

## Description

The S4558 is a monolithic Integrated Circuit designed for dual operational amplifier.

## Features

- Power consumption as small as about 50mW (typ.)
- Built-in output short-circuit protecting circuit.
- Internal phase consumption type.
- No latch-up
- Wide same phase mode and differential voltage ranges
- High gain. low noise

## Applications

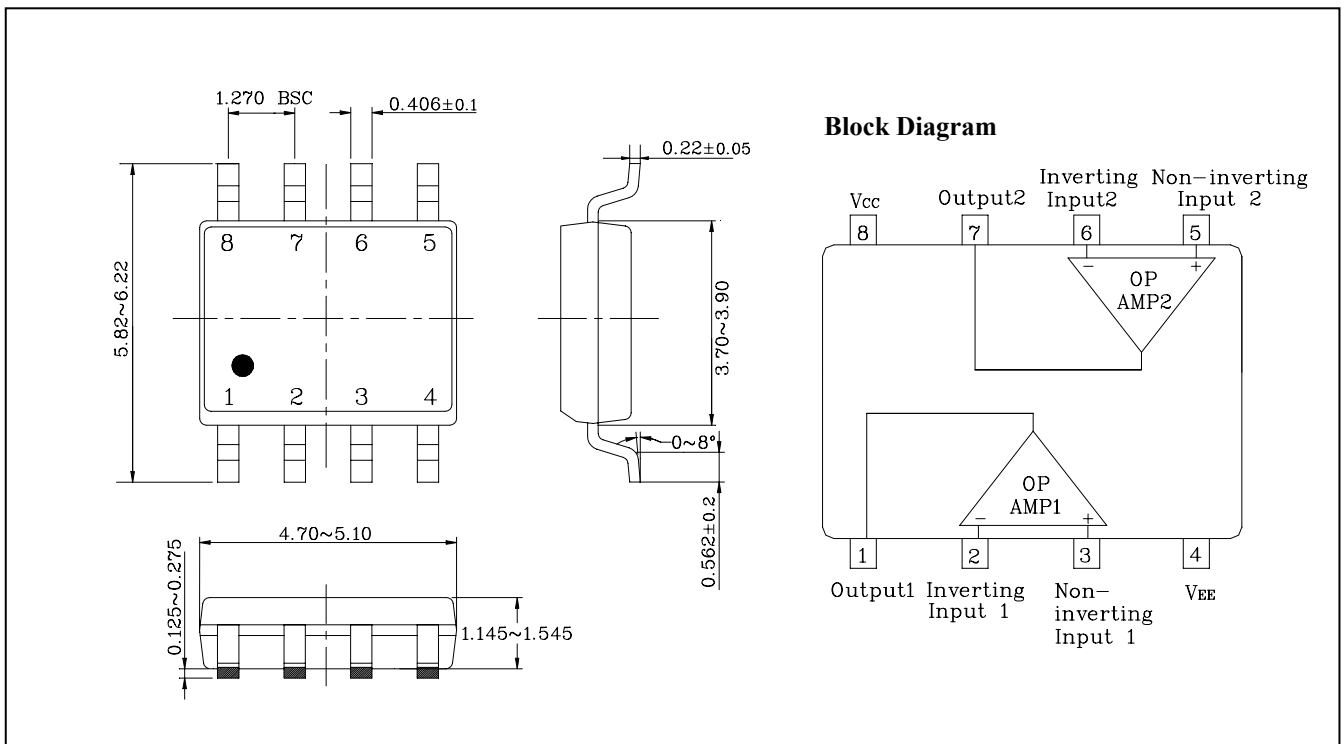
- Active filters
- Audio amplifiers
- VCOs
- Other electronic circuits

## Ordering Information

Type NO.	Marking	Package Code
S4558	S4558	SOP-8

## Outline Dimensions

unit : mm



**Absolute maximum ratings**

Characteristic	Symbol	Ratings	Unit
Supply voltage	$V_{CC}$	36 or $\pm 18$	V
Differential input voltage	$V_{IND}$	30	V
Input voltage	$V_{IN}$	$\pm 15$	V
Power Dissipation	$P_D$	300	mW
Operating temperature	$T_{opr}$	$-45 \sim +85$	$^{\circ}\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^{\circ}\text{C}$

**Electrical Characteristics**

(Unless otherwise specified.  $V_{CC} = +15\text{V}$ ,  $V_{EE} = -15\text{V}$  and  $T_a = 25^{\circ}\text{C}$ )

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input offset voltage	$V_{IOS}$	$R_g \leq 10\text{ k}\Omega$	-	0.5	6	mV
Input offset current	$I_{IOS}$	-	-	5	200	nA
Input bias current	$I_{IB}$	-	-	60	500	nA
Input common mode Voltage Range	$V_{ICR}$	-	$\pm 12$	$\pm 14$	-	V
Maximum Output Voltage	$V_{OM}$	$R_L \geq 10\text{ k}\Omega$	$\pm 12$	$\pm 14$	-	V
		$R_L \geq 2\text{ k}\Omega$	$\pm 10$	$\pm 13$	-	V
Large signal Voltage Gain	$G_V$	$V_{out} = \pm 10\text{V}$ , $R_L \geq 2\text{ k}\Omega$	86	100	-	dB
Common mode rejection ratio	CMRR	$R_g \leq 10\text{ k}\Omega$	70	90	-	dB
Power supply rejection ratio	PSRR	$R_g \leq 10\text{ k}\Omega$	-	30	150	$\mu\text{V/V}$
Slew Rate	SR	$G_V = 1$ , $R_L \geq 2\text{ k}\Omega$	-	1.0	-	V/ $\mu\text{s}$
Supply Current	$I_{CC}$	-	-	4.0	6.0	mA
Equivalent input noise voltage	$V_{NI}$	RIAA, $R_S = 1\text{ k}\Omega$ , $f = 30\text{ Hz} \sim 30\text{ kHz}$	-	2.5	-	$\mu\text{V}_{rms}$
Source Current	$I_{SOURCE}$	-	27	-	-	mA
Sink Current	$I_{SINK}$	-	27	-	-	mA

## Electrical Characteristic Curves

Fig. 1  $G_V - f$

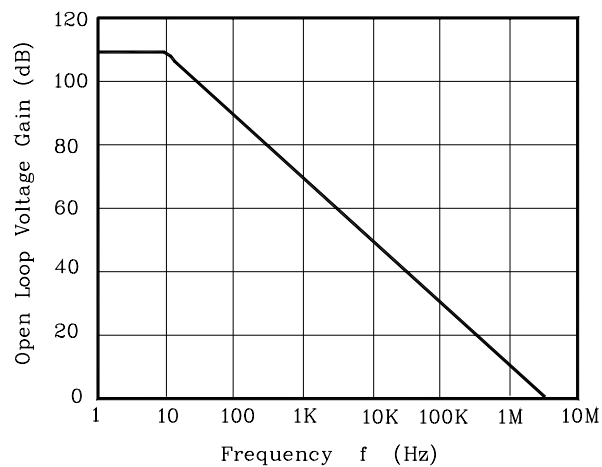


Fig. 2  $V_{OP-P} - f$

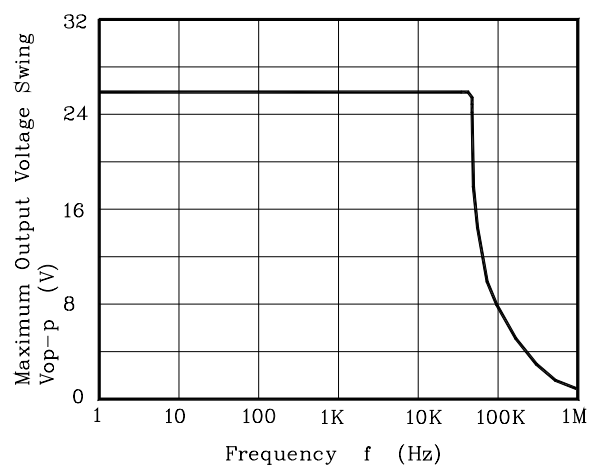


Fig. 3  $I_{IB} - T_a$

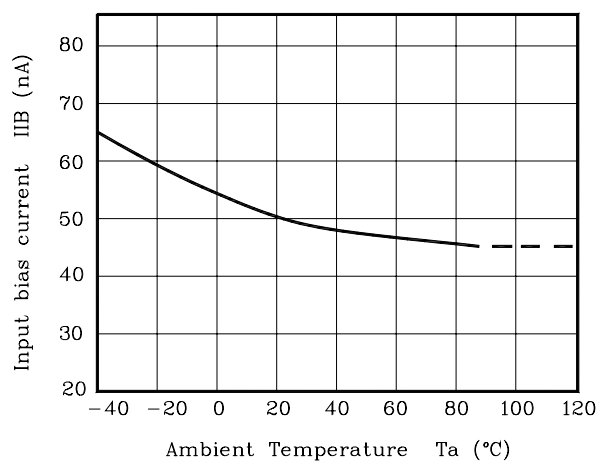


Fig. 4  $V_{OM} - V_{CC}, V_{EE}$

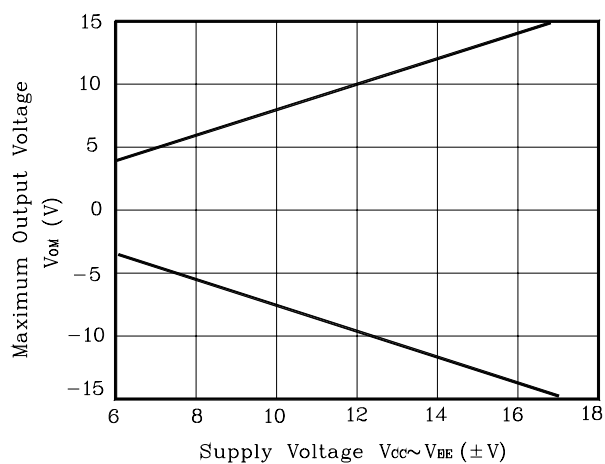


Fig. 5  $V_{OP-P} - R_L$

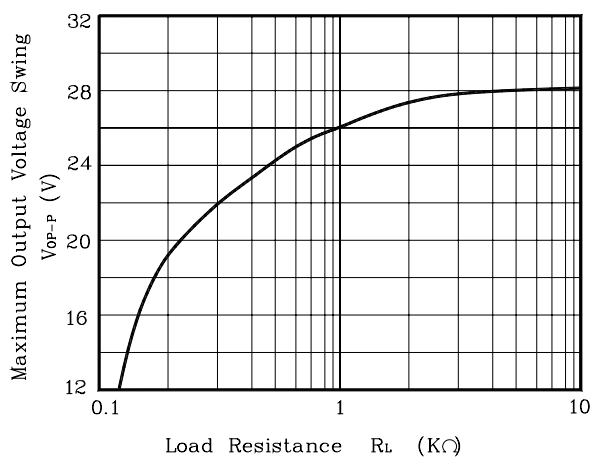
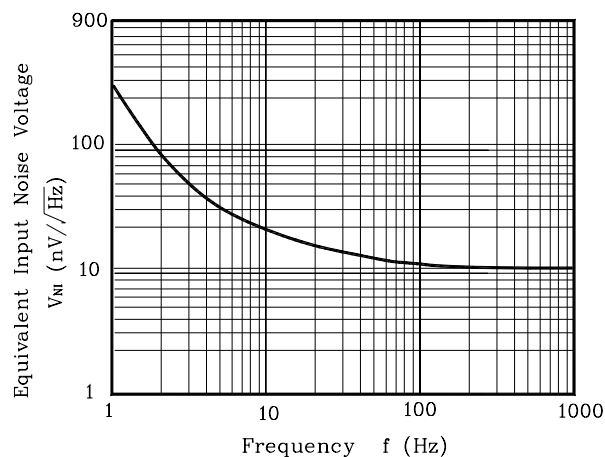


Fig. 6  $V_{NI} - f$



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