



CO358

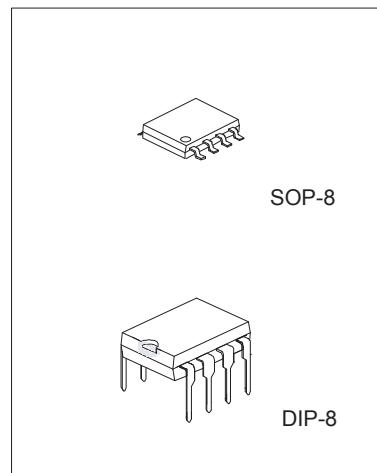
Low Power Dual Operational Amplifier

DESCRIPTION

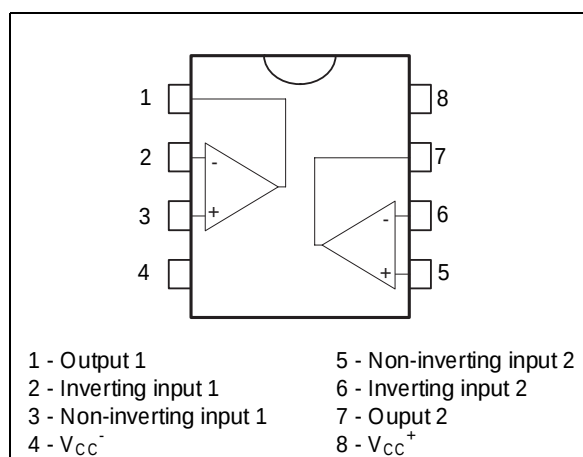
The CO358 is a high performance monolithic low power Operational amplifier.

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: $\pm 1.5V$ to $\pm 16V$
- Very low supply current drain (500 μA) - 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 $\pm 1.5V$



PIN CONFIGURATION



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

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ORDERING INFORMATION

CO358N

Package

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

MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{CC}	± 16	V
Differential Input Voltage	V _{I(DIFF)}	± 16	V
Input Voltage	V _I	± 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 (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}			1	2	mA
Input offset voltage	V _{IO}	R _S ≤ 10kΩ			7	mV
Input offset current	I _{IO}			3	30	nA
Input bias current	I _{BIAS}			45	150	nA
Large signal voltage gain	G _v	V _{O(p-p)} = ±10V, R _L ≤ 2kΩ	25			V/mV
Common Mode Input Voltage Range	V _{I(R)}				V _{CC} -2	V
Common Mode Rejection Ratio	CMRR	R _S ≤ 10kΩ	70	85		dB
Supply Voltage Rejection Ratio	PSRR	R _S ≤ 10kΩ	65	100		dB
Output Voltage swing	V _{O(p-p)}	R _L ≥ 10kΩ		±12	±14	V
Power Consumption	P _C			70	170	mW
Rise Time	T _{RISE}	V _i = ± 20mV, R _L ≥ 2kΩ, C _L ≤ 100pF		0.3		μs
Overshoot	OS	V _i = ± 20mV, R _L ≥ 2kΩ, C _L ≤ 100pF		15		%
Input Resistance	R _i		0.3	2		MΩ
Output Resistance	R _o			75		Ω
Total Harmonic Distortion	THD	f=1kHz, A _v =20dB, R _L =2kΩ, V _o =2V _{pp} , C _L =100pF		0.008		%
Channel Separation	V _{O1} /V _{O2}			120		dB

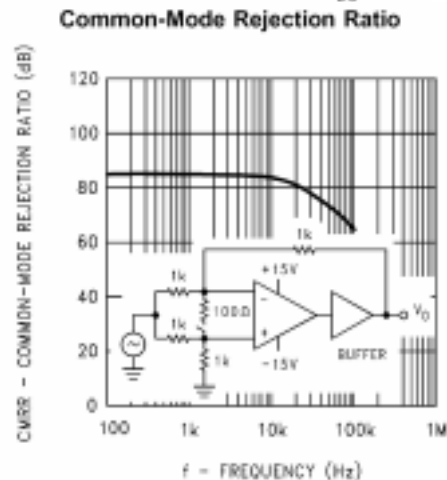
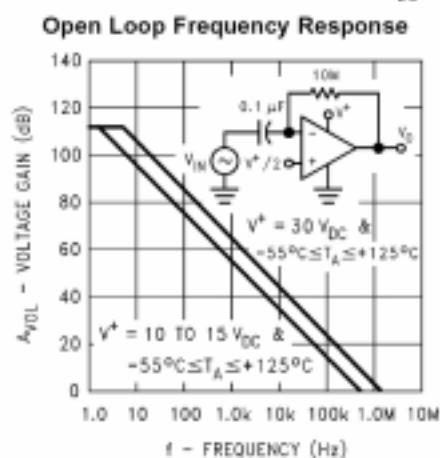
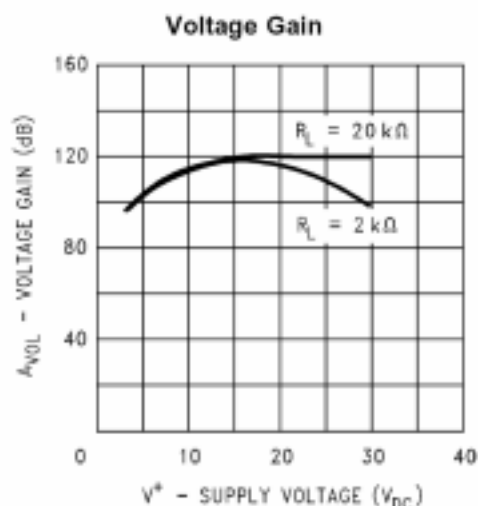
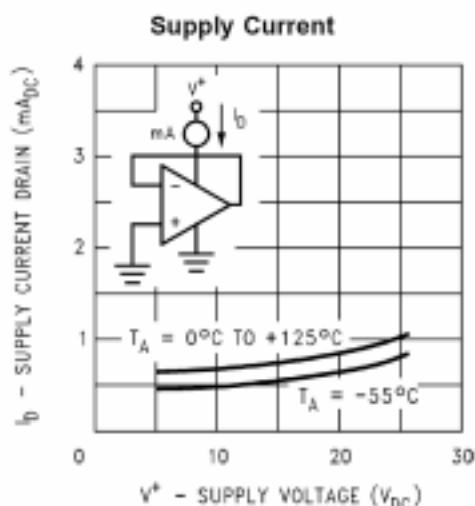
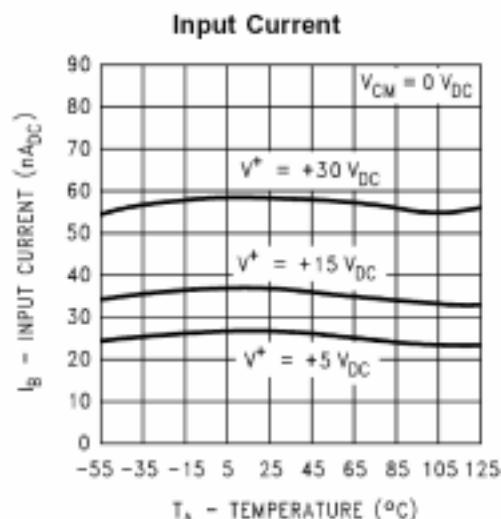
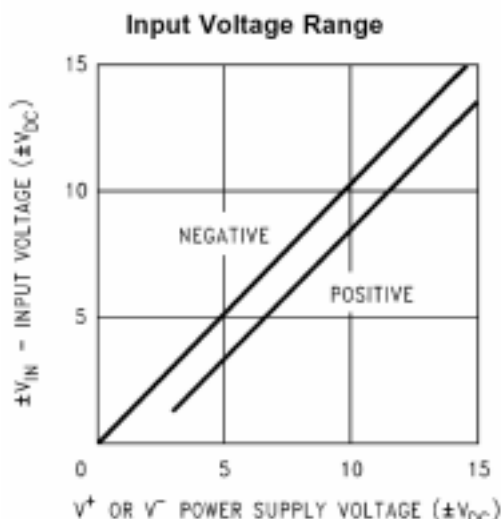
FREQUENCY CHARACTERISTICS (T_a=25°C, V_{CC}=15V, V_{EE}= -15V)

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

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TYPICAL PERFORMANCE CHARACTERISTICS

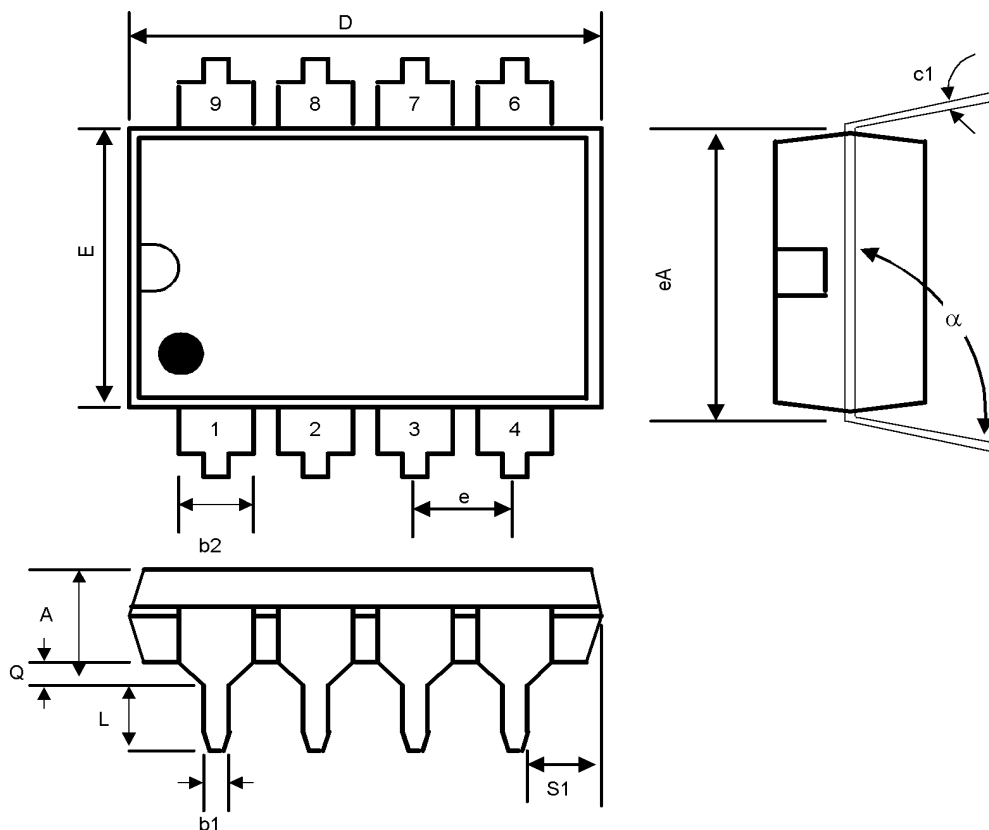


NOTE: The lead free label will be pasted on the Reed, Box and Carton for the Lead Free Process.

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Package Outlines : DIP-8

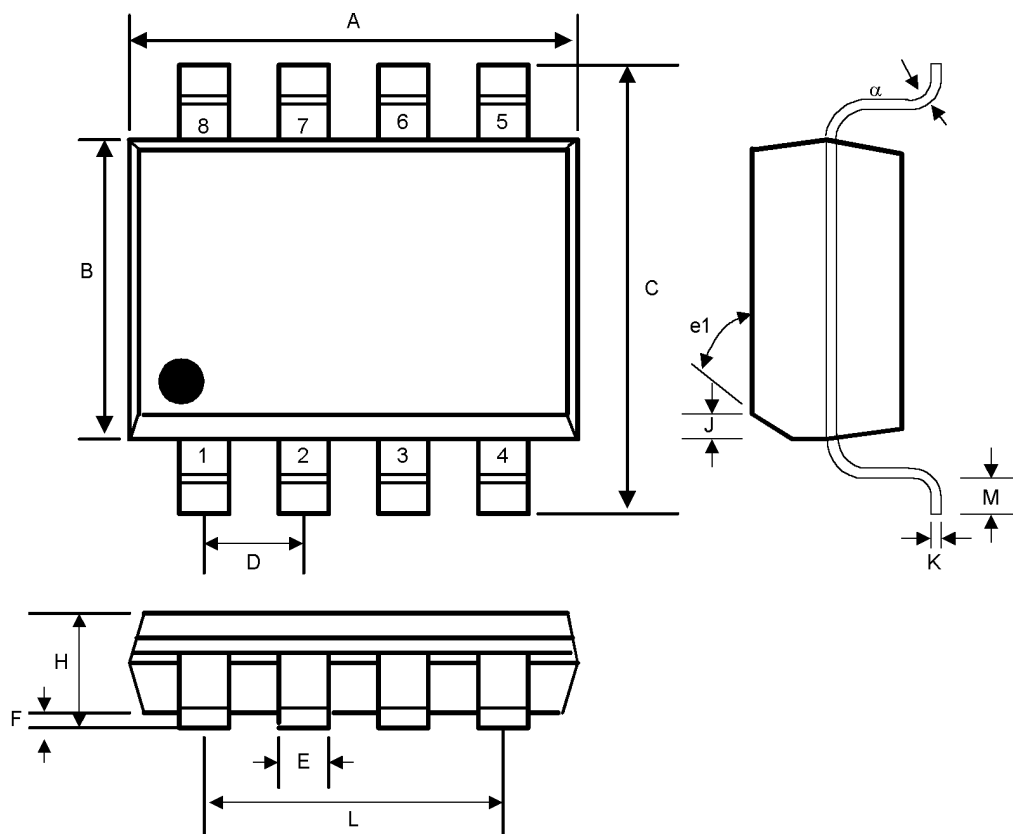


SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	-	0.200	-	5.08	-
b1	0.014	0.023	0.36	0.58	-
b2	0.045	0.065	1.14	1.65	-
c1	0.008	0.015	0.20	0.38	-
D	0.355	0.400	9.02	10.16	-
E	0.220	0.310	5.59	7.87	-
e	0.100 BSC		2.54 BSC		-
eA	0.300 BSC		7.62 BSC		-
L	0.125	0.200	3.18	5.08	-
Q	0.015	0.060	0.38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

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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°		45°		-
α	0°	8°	0°	8°	-

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