

NJM358

PRELIMINARY

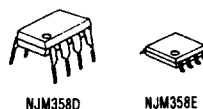
The NJM358 consists of two independent, high gain, internally frequency compensated operation amplifiers which were designed specifically to operate from a single power supply over a wide range of voltages. Operation from split power supplies is also possible and the low power supply current drain is independent of the magnitude of the power supply voltage.

Application areas include transducer amplifiers, DC gain blocks, and all the conventional op amp circuits which now can be more easily implemented in single power supply systems. For example, the NJM358 can be directly operated from the standard +5V power supply voltage which is used in digital systems and will easily provide the required interface electronics without requiring the additional $\pm 15V$ power supplies.

Absolute Maximum Ratings ($T_a=25^\circ C$)

Supply Voltage	V^+	32 V (or $\pm 16V$)
Differential Input Voltage	V_{ID}	32 V
Power Dissipation	P_D	DIP: 500 mW EMP: 300 mW
Operating Temperature Range	T_{OPR}	0 ~ 70 °C
Storage Temperature Range	T_{STG}	-50 ~ 125 °C

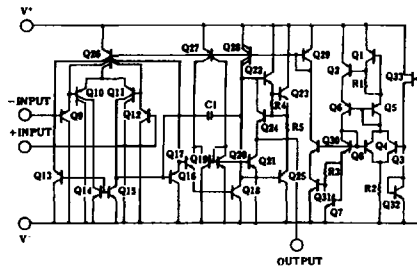
Package Outline



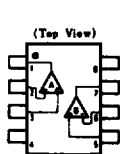
Electrical Characteristics ($T_a=25^\circ C$, $V^+=5V$)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	V_{IO}	$R_S=0\Omega$			7	mV
Input Offset Current	I_{IO}	I_{IN+} or I_{IN-}			250	nA
Input Bias Current	I_B	I_{IN+} or I_{IN-}			± 50	nA
Input Common-Mode Voltage Range	V_{ICM}		0		3.5	V
Supply Current	I_{CC}	$R_L=\infty$			1.2	mA
	I_{CC}	$R_L=\infty$, $V^+=30V$			2.0	mA
Large Signal Voltage Gain	A_V	$R_L \geq 2k\Omega$, $V^+=15V$	88			dB
Output Voltage Swing	V_{OM}	$R_L=2k\Omega$	3.5			V
Common Mode Rejection Ratio	CMR		65			dB
Supply Voltage Rejection Ratio	SVR		65			dB
Channel Separation	CS	$f=1k \sim 20kHz$, Input Referred		120		dB
Output Source Current	I_{SOURCE}	$V_{IN+}=1V$, $V_{IN-}=0V$	20			mA
Output Sink Current	I_{SINK}	$V_{IN+}=0V$, $V_{IN-}=1V$	10			mA
	I_{SINK}	$V_{IN+}=0V$, $V_{IN-}=1V$, $V_O=200mV$	12			μA
Short Circuit to Ground	I_{SC}				60	mA

Equivalent Circuit

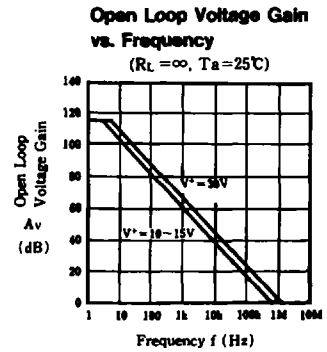
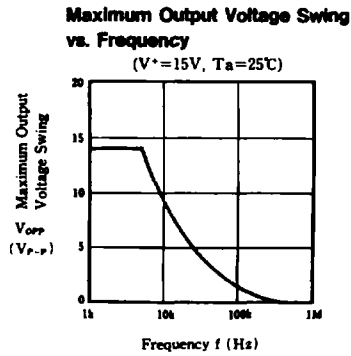
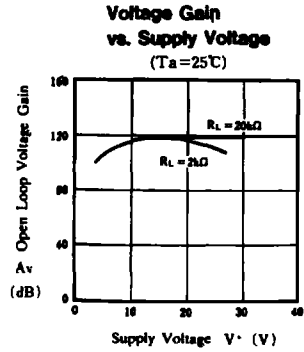
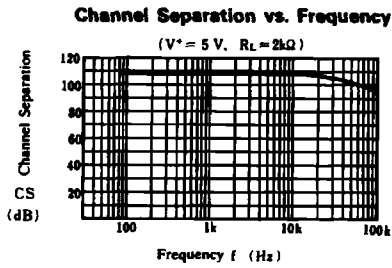
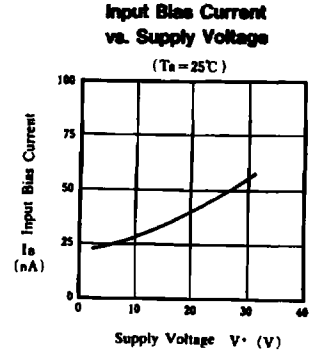
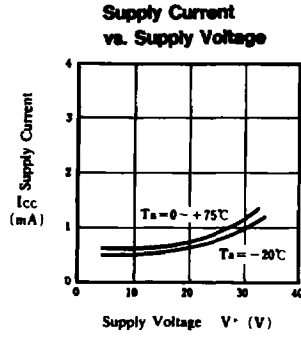


Connection Diagram



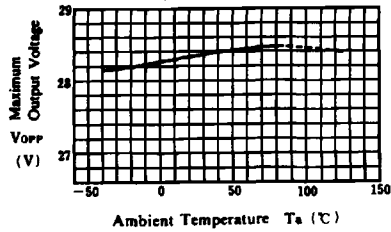
PIN	FUNCTION
1	A OUTPUT
2	A- INPUT
3	A+ INPUT
4	GND
5	B+ INPUT
6	B- INPUT
7	B OUTPUT
8	V+

■ Typical Characteristics

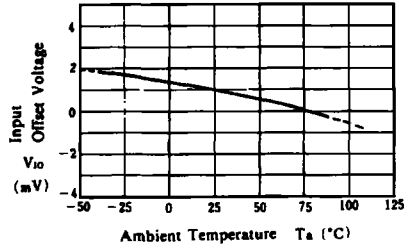


■ Typical Characteristics

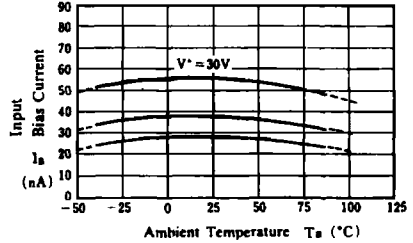
Maximum Output Voltage Swing vs. Temperature
($V^+ = 30V, R_L = 2k\Omega$)



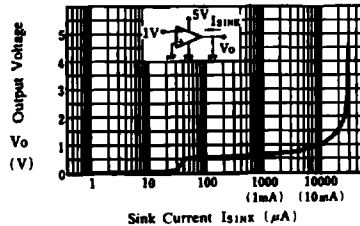
Input Offset Voltage vs. Temperature
($V^+ = 5V$)



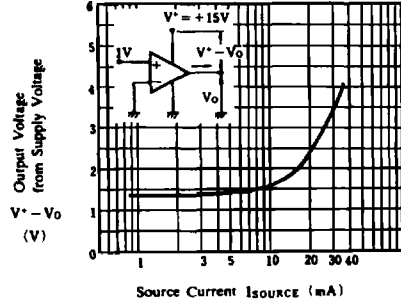
Input Bias Current vs. Temperature
($V^+ = 5V$)



Output Voltage vs. Sink Current
($V^+ = 5V, T_a = 25^\circ C$)



Source Current
($V^+ = 15V, T_a = 25^\circ C$)



■ Typical Characteristics

