TIGER ELECTRONIC CO.,LTD

# DUAL OPERATIONER AMPLIFIER   LM4558N/D/S

GENERAL DESCRIPTION

The LM4558 is a dual high-gain operational amplifier internally compensated and constructed on a single silicon chip. It offers high speed, a wide band width, and low noise. Outstanding thermal characteristics and voltage gain band width make these ICs ideal for use in a wide variety of electronic circuits.
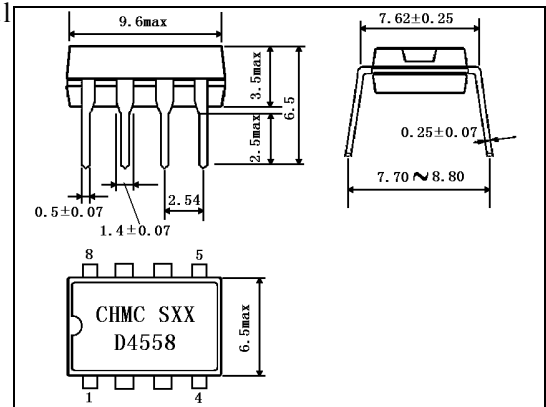
FEATURES

- Operating Voltage ($\pm$4V ~ $\pm$18V)
- High Voltage Gain (100dB typ.)
- High Input Resistance (5MΩ typ.)
- Package Outline DIP8、SIP8、SOP8
- Bipolar Technology
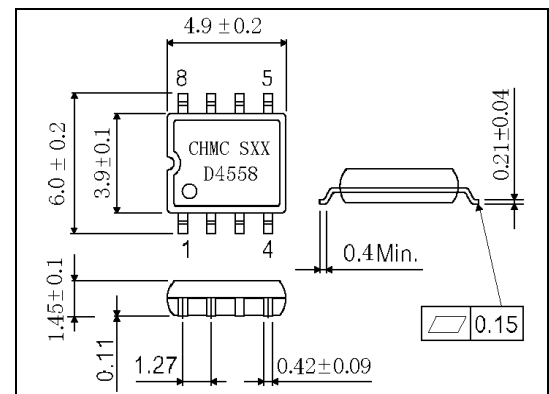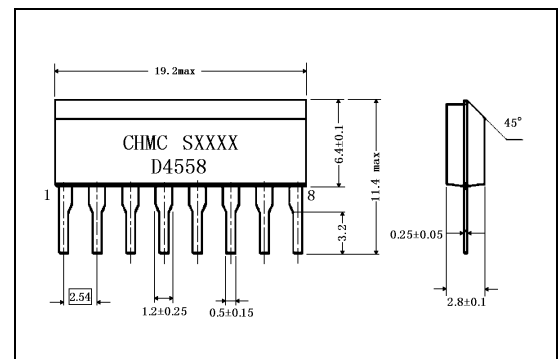- Compatible with LM4558

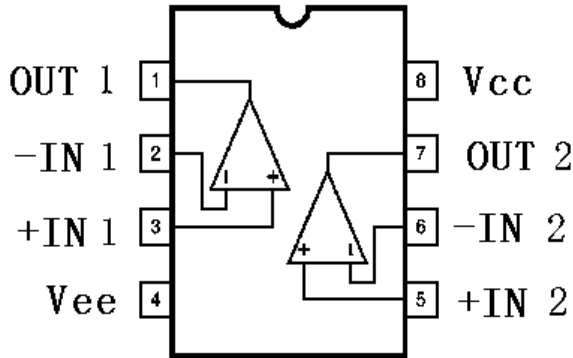## BLOCK DIAGRAM
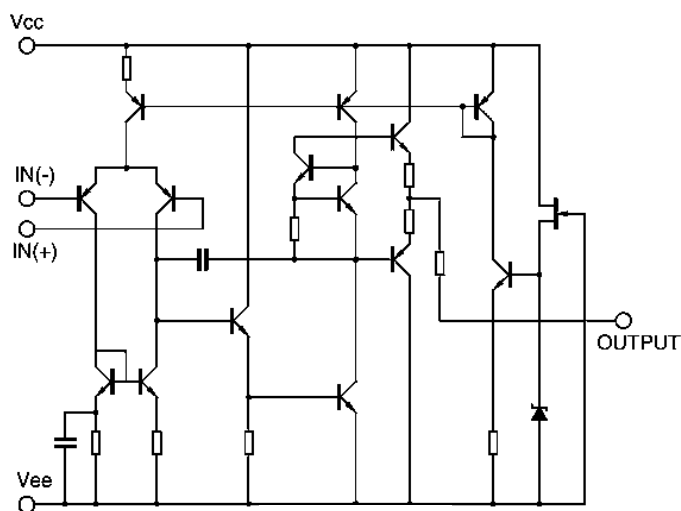
Outline Drawing   Unit:mm

DIP8

SOP8

SIP8

PIN CONNFIGURATION

DIP8/SOP8
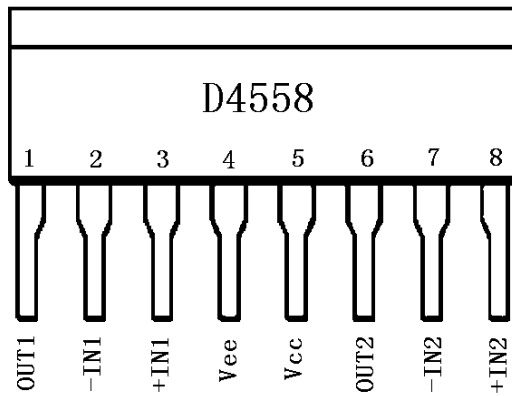
SIP8

ABSOLUTE MAXIMUM RATINGS （Tamb=25℃）

Characteristics	Symbol	Value	Unit
Supply voltage	Vcc	±22	V
Differential Input Voltage	$V_{I(DIFF)}$	±30	V
Power dissipation	P_D	680	mW
Input voltage	V_I	±15	V
Operating temperature	Tamb	-40~+85	℃
Storage temperature	Tstg	-65~+150	℃
Solder ability (3±0.5sec, 95% leads covered)		230±5	℃
Soldering heat endurance (10±1sec,no damage)		260±5	℃

ELECTRICAL CHARACTERISTICS （Unless otherwise specified，Tamb=25℃, Vcc=15，Vee=-15V）

characteristics	Test conditions	Symbol	limit			Unit
			Min.	Typ.	Max.	
Operating current		Icc		3.5	5.6	mA
Input offset voltage	Rs<10kΩ	V$_{IO}$	-	2	5.0	mV
Input offset current		I$_{IO}$		5	200	nA
Input bias current		I$_{BIAS}$	-	30	500	nA
Input common mode voltage range		V$_{I(R)}$	±12	±14		V
Large signal voltage gain	Vo (p-p) =±10V,R$_L$<2kΩ	G$_V$	86	100		dB
Output voltage swing	R$_L$>10kΩ	Vo (p-p)	±12	±14	-	V
	R$_L$>2kΩ		±10	±13	-	
Common mode rejection ratio	Rs<10kΩ	CMRR	80	95		dB
Supply voltage rejection ratio	Rs<10kΩ	PSRR	80	95		dB
Input resistance		R$_{IN}$	0.3	5		MΩ
Gain bandwidth F=100KHz	Vi=10mV,R$_L$=2Kohm C$_L$=100pf			5.0		MHz
Equivalent input noise voltage	RS=1KΩ, 30KHz LPF	V$_{ni}$		1.4		μVrms
Channel separation		Vo1/Vo2		120		dB
Slew rate				1.5		V/μs

CHARACTERISTIC CURVES

Maximum Output Voltage vs Frequency

Frequency f (Hz)

Maximum Output Voltage Swing vs Output Current

Output Current Io (mA)

Open-loop Frequency Response

Frequency (Hz)

Spectral Noise Density

Gv=10
Rs=100kΩ

Frequency (Hz)

Input Offset Voltage vs. Temperature
(V⁺/V⁻=±15V)

Ambient Temperature Ta(°C)

Input Bias Current vs. Temperature
(V⁺/V⁻=±15V)

Ambient Temperature Ta(°C)