AUK Semiconductor

S358

Low Power Dual OP AMP

Description

The S358 consists of two independent high gain Internally frequency compensated operational amplifiers designed to operate from a single power supply over a wide range of voltage.

Features

- Input common mode voltage range includes ground
- Internally frequency compensated for unity gain
- Large DC voltage gain : 100dB
- Wide bandwidth for unity gain : 1 MHz
- Very low power consumption
- Wide supply voltage range : Single : 3V ~ 30V, Dual : ±1.5 ~ ±15V

Applications

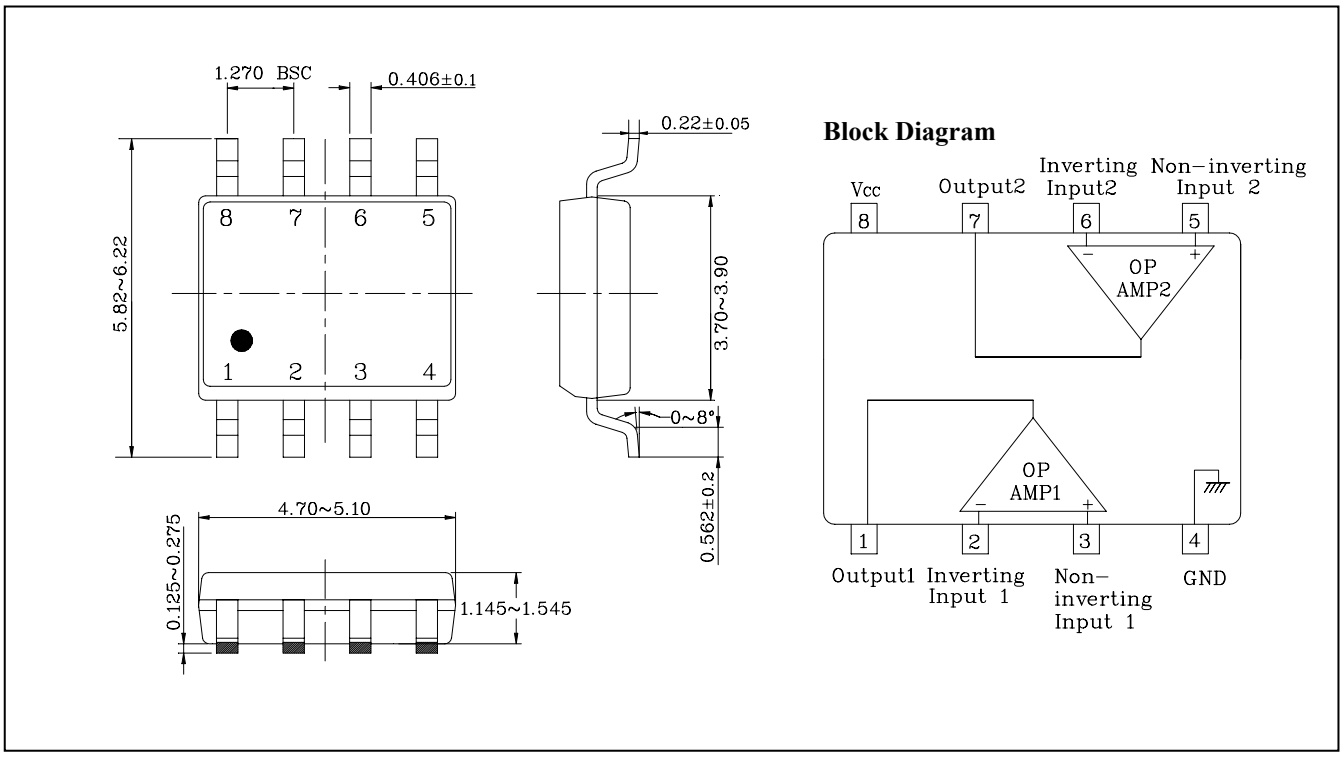
- Transducer amplifier
- DC gain blocks
- Conventional operational amplifiers

Ordering Information

Type NO.	Marking	Package Code
S358	S358	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_{IND}	32	V
Input voltage	V_{IN}	-0.3 ~ +32	V
Power Dissipation	P_D	300	mW
Operating temperature	T_{opr}	-45 ~ +85	°C
Storage temperature	T_{stg}	-55 ~ 150	°C

Electrical Characteristics

(Unless otherwise specified. V_{CC} = 5V and –45 °C ≤ Ta ≤ +85 °C)

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Input offset voltage	V_{IOS}	5V ≤ V_{CC} ≤ 30V	(Ta=25 °C)	-	±2	±7	mV
		Rg = 0Ω, 0V ≤ V_{IC} ≤ V_{CC}-1.5V		-	-	±9	
Input offset voltage drift	$\Delta V_{IOS}/\Delta T$	Rg = 0Ω		-	7	-	μV/ °C
Input offset current	I_{IOS}	-	(Ta=25 °C)	-	±5	±50	nA
				-		±150	
Input offset current drift	$\Delta I_{IOS}/\Delta T$	-		-	10	-	pA/ °C
Input bias current	I_{IB}	-	(Ta=25 °C)	-	45	250	nA
				-	40	500	
Input common mode voltage range	V_{ICR}	V_{CC} = 30V	(Ta=25 °C)	0	-	V_{CC} –1.5	V
				0	-	V_{CC} –2	V
Supply current	I_{CC}	V_{CC} = 30V, R_L = ∞		-	1	2	mA
		V_{CC} = 5V, R_L = ∞		-	0.7	1.2	
Large signal voltage gain	G_V	V_{CC} = 15V R_L ≥ 2 KΩ	(Ta=25 °C)	25	100	-	V/mV
				15	-	-	
Output voltage swing	V_{OH}	V_{CC} = 30V	R_L=2 KΩ	26	-	-	V
			R_L=10 KΩ	27	28	-	
	V_{OL}	V_{CC} =5V, R_L ≤10 KΩ		-	3	20	mV
Common mode rejection ratio	CMRR	(Ta=25 °C)		65	90	-	dB
Power supply rejection ratio	PSRR	(Ta=25 °C)		65	100	-	dB
Output source current	I_{O+}	V_{CC} = 15V	(Ta=25 °C)	20	40	-	mA
		V_{IN+} = 1V, V_{IN-} = 0V		10	20	-	
Output sink current	I_{O-}	V_{CC} = 15V	(Ta=25 °C)	10	20	-	mA
		V_{IN+} = 0V, V_{IN-} = 1V		5	8	-	
		V_{OUT} = 200mV, V_{IN+} = 0V, V_{IN-} = 1V	(Ta=25 °C)	12	50	-	μA
Output short circuit to ground	I_{SC}	Ta=25 °C		-	40	60	mA

Electrical Characteristic Curves

Fig. 1 I_{CC}-V_{CC}

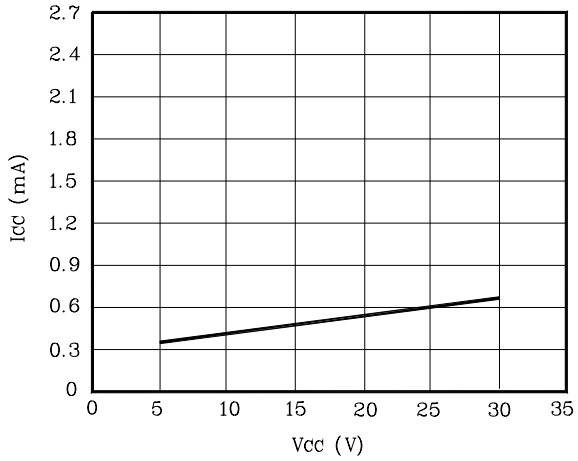


Fig. 2 I_{IB}-V_{CC}

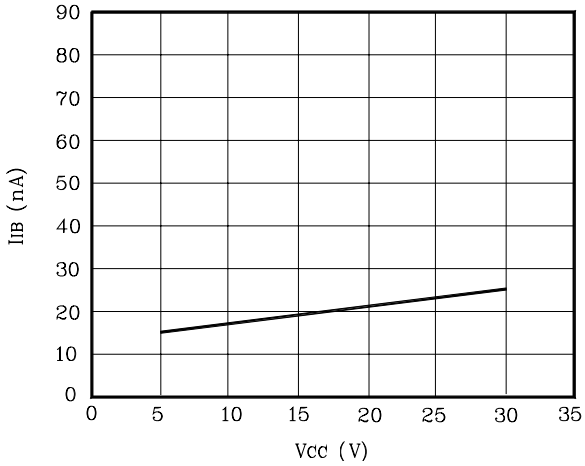


Fig. 3 V_{IOS}-T_a

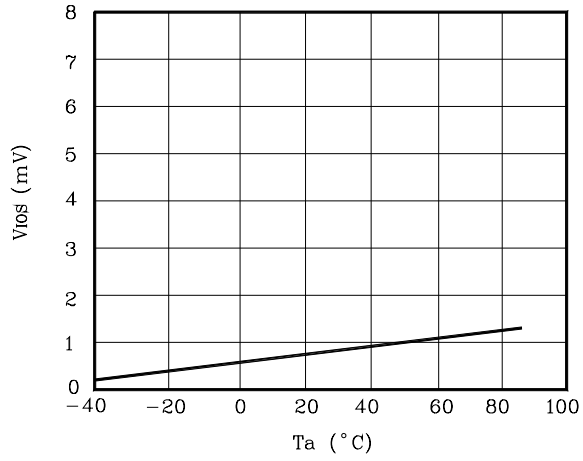


Fig. 4 I_O-T_a

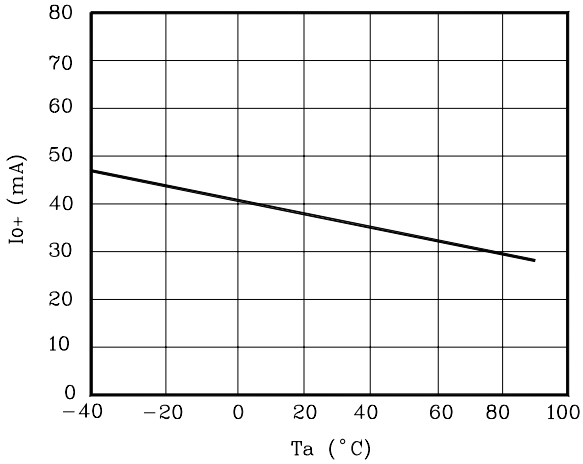


Fig. 5 CMRR-f

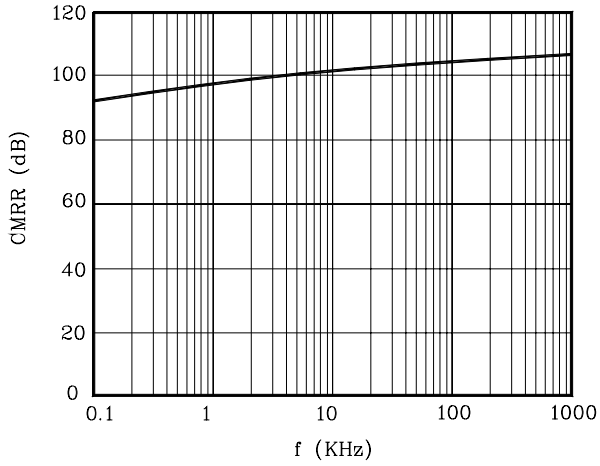
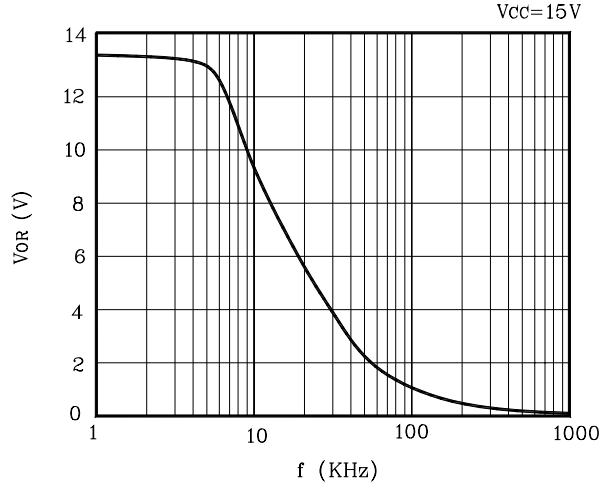


Fig. 6 V_{OR}-f



These AUK products are intended for usage in general electronic equipments(Office and communication equipment, measuring equipment, domestic electrification, etc.).

Please make sure that you consult with us before you use these AUK products in equipments which require high quality and/or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, traffic signal, combustion central, all types of safety device, etc.).

AUK cannot accept liability to any damage which may occur in case these AUK products were used in the mentioned equipments without prior consultation with AUK.