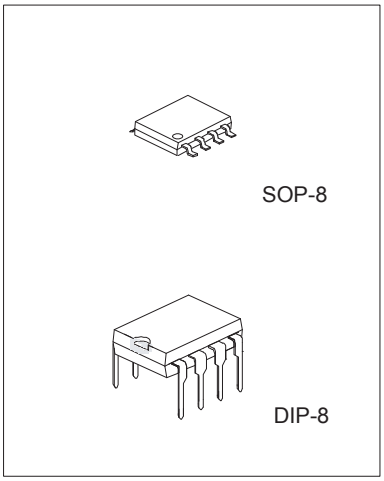
CO358

Low Power Dual Operational Amplifier



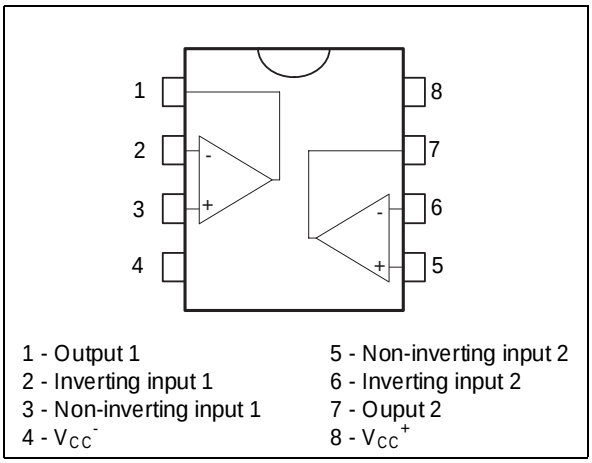
DESCRIPTION

The CO358 is a high performance monolithic low power Operational amplifier.

FEATURES

- Internally frequency compensated for unity gain
- Large dc voltage gain:100 dB
- Wide bandwidth (unity gain):1 MHz (temperature compensated)
- Wide power supply range:
  - Single supply: 3V to 32V
  - Or dual supplies:±1.5V to ±16V
- Very low supply current drain(500μA)-essentially independent of supply voltage
- Low input offset voltage:2mV
- Input common-mode voltage range includes ground
- Differential input voltage range equal to the power supply voltage
- Large output voltage swing: 0V to ±1.5V

PIN CONFIGURATION



1 - Output 1
2 - Inverting input 1
3 - Non-inverting input 1
4 - V_{CC}^-
5 - Non-inverting input 2
6 - Inverting input 2
7 - Ouput 2
8 - V_{CC}^+

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Low Power Dual Operational Amplifier

ORDERING INFORMATION

CO358N

Package

Blank SO-8
N=PDIP8
A=SO-8 & taping

MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc	± 16	V
Differential Input Voltage	VI(DIFF)	± 16	V
Input Voltage	VI	± 16	V
Operating Temperature	TOPR	0 ~ +70	°C
Power Dissipation P-DIP 8 SOP 8	P_D	550 400	mW
Storage Temperature Range	TSTG	-65 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Vcc=15.0V,VEE= -15V,TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current, all Amp, no load	Icc			1	2	mA
Input offset voltage	V_{IO}	Rs<10kΩ			7	mV
Input offset current	I_{IO}			3	30	nA
Input bias current	I_{BIAS}			45	150	nA
Large signal voltage gain	Gv	Vo(p-p)=±10V,R_L≤ 2kΩ	25			V/mV
Common Mode Input Voltage Range	$V_{I(R)}$				Vcc-2	V
Common Mode Rejection Ratio	CMRR	Rs ≤ 10kΩ	70	85		dB
Supply Voltage Rejection Ratio	PSRR	Rs ≤10kΩ	65	100		dB
Output Voltage swing	Vo(p-p)	R_L ≥10kΩ		±12	±14	V
Power Consumption	Pc			70	170	mV
Rise Time	T_{RIS}	Vi= ± 20mV,R_L ≥ 2kΩ, C_L ≤100pF		0.3		μs
Overshoot	OS	Vi= ±20mV,RL ≥ 2kΩ, C_L ≤100pF		15		%
Input Resistance	Ri		0.3	2		MΩ
Output Resistance	Ro			75		Ω
Total Harmonic Distortion	THD	f=1kHz,Av=20dB, RL=2kΩ, Vo=2Vpp, CL=100pF		0.008		%
Channel Separation	Vo1/Vo2			120		dB

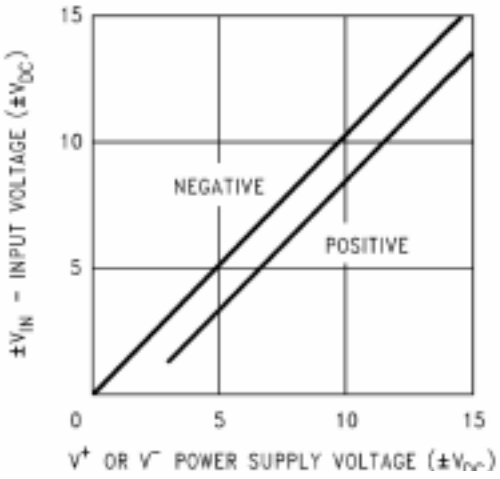
FREQUENCY CHARACTERISTICS (Ta=25°C ,Vcc=15V,Vee=-15V)

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

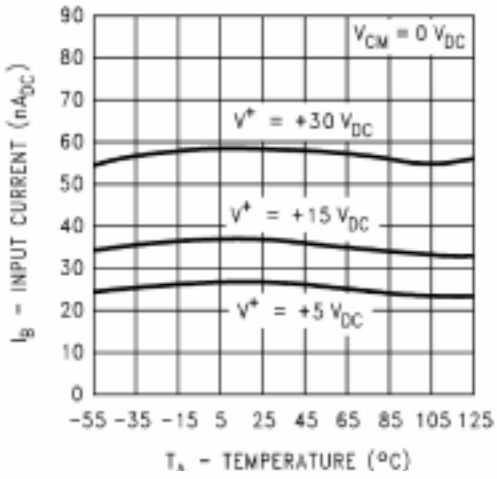
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TYPICAL PERFORMANCE CHARACTERISTICS

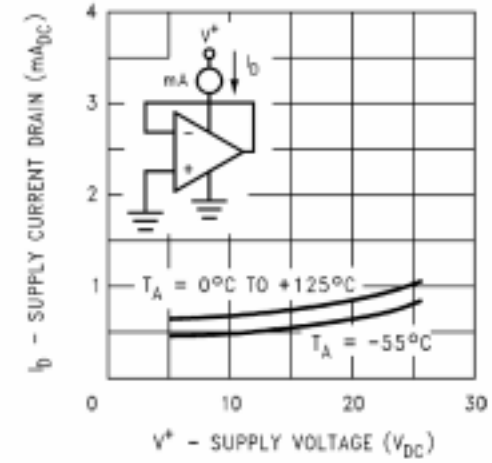
Input Voltage Range



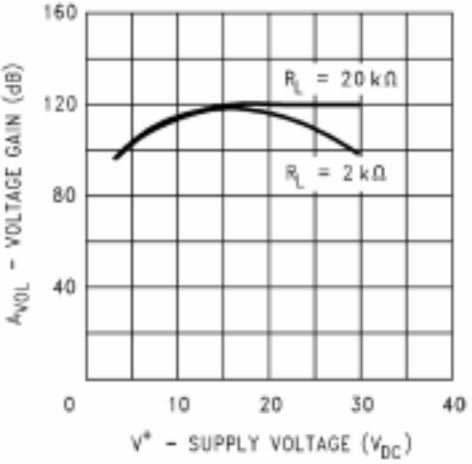
Input Current



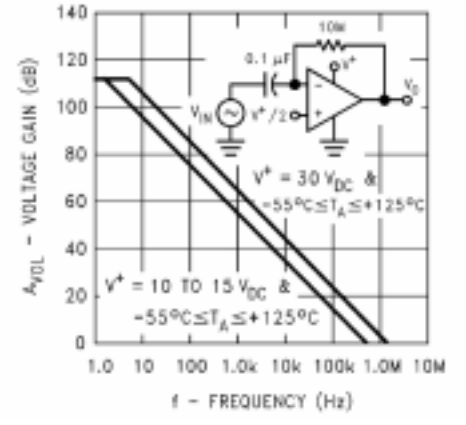
Supply Current



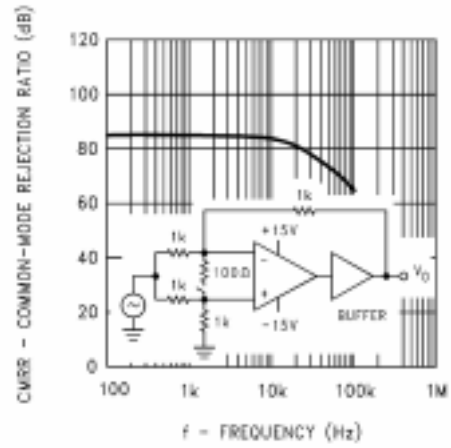
Voltage Gain



Open Loop Frequency Response



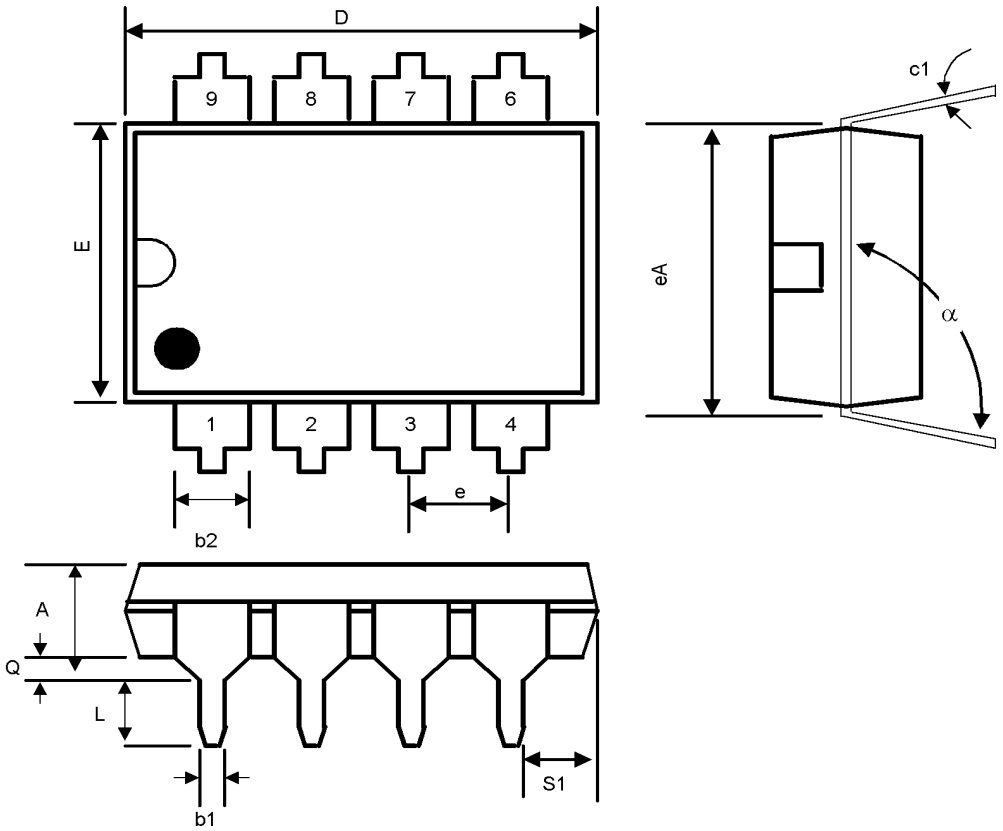
Common-Mode Rejection Ratio



NOTE: The lead free label will be pasted on the Reed, Box and Carton for the Lead Free Process.

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Package Outlines : DIP-8

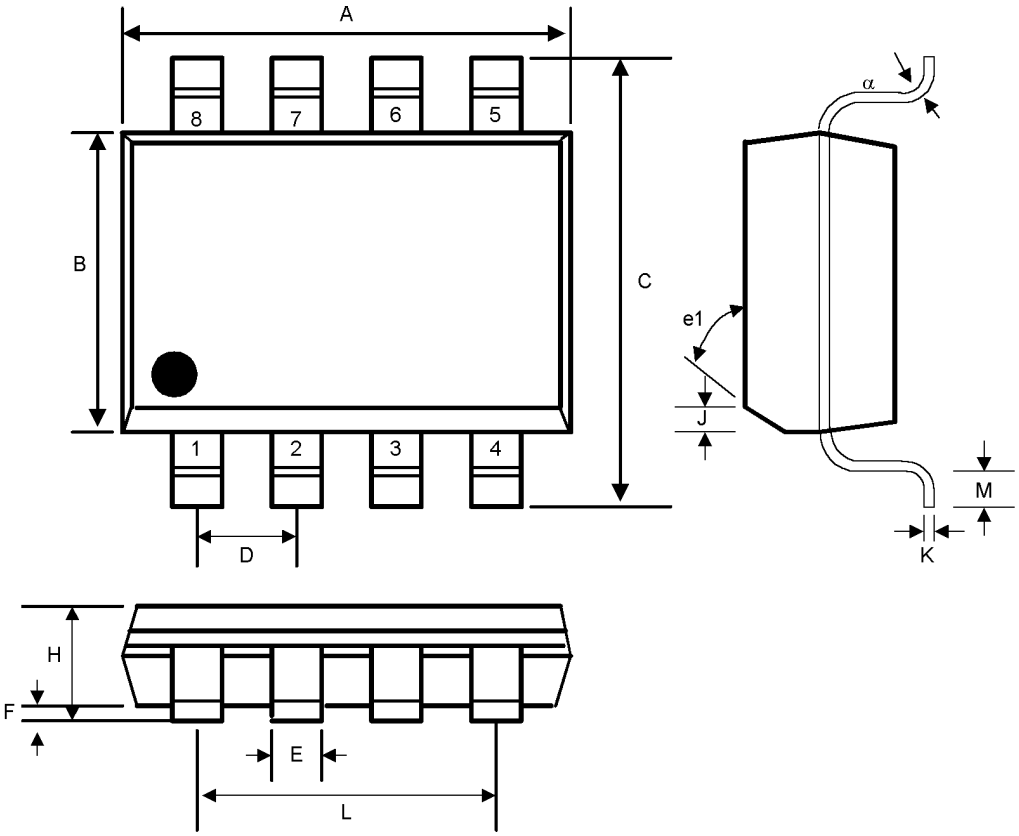


SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	-	0.200	-	5.08	-
b1	0.014	0.023	0.36	0.58	-
b2	0.045	0.065	1.14	1.65	-
c1	0.008	0.015	0.20	0.38	-
D	0.355	0.400	9.02	10.16	-
E	0.220	0.310	5.59	7.87	-
e	0.100 BSC		2.54 BSC		-
eA	0.300 BSC		7.62 BSC		
L	0.125	0.200	3.18	5.08	-
Q	0.015	0.060	0.38	1.52	-
s1	0.005	-	0.13	-	-
α	90^0	105^0	90^0	105^0	-

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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	0.013	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	-

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