

## DUAL OPERATIONNAL AMPLIFIER—YD358

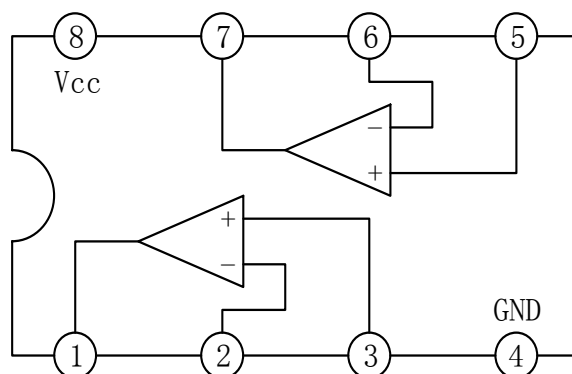
### DESCRIPTION

The YD358 consists of dual independent, high Gain internally frequency compensated operational amplifiers which were designed specifically to operation from a single power supply over a wide voltage range.

### FEATURES

- \*Internally frequency compensated for unity gain;
- \*Large DC voltage gain: 100dB;
- \*Wide operating supply range ( $V_{cc}=3V\sim 32V$ );
- \*Input common-mode voltage includes ground;
- \*Large output voltage swing: from 0V to  $V_{cc}-1.5V$ ;
- \*Power drain suitable for battery operation.

### BLOCK DIAGRAM



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**ABSOLUTE MAXIMUM RATINGS** (Tamb=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V <sub>CC</sub>	32	V
Differential Input Voltage	V <sub>I(DIFF)</sub>	±32	V
Input Voltage	V <sub>I</sub>	-0.3~32V	V
Power Dissipation(DIP8)	P <sub>D1</sub>	570	mW
Power Dissipation(SOP8)	P <sub>D2</sub>	260	mW
Operating Temperature	Topr	0 ~ +70	°C
Storage Temperature	Tstg	-65 ~ +150	°C

**ELECTRICAL CHARACTERISTICS**

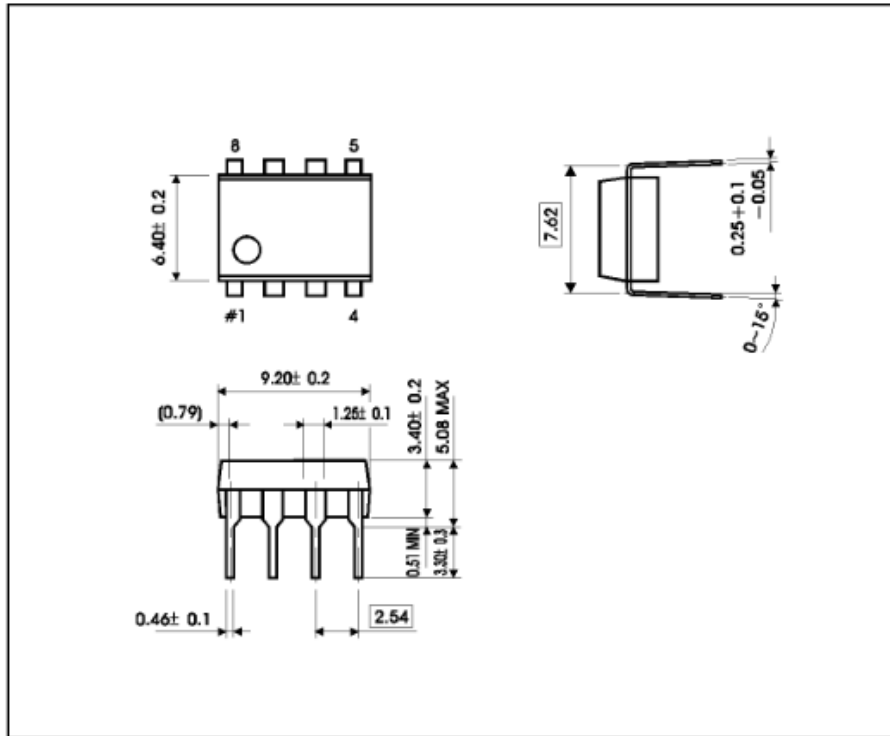
(Ta=25°C, V<sub>CC</sub>=5.0V, all voltage referenced to GND unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	V <sub>IO</sub>	V <sub>CM</sub> =0 to V <sub>CC</sub> -1.5 V <sub>O(P)</sub> =1.4V, R <sub>S</sub> =0		3.0	7.0	mV
Input Offset Current	I <sub>IO</sub>			2.0	50	nA
Input Bias Current	I <sub>b</sub>			20	250	nA
Input Common-mode Voltage Range	V <sub>I(R)</sub>	V <sub>CC</sub> =30V	0		V <sub>CC</sub> -1.5	V
Supply Current	I <sub>CC</sub>	R <sub>L</sub> =∞, V <sub>CC</sub> =30V, V <sub>CC</sub> =5V		0.8	2.0	mA
				0.5	1.2	mA
Large Signal Voltage Gain	G <sub>v</sub>	V <sub>CC</sub> =15V, R <sub>L</sub> >2kΩ V <sub>O(P)</sub> =1V to 11V	25	100		V/mV
Output Voltage Swing	V <sub>(OH)</sub>	V <sub>CC</sub> =30V, R <sub>L</sub> =2kΩ	26			V
		V <sub>CC</sub> =30V, R <sub>L</sub> =10kΩ	27	28		V
	V <sub>(OL)</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> >10kΩ		5	20	mV
Common-mode Rejection Ratio	CMRR		65	80		dB
Power Supply Rejection Ratio	PSRR		65	100		dB
Channel Separation	CS	f=1kHz to 20kHz		5	20	mV
Short Circuit To GND	I <sub>sc</sub>			40	60	mA
Output Current	I <sub>source</sub>	V <sub>I(+)</sub> =1V, V <sub>I(-)</sub> =0 V <sub>CC</sub> =15V, V <sub>O(P)</sub> =2V	20	40		mA
Output Current	I <sub>sink</sub>	V <sub>I(+)</sub> =0V, V <sub>I(-)</sub> =1V V <sub>CC</sub> =15V, V <sub>O(P)</sub> =2V	10	20		mA
		V <sub>I(+)</sub> =0V, V <sub>I(-)</sub> =1V V <sub>CC</sub> =15V, V <sub>O(P)</sub> =200mV	12	50		μA
Differential Input Voltage	V <sub>ID</sub>				V <sub>CC</sub>	V

OUTLINE DRAWING

DIP-8

unit:mm



SOP-8

unit:mm

