

Description

The S393 consists of two independent voltage comparators designed to operate from a single power supply over a wide voltage range.

Features

- Single Supply Operation: 2V to 36V.
- Dual Supply Operation: $\pm 1V$ to $\pm 18V$.
- Allow Comparison of Voltages Near Ground Potential.
- Low Current Drain 800uA Typ.
- Compatible with all Forms of Logic.
- Low Input Bias Current: 25nA Typ.
- Low Input Offset Current: \pm 5nA Typ.
- Low Offset Voltage: ± 1 mV Typ.

Applications

- Transducer amplifier
- DC gain blocks
- Conventional operational amplifiers

Ordering Information

Type NO.	Marking	Package Code		
S393	S393	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}	36	V
Input voltage	V _{IN}	-0.3 ~ +36	V
Power Dissipation	P _D	300	mW
Operating temperature	T _{opr}	-40 ~ +85	°C
Storage temperature	T _{stg}	-65 ~ 150	°C

Electrical Characteristics

(Unless otherwise specified. V_{CC} = 5V and $-40 \text{ }^\circ\text{C} \le Ta \le +85 \text{ }^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Input Offset Voltage	V_{IOS}	$V_0 = 1.4V$ Rs = 0Ω	-	±1	±5	mV
Input Offset Current	I_{IOS}	-	-	±5	±50	nA
Input Bias Current	I_{IB}	-	-	25	250	nA
Input Common Mode Voltage Range	V_{ICR}	-	0	-	V _{cc} -1.5	V
Supply Current	I _{CC}	V_{CC} = 30V, $R_L = \infty$, All Channel	-	-	2.5	mA
Large Signal Voltage Gain	A _V	$V_{CC} = 15V$ $R_L = 15 K\Omega$	50	200	-	V/mV
Output Voltage ('L' Level)	V_{SAT}	$\begin{array}{l} V_{\mathrm{IN+}} = \ 0V, \ V_{\mathrm{IN-}} = \ 1V \\ I_{\mathrm{SINK}} \leq \ 4mA \end{array}$	-	150	400	mV
Response Time	t _{RES}	$R_L = 5.1 \text{ K}\Omega, C_L = 15 \text{pF}$	-	1.3	-	uS
Output Sink Current	I _{SINK}	$\begin{array}{l} V_{O} \leq 1.5V \\ V_{IN+} = \; 0V \text{, } V_{IN-} = \; 1V \end{array}$	6	16	-	mA
Output Leakage Current	I_{Leak}	$V_{O} = 5V$ $V_{IN+} = 1V$, $V_{IN-} = 0V$	-	0.1	-	nA

Electrical Characteristic Curves

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



Fig. 3 V_{OL}-I_{SINK}







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



Fig. 4 P_D-Ta



Fig. 6 V_{IN}, V_{OUT}-t_{rsp}



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.