

**Description**

The S4560 is dual operational amplifiers which achieve approximately twice the high output current of the S4560, as well as featuring a higher slew rate of 4V/us, a gain band width of 10MHz, and an improved frequency characteristic.

**Features**

- Built-in output short-circuit protection circuit.
- Internal phase correction.
- No latch-up
- Wide same phase mode and differential voltage ranges
- High gain. low noise

**Applications**

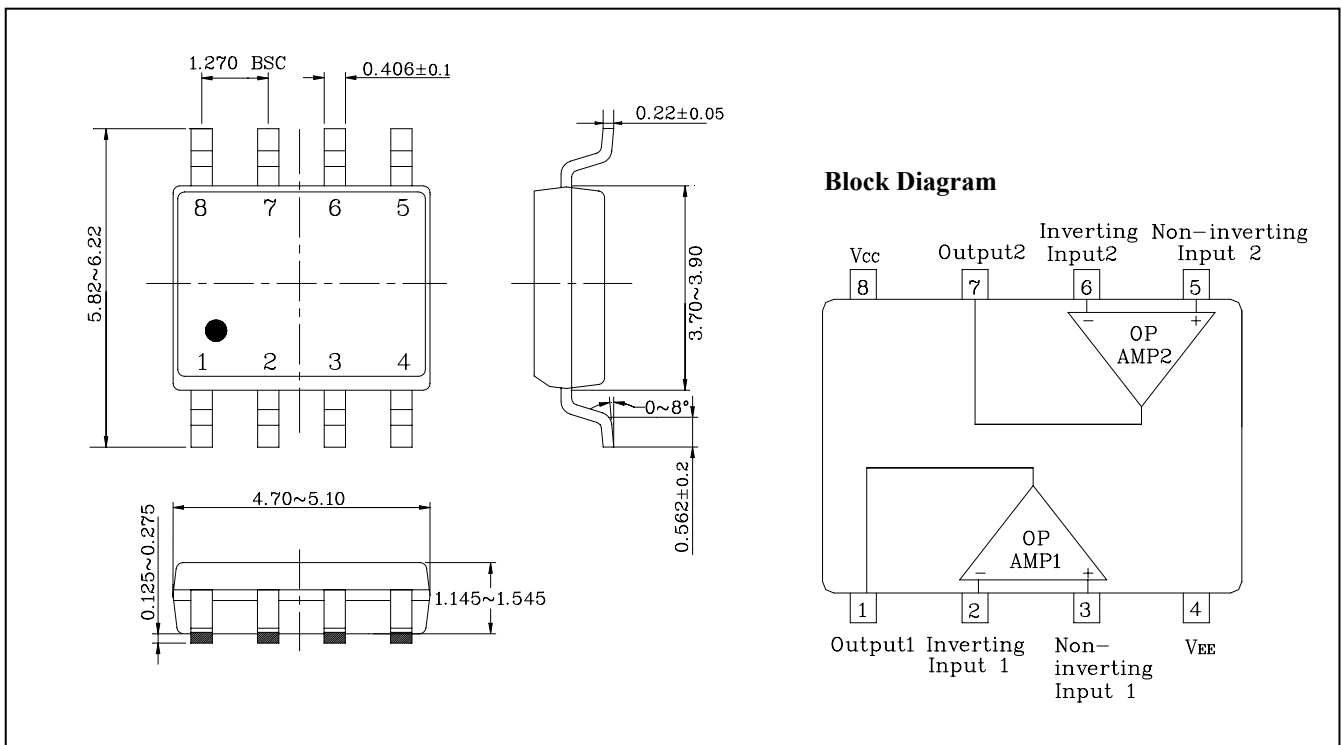
- Active filters
- Audio amplifiers
- VCOs
- Other electronic circuits

**Ordering Information**

Type NO.	Marking	Package Code
S4560	S4560	SOP-8

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

Ta = 25 °C

Characteristic	Symbol	Ratings	Unit
Supply voltage	V <sub>CC</sub>	±18	V
Differential input voltage	V <sub>ID</sub>	±30	V
Input voltage	V <sub>IC</sub>	-V <sub>CC</sub> ~V <sub>CC</sub>	V
Power Dissipation	P <sub>D</sub> *	550	mW
Operating temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +125	°C

\* Refer to Pd characteristics diagram. The values for the S4560 are those when it is mounted on a glass epoxy PCB(50 mm×50 mm×1.6 mm).

## Electrical Characteristics

(Unless otherwise specified. V<sub>CC</sub> = +15V, V<sub>EE</sub> = -15V and Ta = 25 °C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input offset voltage	V <sub>IOS</sub>	R <sub>g</sub> ≤ 10 kΩ	-	0.5	6	mV
Input offset current	I <sub>IOS</sub>	-	-	5	200	nA
Input bias current	I <sub>IB</sub>	-	-	50	500	nA
Input common mode Voltage Range	V <sub>ICR</sub>	-	±12	±14	-	V
Maximum Output Voltage	V <sub>OM</sub>	R <sub>L</sub> ≥ 10 kΩ	±12	±14	-	V
		R <sub>L</sub> ≥ 2 kΩ	±10	±13	-	V
Large signal Voltage Gain	G <sub>V</sub>	V <sub>out</sub> = ±10V, R <sub>L</sub> ≥ 2 kΩ	86	100	-	dB
Common mode rejection ratio	CMRR	R <sub>g</sub> ≤ 10 kΩ	70	90	-	dB
Power supply rejection ratio	PSRR	R <sub>g</sub> ≤ 10 kΩ	-	30	150	uV/V
Slew Rate	SR	G <sub>V</sub> = 1, R <sub>L</sub> ≥ 2 kΩ	-	4.0	-	V/us
Input conversion noise voltage	V <sub>n</sub>	-	-	-	2.2	uV
Gain band width product	GBW	f = 10kHz	-	10	-	MHz

## Electrical Characteristic Curves

Fig. 1  $G_V - f$

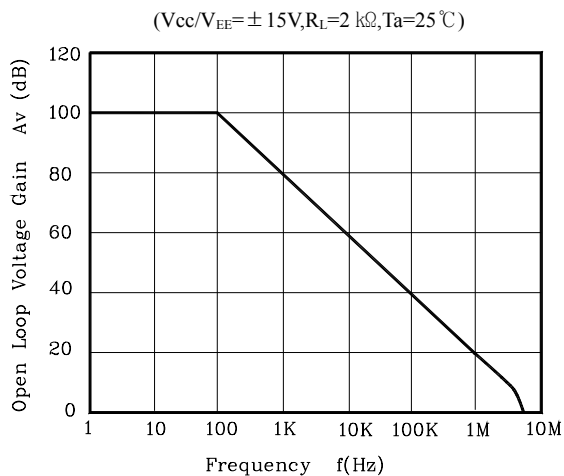


Fig. 2  $V_{OP-P} - f$

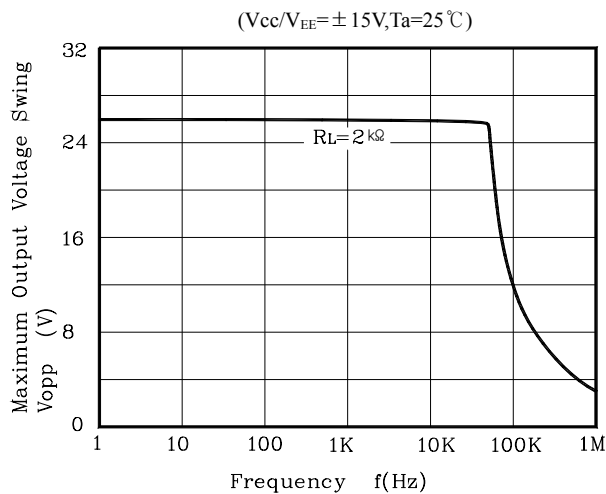


Fig. 3  $I_B - T_a$

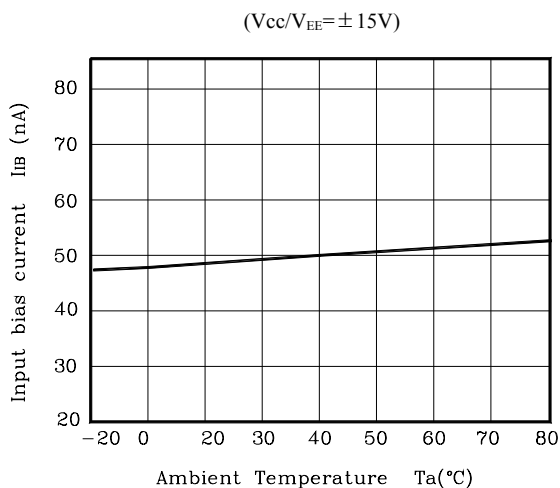


Fig. 4  $V_{ICR} - V_{CC} / V_{EE}$

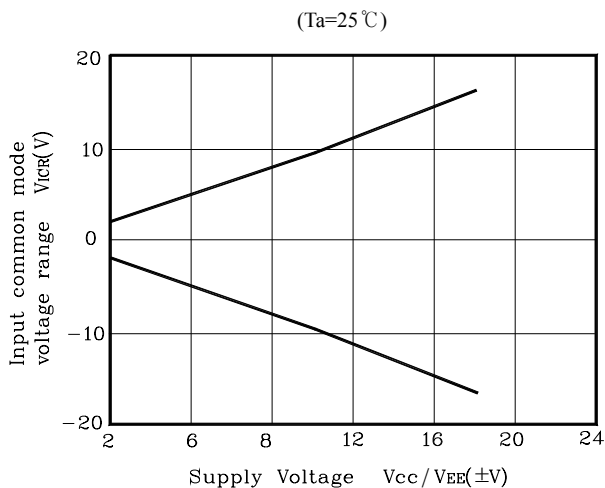


Fig. 5  $I_Q - V_{CC} / V_{EE}$

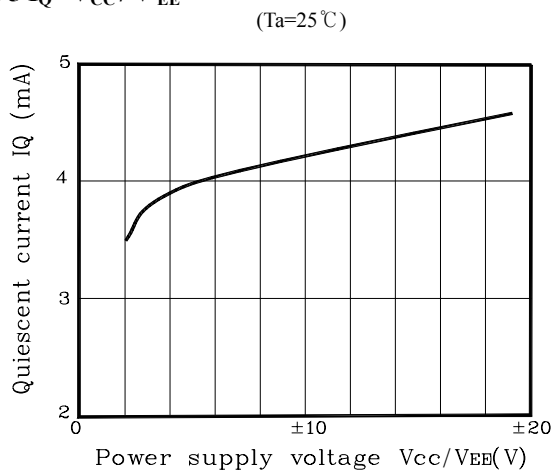
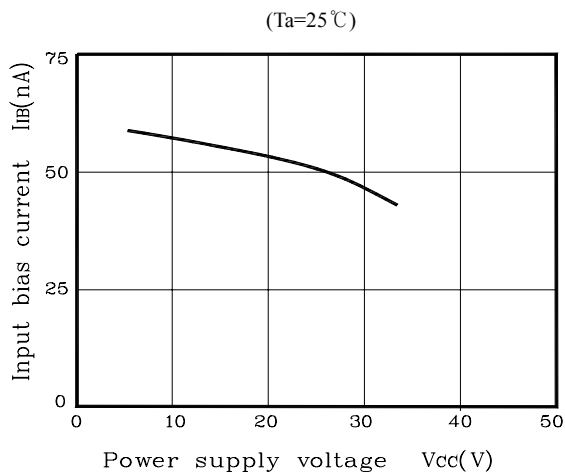


Fig. 6  $I_B - V_{CC}$



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