

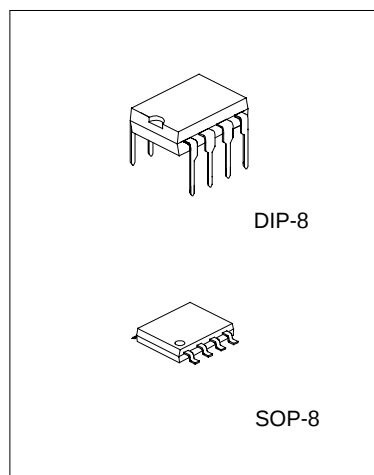
DUAL OPERATIONAL AMPLIFIER

DESCRIPTION

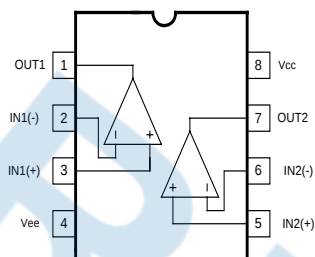
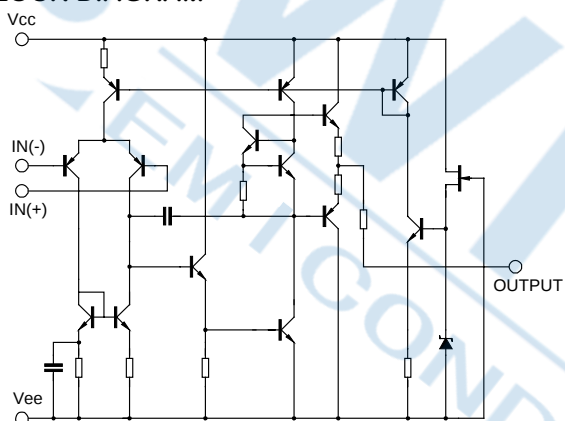
The 4558 is a monolithic integrated circuit designed for dual operational amplifier.

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



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	± 16	V
Differential input voltage	V _{I(DIFF)}	±16	V
Power Dissipation	P _D	400	mW
Input Voltage	V _I	±15	V
Operating Temperature	T _{OPR}	0~+70	°C
Storage Temperature	T _{STG}	-65~+150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C, Vcc=15V, Vee=-15V)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Supply Current	I _{cc}			3.5	5.6	mA
Input offset voltage	V _{IO}	R _s <10kΩ		2	6	mV
Input offset current	I _{IO}			5	200	nA
Input bias current	I _{BIAS}			30	500	nA
Large signal voltage gain	G _v	V _o (p-p)=10V, R _L <2kΩ	20	200		V/mV
Common Mode Input Voltage Range	V _{IC(R)}		±12	±13		V
Common Mode Rejection Ratio	CMRR	R _s <10kΩ	70	90		dB
Supply Voltage Rejection Ratio	PSRR	R _s <10kΩ	76	90		dB
Output Voltage swing	V _o (p-p)	R _L >10kΩ		±12	±14	V
Power Consumption	P _c			70	170	mV
Slew Rate	SR	V _i =10V, R _L >2kΩ, C _L <100pF	1.2			V/μs
Rise Time	T _{RIS}	V _i =20mV, R _L >2kΩ, C _L <100pF		0.3		μs
Overshoot	OS	V _i =20mV, R _L >2kΩ, C _L <100pF		15		%

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Positive output voltage swing vs Load resistance

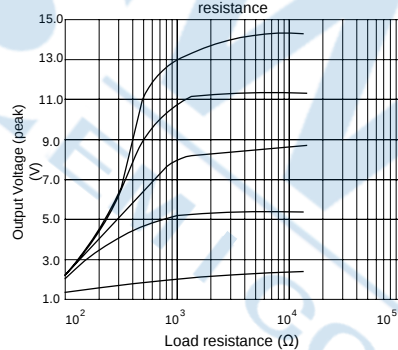


Fig.2 Positive output voltage swing vs Load resistance

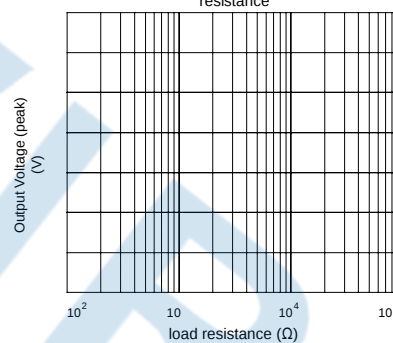
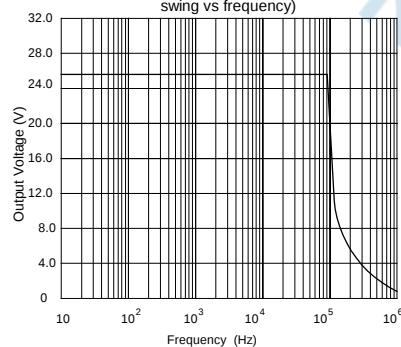


Fig.3 Power bandwidth (large signal swing vs frequency)



LINEAR INTEGRATED CIRCUIT

Fig. 4 Burst Noise vs Rs

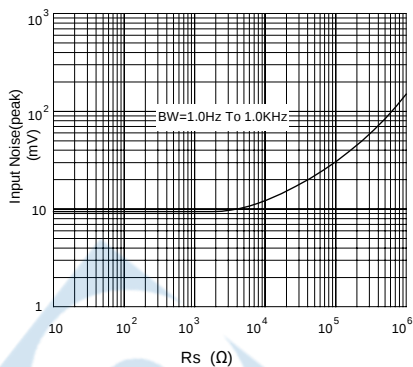


Fig. 5 RMS Noise vs Rs

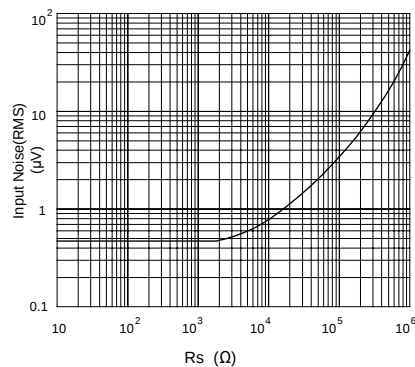


Fig. 6 Output Noise vs Rs

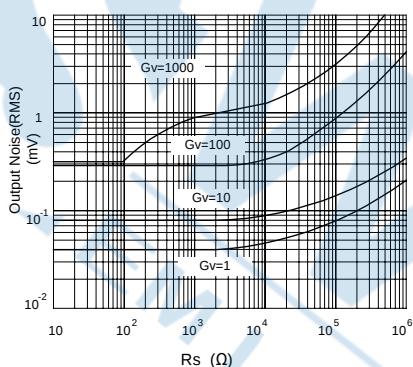


Fig. 7 Spectral Noise Density

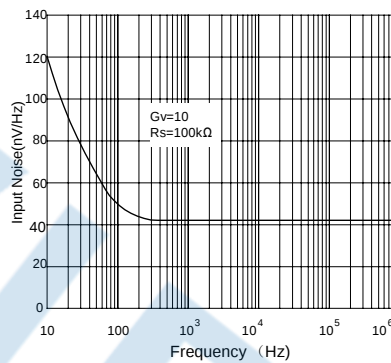


Fig. 8 Open loop frequency response

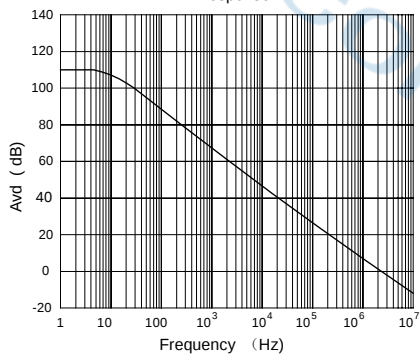
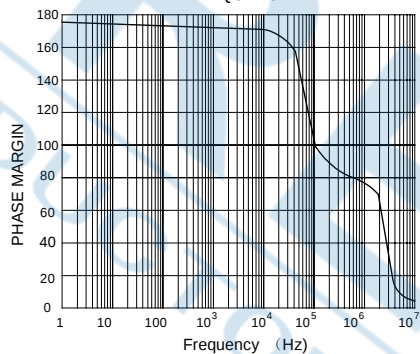
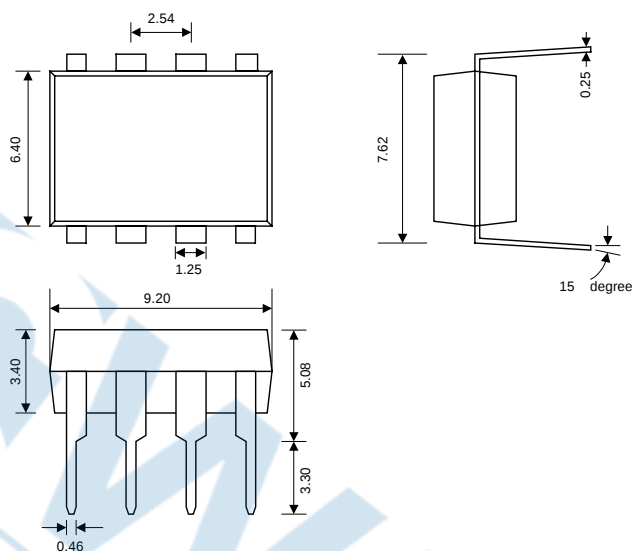


Fig. 9 PHASE MARGIN vs FREQUENCY



PACKAGE DIMENSIONS

8-DIP-P-300



8-SOP-P

