



## **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

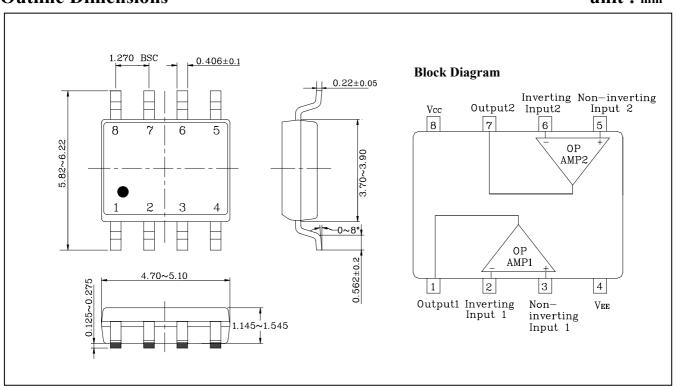
## **Applications**

- 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 ±18	V
Differential input voltage	$V_{\mathrm{IND}}$	30	V
Input voltage	$V_{IN}$	±15	V
Power Dissipation	$P_{D}$	300	mW
Operating temperature	T <sub>opr</sub>	-45 ~ +85	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C

# **Electrical Characteristics**

(Unless otherwise specified.  $V_{CC}$  = +15V,  $V_{EE}$ =-15V and Ta = 25 °C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input offset voltage	$V_{IOS}$	Rg ≤ 10 kΩ	-	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	$V_{ICR}$	-	±12	±14	-	V
Maximum Output Voltage	V <sub>OM</sub>	$R_L \ge 10 \text{ k}\Omega$	±12	±14	-	V
Maximum Output Voitage		R <sub>L</sub> ≥ 2 kΩ	±10	±13	-	V
Large signal Voltage Gain	G <sub>V</sub>	Vout= $\pm 10$ V, RL $\geq 2$ k $\Omega$	86	100	-	dB
Common mode rejection ratio	CMRR	Rg ≤ 10 kΩ	70	90	-	dB
Power supply rejection ratio	PSRR	Rg ≤ 10 kΩ	-	30	150	uV/V
Slew Rate	SR	$G_V=1, R_L \ge 2 \text{ k}\Omega$	-	1.0	-	V/us
Supply Current	I <sub>CC</sub>	-	-	4.0	6.0	mA
Equivalent input noise voltage	V <sub>NI</sub>	RIAA, $R_S=1$ k $\Omega$ , $f=30$ Hz $\sim 30$ kHz	-	2.5	-	uVrms
Source Current	I <sub>SOURCE</sub>	-	27	-	-	mA
Sink Current	I <sub>SINK</sub>	-	27	ı	-	mA

## **Electrical Characteristic Curves**

Fig. 1 G<sub>V</sub> - f

120
(qp) 100
80
80
60
40
20
0

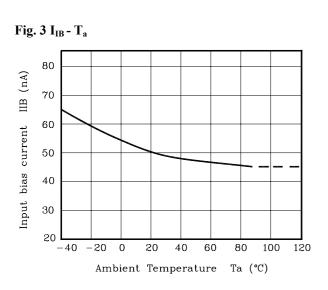
1K

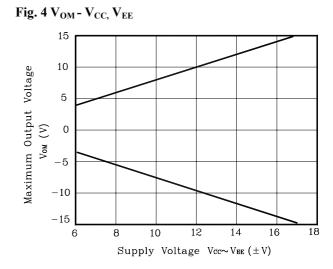
Frequency

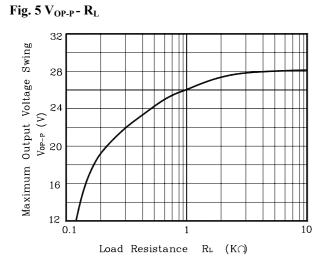
10K

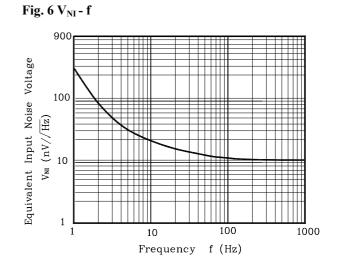
f (Hz)

100K









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