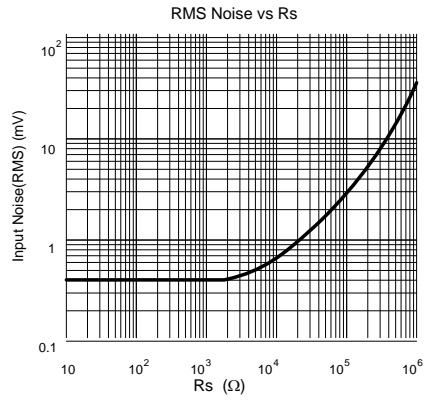
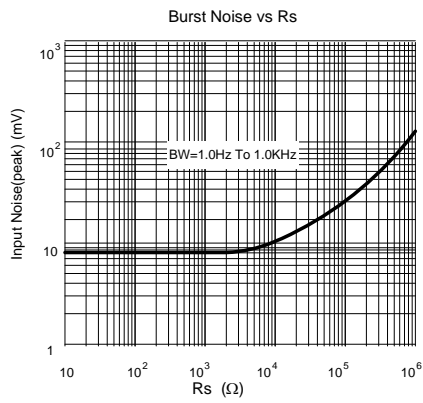
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V_{CC}=15V, V_{ee}=-15V)

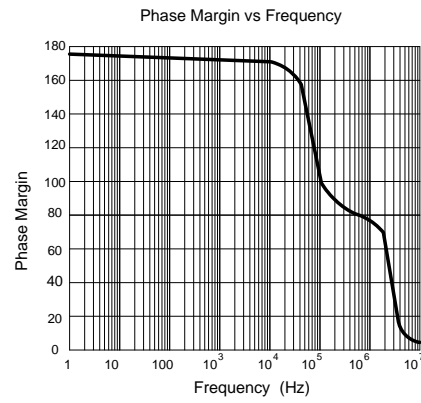
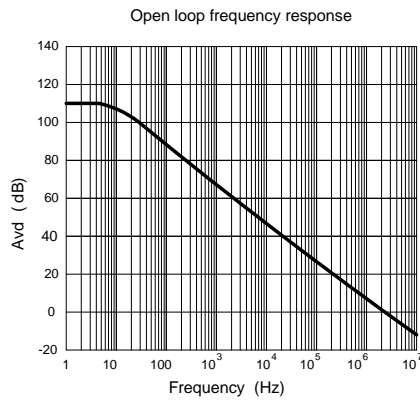
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	I_{CC}			2.3	4.5	mA
Input offset voltage	$V_{I(OFF)}$	$R_S < 10k\Omega$		2	6	mV
Input offset current	$I_{I(OFF)}$			5	200	nA
Input bias current	$I_{I(BIAS)}$			30	500	nA
Large signal voltage gain	G_V	$V_o(p-p) = \pm 10V, R_L \leq 2k\Omega$	20	200		V/mV
Common Mode Input Voltage Range	$V_{I(COM)}$		± 12	± 13		V
Common Mode Rejection Ratio	$RR_{(COM)}$	$R_S \leq 10k\Omega$	70	90		dB
Supply Voltage Rejection Ratio	$RR_{(VCC)}$	$R_S \leq 10k\Omega$	76	90		dB
Output Voltage swing	$V_{O(p-p)}$	$R_L \geq 10k\Omega$	± 12	± 14		V
Power Consumption	P_C			70	170	mW
Slew Rate	SR	$V_{IN} = \pm 10V, R_L \geq 2k\Omega, C_L \leq 100pF$	1.2	2.2		V/ μs
Rise Time	T_{RIS}	$V_{IN} = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		0.3		μs
Overshoot	OS	$V_{IN} = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		15		%
Input Resistance	R_{IN}		0.3	2		M Ω
Output Resistance	R_{OUT}			75		Ω
Total Harmonic Distortion	THD	$f=1kHz, A_v=20dB, R_L=2k\Omega, V_{OUT}=2V_{pp}, C_L=100pF$		0.008		%
Channel Separation	V_{O1}/V_{O2}			120		dB
FREQUENCY CHARACTERISTIC						
Unity Gain Bandwidth	BW		2.0	2.8		MHz

■ BLOCK DIAGRAM

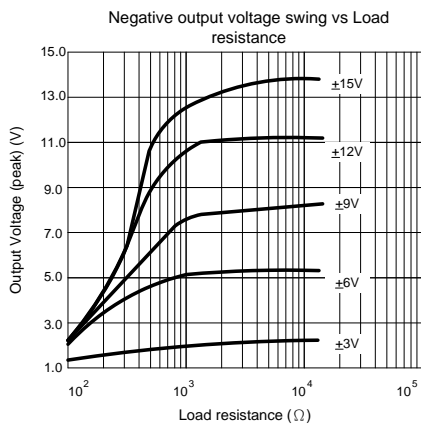
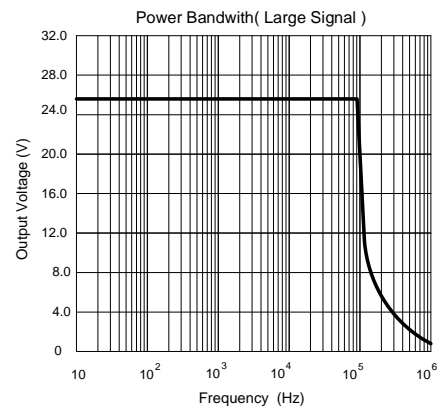
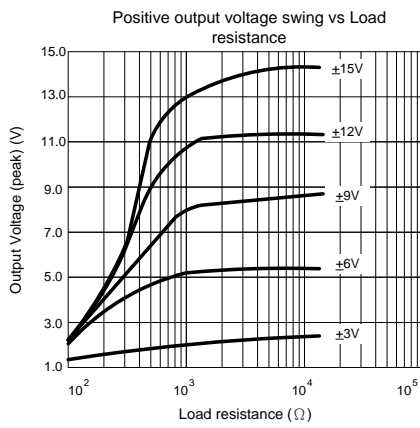


■ TYPICAL CHARACTERISTICS





■ TYPICAL CHARACTERISTICS(Cont.)



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