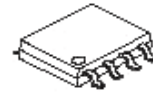


JRC4558

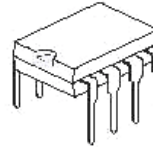
Dual Operational Amplifier

DESCRIPTION

The JRC4558 is a high performance monolithic dual operational amplifier.



SOP-8

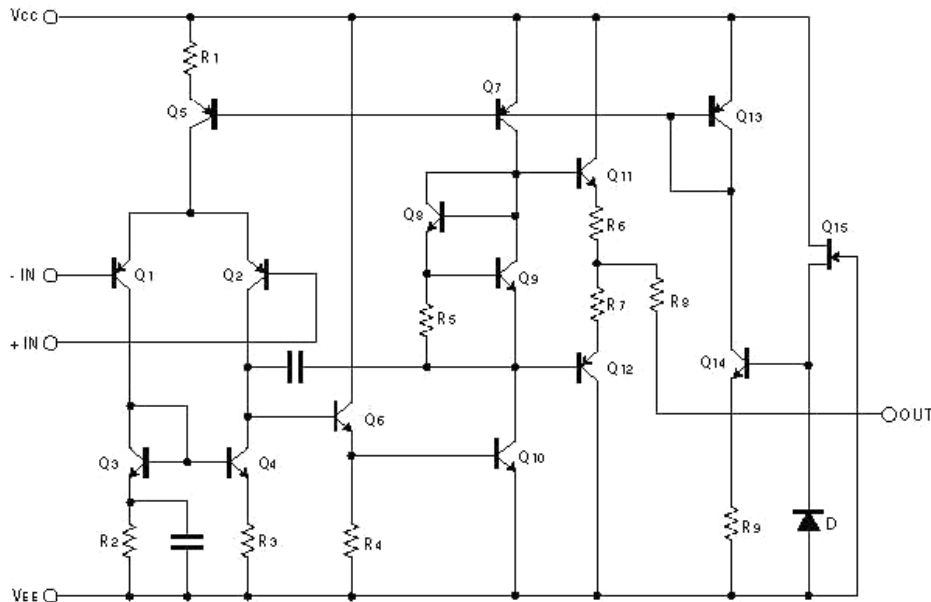


DIP-8

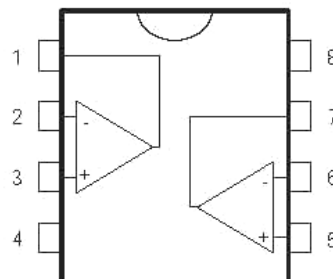
FEATURES

- 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

BLOCK DIAGRAM (ONE SECTION ONLY)



PIN CONFIGURATION

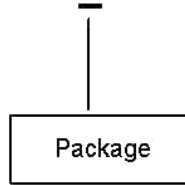


- | | |
|------------------------|-------------------------|
| 1-Output 1 | 5-Non-inverting input 2 |
| 2-Inverting input 1 | 6-Inverting input 2 |
| 3-Non-inverting input1 | 7-Output 2 |
| 4-Vcc | 8-Vcc + |

JRC4558 Dual Operational Amplifier

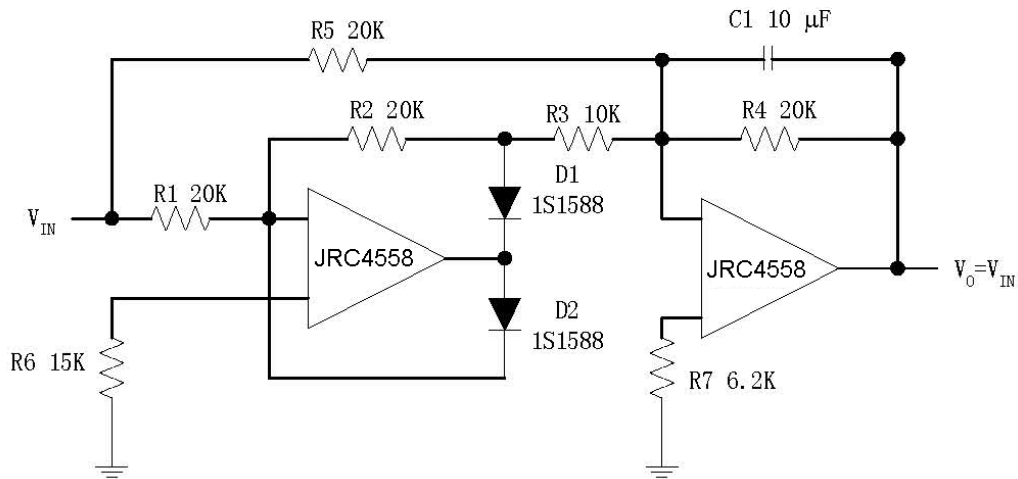
ORDERING INFORMATION

JRC4558N



Blank SO-8
N=PDIP8
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	
Power Dissipation P-DIP 8 SOP 8	PD	600 400	mW
Storage Temperature Range	TSTG	-65~+150	

ELECTRICAL CHARACTERISTICS (V_{CC}=15.0V, V_{EE}=-15V, T_A=25 °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 <10KΩ		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)= ±10V, R _L ≤2kΩ	20	200		V/mV
Common Mode Input Voltage Range	V _{I(R)}		±12	±13		V

JRC4558 Dual Operational Amplifier

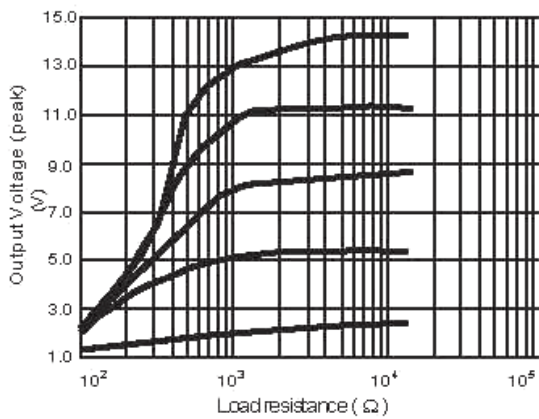
Common Mode Rejection Ratio	CMRR	$R_s \leq 10k\Omega$	70	90		dB
Supply Voltage Rejection Ratio	PSRR	$R_s \leq 10k\Omega$	76	90		dB
Output Voltage swing	$V_o(p-p)$	$R_L \geq 10k\Omega$		± 12	± 14	V
Power Consumption	P_c			70	170	mV
Slew Rate	SR	$V_i = \pm 10V, R_L \geq 2k\Omega, C_L \leq 100pF$	1.2	2.2		$V/\mu S$
Rise Time	T_{RIS}	$V_i = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		0.3		μs
Overshoot	OS	$V_i = \pm 20mV, R_L \geq 2k\Omega, C_L \leq 100pF$		15		%
Input Resistance	R_i		0.3	2		$M\Omega$
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 ($T_a=25^\circ C, V_{cc}=15V, V_{ee}=-15V$)

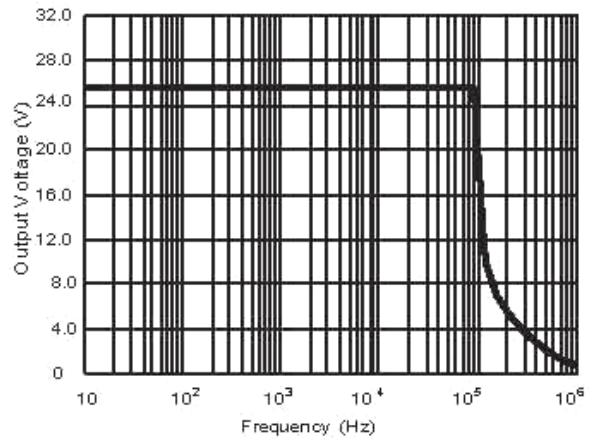
PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Unity Gain Bandwidth	BW		2.0	2.8		MHz

TYPICAL PERFORMANCE CHARACTERISTICS

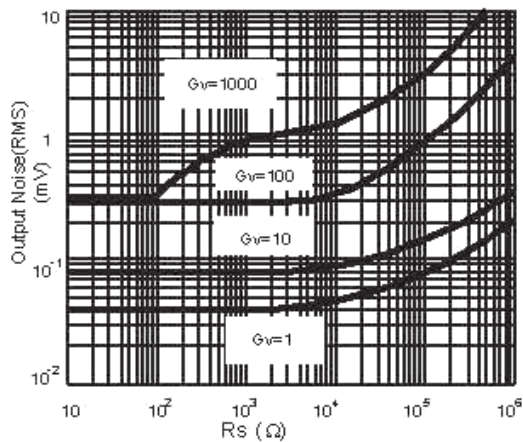
Positive output voltage swing vs load resistance



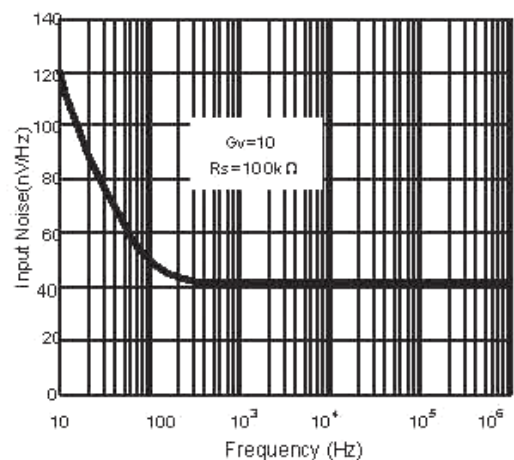
Power Bandwidth (Large Signal)



Output Noise vs R_s

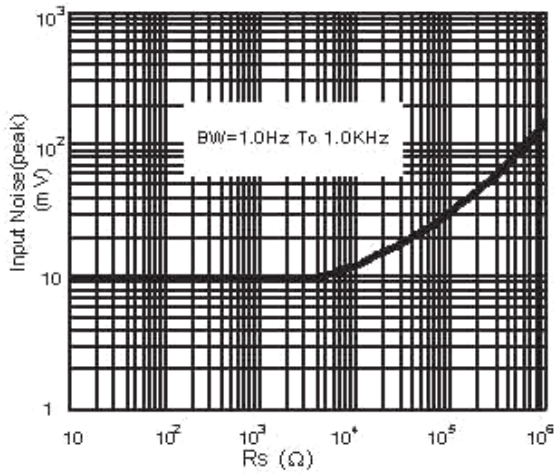


Spectral Noise Density

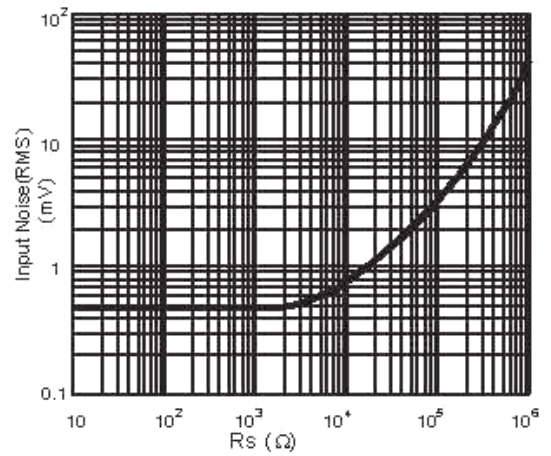


JRC4558 Dual Operational Amplifier

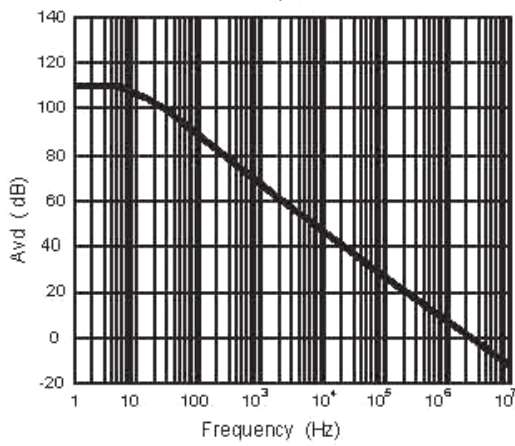
Burst Noise vs Rs



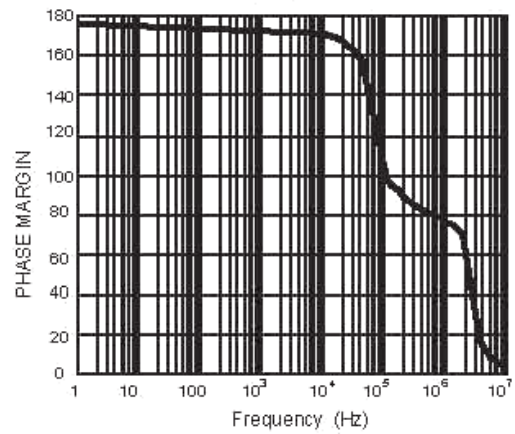
RMS Noise vs Rs



Open loop frequency response

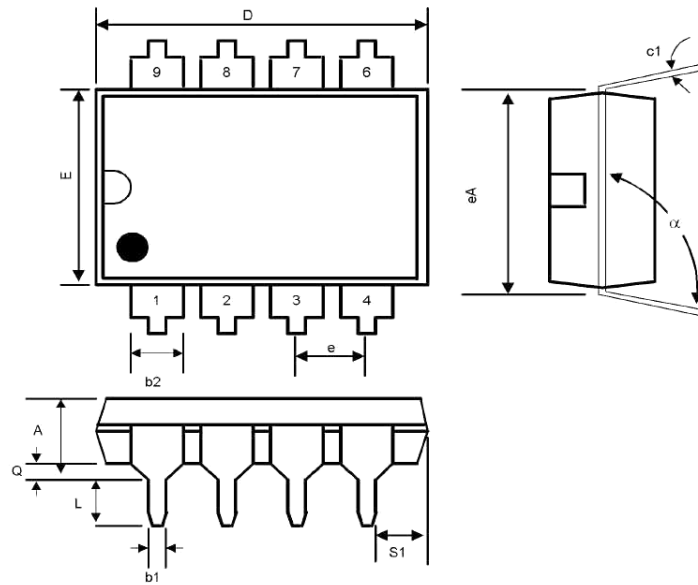


PHASE MARGIN vs FREQUENCY



JRC4558 Dual Operational Amplifier

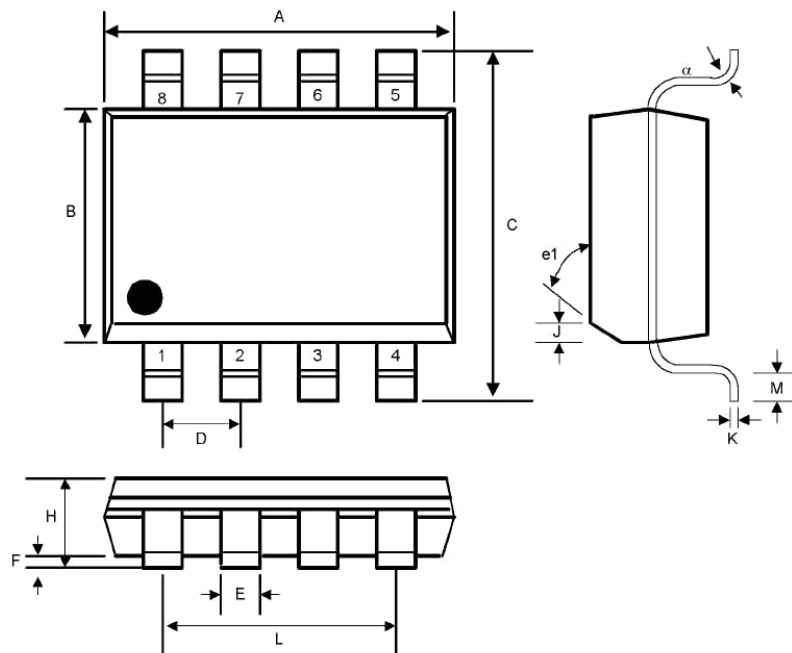
Package Outlines: DIP-8



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

JRC4558 Dual Operational Amplifier



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	-

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