深圳市国顺威电子有限公司

GS4558产品规格书

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GS4558 Die in Wafer Form

- Continuous-Short-Circuit Protection
- Wide Common-Mode and Differential Voltage Ranges
- No Frequency Compensation Required
- Low Power Consumption
- No Latch-Up
- Unity-Gain Bandwidth ...3 MHz Typ
- Gain and Phase Match Between Amplifiers
- Low Noise ...8 nV $\sqrt{\text{Hz}}$ Typ at 1 kHz

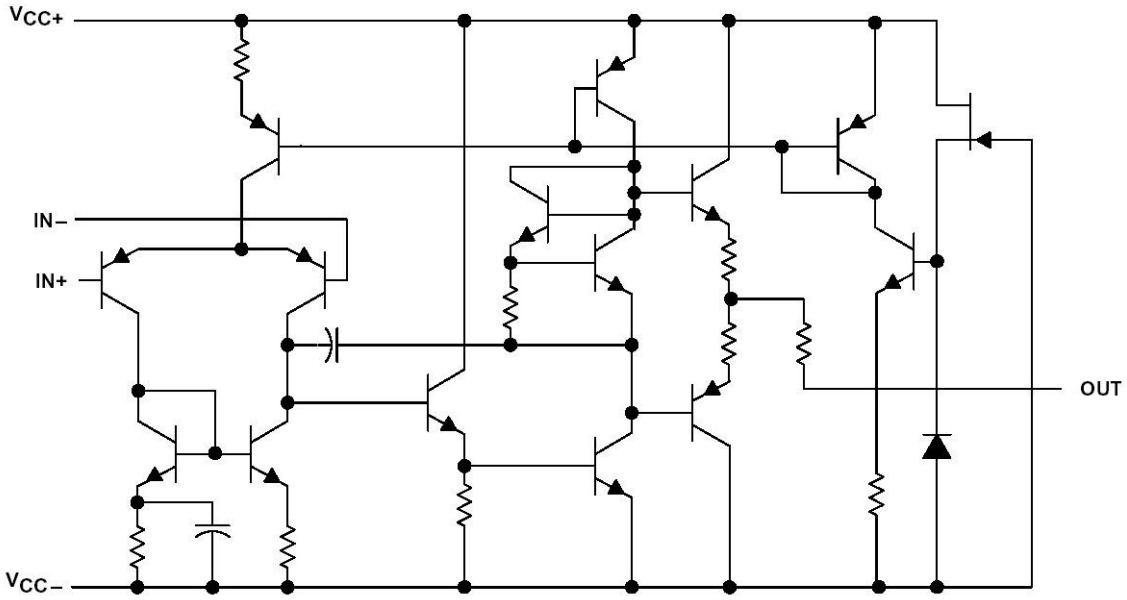
DESCRIPTION

The 4558 devices are dual general-purpose operational amplifiers with each half electrically similar to the μA741 except that offset null capability is not provided.

The high common-mode input voltage range and the absence of latch-up make these amplifiers ideal for voltage-follower applications. The devices are short-circuit protected and the internal frequency compensation ensures stability without external components.

The 4558 is characterized for operation from 0°C to 75°C.

schematic (each amplifier)



absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

		4558	UNIT
Supply voltage (see Note 1)	V_{CC}+	22	V
	V_{CC}-	-22	
Differential input voltage (see Note 2)		±30	V
Input voltage (any input, see Notes 1 and 3)		±15	V
Duration of output short circuit to ground, one amplifier at a time (see Note 4)		unlimited	
Storage temperature range, T_{stg}		–65 to 150	°C

NOTES:
1. All voltage values, unless otherwise noted, are with respect to the midpoint between V_{CC}+ and V_{CC}-.
2. Differential voltages are at IN+ with respect to IN –.
3. The magnitude of the input voltage must never exceed the magnitude of the supply voltage or 15 V, whichever is less.
4. Temperature and/or supply voltages must be limited to ensure that the dissipation rating is not exceeded.

recommended operating conditions

		MIN	MAX	UNIT
Supply voltage	V_{CC}+	5	15	V
	V_{CC}-	-5	-15	
Operating free-air temperature, T_A	4558	0	75	°C

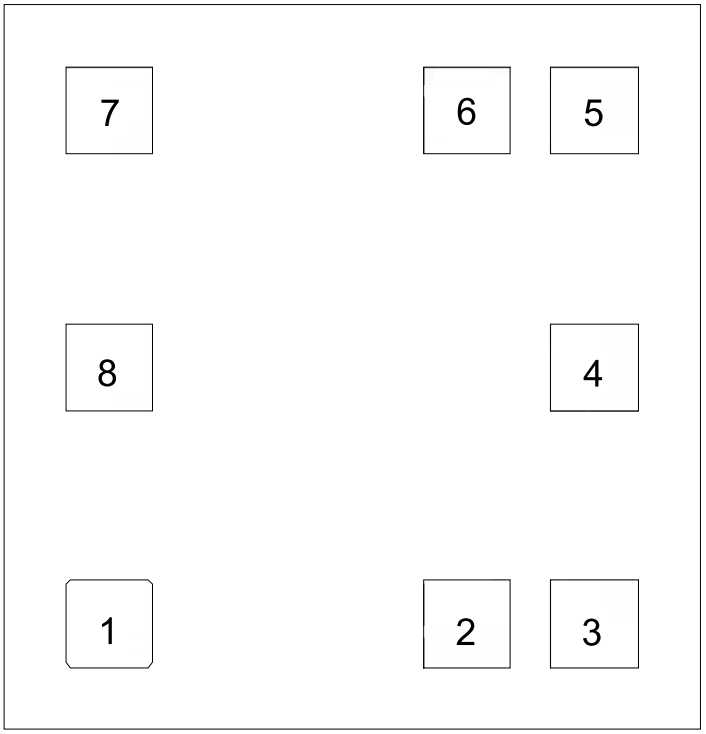
electrical characteristics at specified free-air temperature, V_{CC}+ = 15 V, V_{CC}– = –15 V (Wafer Form)

PARAMETER		TEST CONDITIONS		4558 MIN	4558 MAX	UNIT
V_{IO}	Input offset voltage	V_O = 0	25°C		5	mV
			Full range		6	
I_{IO}	Input offset current	V_O = 0	25°C		160	nA
			Full range		500	
I_{IB}	Input bias current	V_O = 0	25°C		480	nA
			Full range		1500	
V_{ICR}	Common-mode input voltage range		25°C	±12		V
V_{OM}	Maximum output voltage swing	R_L = 10 kΩ	25°C	±12		V
		R_L = 2 kΩ	25°C	±10		
		R_L ≥ 2 kΩ	Full range	±10		
A_{VD}	Large signal differential voltage amplification	R_L ≥ 2 kΩ, V_O = ±10 V	25°C	50		V/mV
			Full range	25		
r_j	Input resistance		25°C	0.3		MΩ
CMRR	Common-mode rejection ratio		25°C	70		dB
k_{SVS}	Supply-voltage sensitivity (ΔV_{IO} /ΔV_{CC})		25°C		150	μV/V
I_{CC}	Supply current (both amplifiers)	V_O = 0, No load	25°C		5.0	mA
			T_A(min)		5.9	
			T_A(max)		4.5	

† All characteristics are measured under open-loop conditions with zero common-mode input voltage unless otherwise specified. Full range is 0°C to 75°C. T_A(min) = 0°C. T_A(max) = 75°C.

PAD LOCATION

4558



Chip size 0,72 x 0,76 mm^2

Pad Location Coordinates

Pad num	Pad name	Pad centres		Size pad, mkm x mkm
		X mkm	Y mkm	
1	OUT1	110	110	90x90
2	IN1-	479	110	90x90
3	IN1+	610	110	90x90
4	VCC-	610	375	90x90
5	IN2+	610	640	90x90
6	IN2-	479	640	90x90
7	OUT2	110	640	90x90
8	VCC+	110	375	90x90

The appearance complies with the requirements of the company standards.