

DESCRIPTION

The JRC4558 is a high performance monolithic 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 to pin compatible with MC1458/LM358

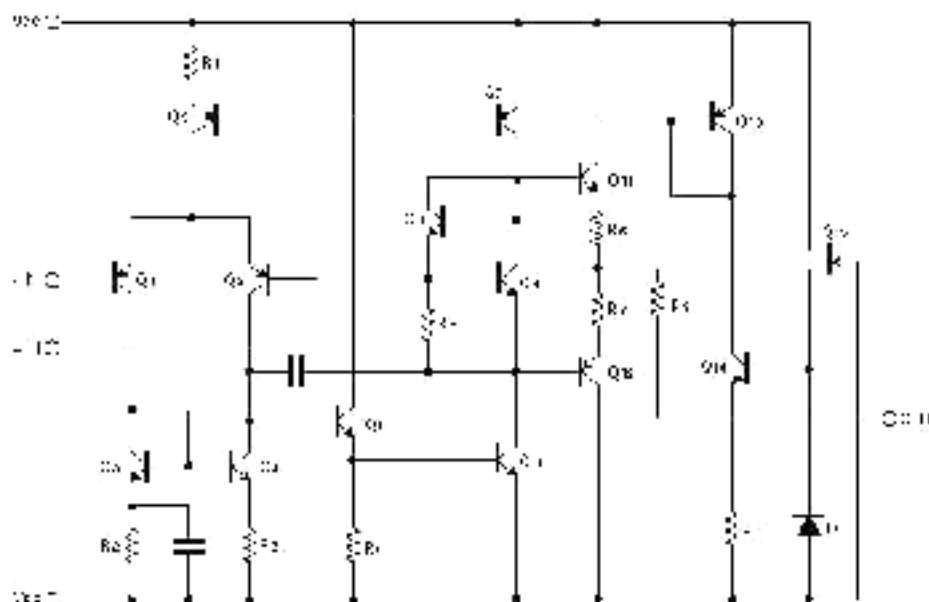


SOP-8

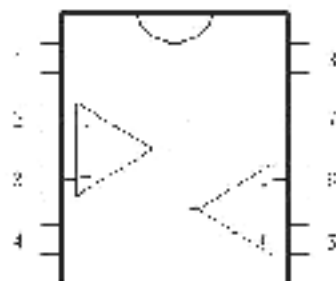


DIP-8

BLOCK DIAGRAM (ONE SECTION ONLY)



PIN CONFIGURATION



1-Output 1
2-Inverting Input 1
3-Non-Inverting Input 1
4-Vcc

5-Non-Inverting Input 2
6-Inverting Input 2
7-Output 2
8-Vcc +

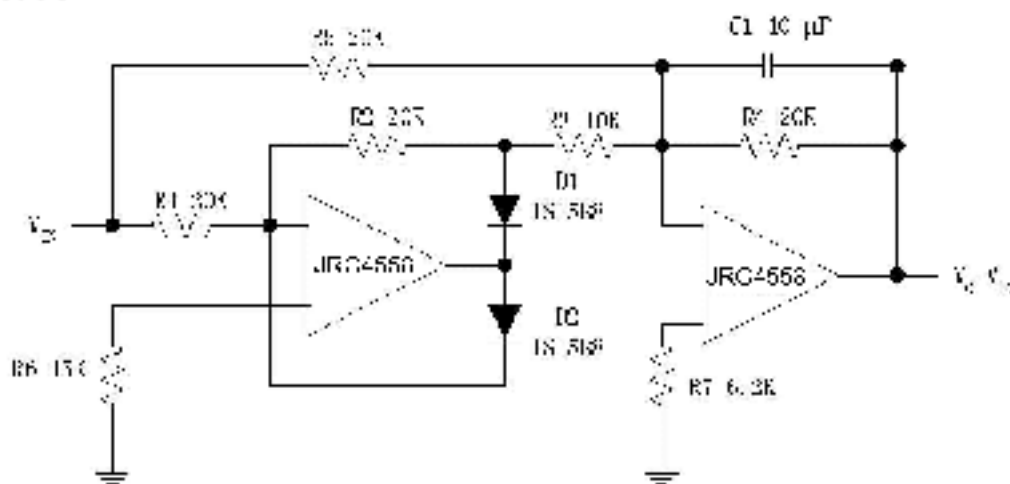
ORDERING INFORMATION

JRC4558V

Package

Blank SO-8
N=PLDIP-8
A=SO-8 & taping

Typical Application



MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	± 22	V
Differential Input Voltage	$V_{I(DIFF)}$	± 18	V
Input Voltage	V_I	± 15	V
Operating Temperature	TOPR	-20~+85	°C
Power Dissipation P-DIP 8 SOP 8	PD	600 400	mW
Storage Temperature Range	TSTG	-65~+150	°C

ELECTRICAL CHARACTERISTICS ($V_{CC}=15.0V$, $V_{EE}=-15V$, $T_A=25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	I_{CC}			2.3	4.5	mA
Input offset voltage	V_{IO}	$R_s < 10K\Omega$		2	6	mV
Input offset current	I_{IO}			5	200	nA
Input bias current	I_{BIAS}			30	500	nA
Large signal voltage gain	GV	$V_o(p-p) = \pm 10V$, $R_L \leq 2k\Omega$	20	200		V/mV
Common Mode Input Voltage Range	$V_{I(R)}$		± 12	± 13		V

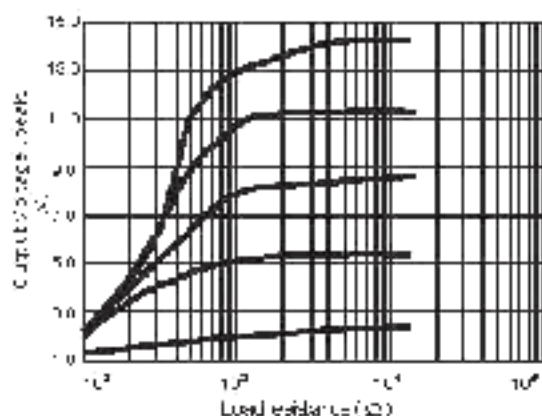
Common Mode Rejection Ratio	CMRR	$R_s \leq 10k\Omega$	70	90		dB
Supply Voltage Rejection Ratio	PSRR	$R_s \leq 10k\Omega$	76	90		dB
Output Voltage swing	$V_o(p-p)$	$R_L \geq 10k\Omega$		± 12	± 14	V
Power Consumption	P_c			70	170	mW
Slew Rate	SR	$V_i = \pm 10V, R_L \geq 2k\Omega, C_L \leq 100pF$	1.2	2.2		V/ μ S
Rise Time	T_{RIS}	$V_i = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		0.3		μ s
Overshoot	OS	$V_i = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		15		%
Input Resistance	R_i		0.3	2		M Ω
Output Resistance	R_o			75		Ω
Total Harmonic Distortion	THD	$f=1KHz, A_v=20dB, R_L=2k\Omega, V_o=2V_{pp}, C_L=100pF$		0.008		%
Channel Separation	V_{o1}/V_{o2}			120		dB

FREQUENCY CHARACTERISTICS ($T_a=25^\circ C, V_{CC}=15V, V_{EE}=-15V$)

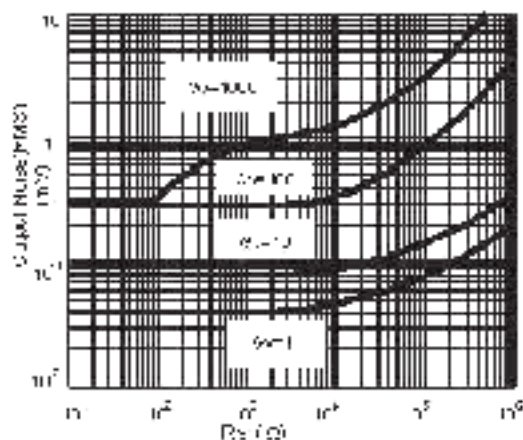
PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Unity Gain Bandwidth	BW		2.0	2.8		MHz

TYPICAL PERFORMANCE CHARACTERISTICS

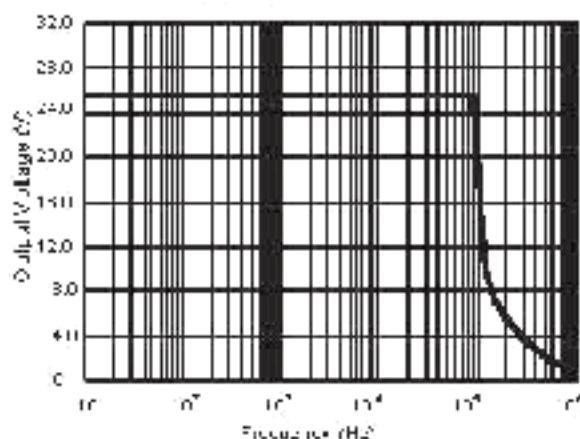
Positive output voltage swing vs load resistance



Output Noise vs R_s



Power Bandwidth (Large Signal)



Spectral Noise Density

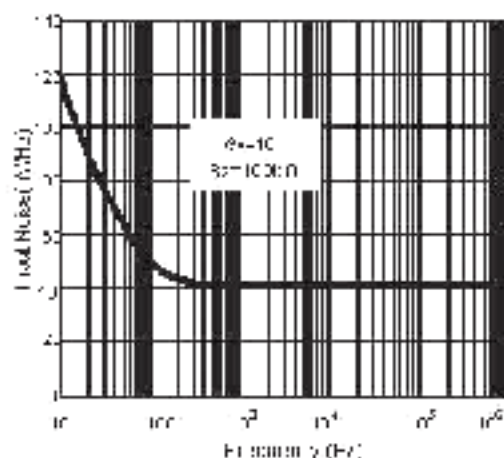


FIGURE 10: AVO_P

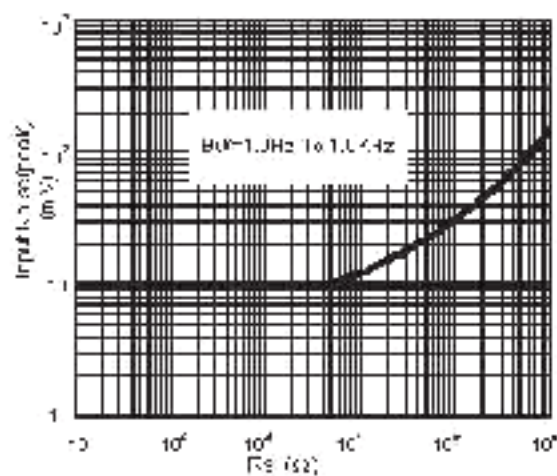


FIGURE 11: Noise

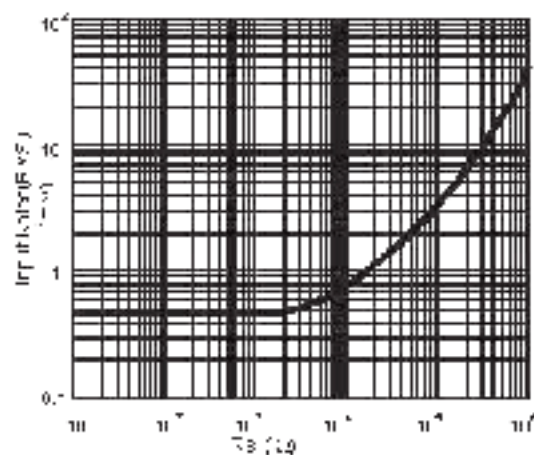


FIGURE 12: Frequency Response

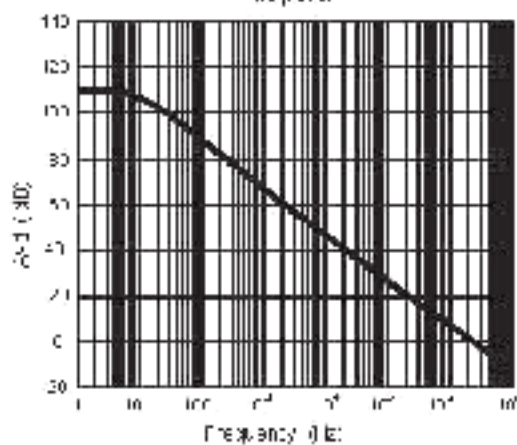
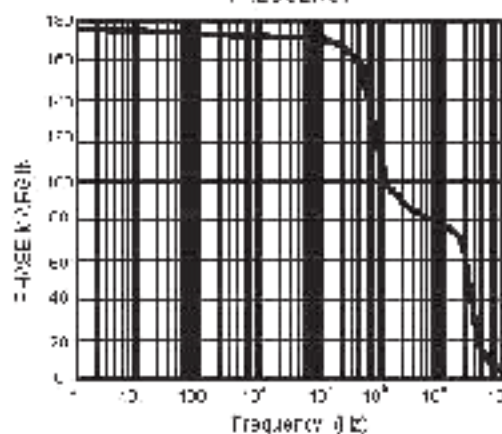
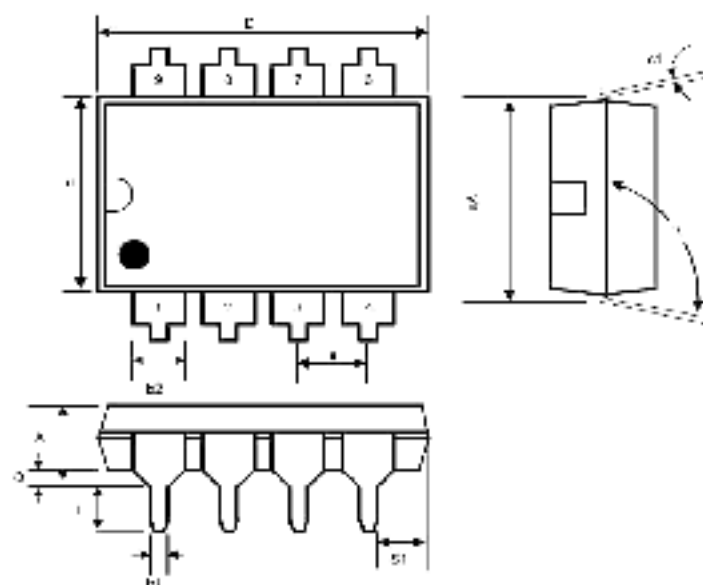


FIGURE 13: Phase Margin

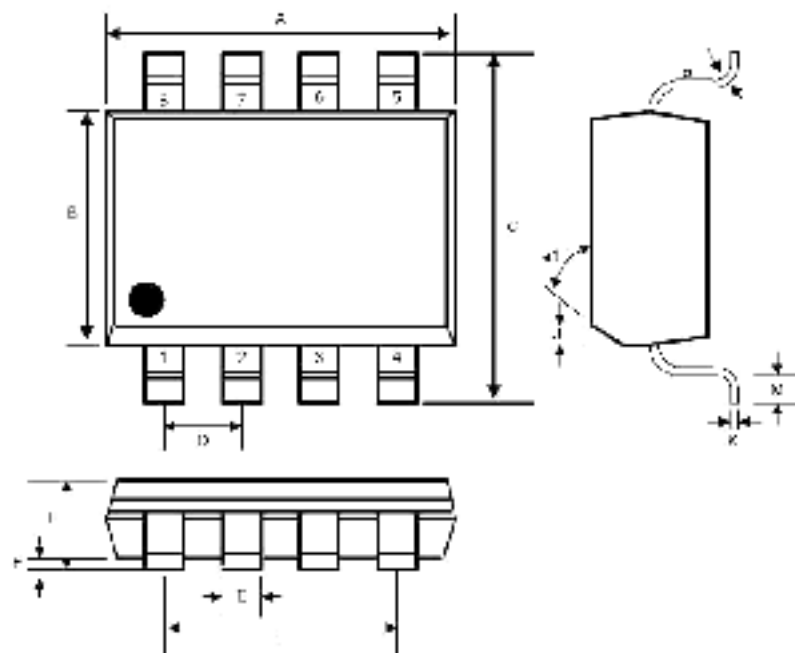


Package Outlines: DIP-8



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	-	0.200	-	5.08	-
b1	0.014	0.025	0.35	0.63	-
b2	0.015	0.265	0.38	6.73	-
c1	0.008	0.015	0.20	0.38	-
D	0.355	0.400	9.02	10.16	-
E	0.325	0.310	8.25	7.87	-
F	0.100 BSC		2.54 BSC		-
GA	0.100 BSC		2.54 BSC		-
L	0.125	0.200	3.18	5.08	-
Q	0.015	0.260	0.38	6.60	-
W	0.005	-	0.13	-	-
d	2.0	1.0	50.8	25.4	-

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	0.015	0.030	0.38	0.76	-
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	0.18	0.25	-
M	0.016	0.030	0.40	0.76	-
L	0.150 REF		3.81 REF		-
el	45°		45°		-
γ	0°	80°	0°	80°	-

*All specs and applications shown above subject to change without prior notice.