TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75393AP, TA75393AS

DUAL COMPARATOR

The TA75393AP series consist of two independent voltage comparators with an output sink current specification as low as 60mA Min for all two comparators. These were designed to operate from a single power supply over a wide range of voltage. Normal operation from dual supplies is also to be guaranteed on voltage range from 2V to 36V. V_{CC} is necessary at least more 1.5 volts than the input common mode voltage. The output can be connected to other open collector outputs to achieve Wired-OR relation ship and it can drive relays or lamps.

FEATURES

- Single Supply Voltage Range or Dual Supplies
 2V~36V or ±1V~±18V
- Low Input Offset Voltage : ±2mV (Typ.)
- Wide Input Common Mode Voltage Range
 : 0V~V_{CC} 1.5V
- Output Compatible with TTL, DTL, MOS and CMOS Logic System.
- The Output Can be Connected to Achieve Wired-OR Relation.
- Output Sink Current : 100mA (Typ.)



Weight DIP8-P-300-2.54A : 0.5g (Typ.) SIP9-P-2.54A : 0.9g (Typ.)

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PIN CONNECTION (TOP VIEW)



TA75393AS



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25° C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	Vcc	±18 OR 36	V
Differential Input Voltage	DVIN	± 36	V
Common Mode Input Voltage	CMV _{IN}	-0.3~V _{CC}	V
Power Dissipation	PD	500	mW
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 55~125	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 5V$, $Ta = 25^{\circ}C$)

CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	VIO	4	—	—	2	7	mV
Input Bias Current	Ц	2	—	—	25	250	nA
Input Offset Current	lio	2	—	—	5	50	nA
Common Mode Input Voltage	cmv _{IN}	4	_	0	_	V _{CC} - 1.5	v
Voltage Gain	GV	_	$R_L = 15k\Omega$	—	200	_	V/mV
Supply Current	Ісс	1	No load		5.5	8.0	mA
Sink Current	Isink	5	IN (+) = 0V, IN (-) = 1V V _{OL} = 1.5V	65	100	_	mA
Output Voltage ("L" Level)	V _{OL}	5	IN (+) = 0V, IN (–) = 1V I _{SINK} = 60mA	_	0.2	0.4	V
Output Leak Current	ILEAK	3	IN (+) = 1V, IN (-) = 0V V _O = 5V	_	0.1	_	nA
Response Time	t _{rsp}	6	$R_L = 5.1 k\Omega$, $C_L = 15 pF$	_	1.3	_	μs

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TEST CIRCUIT

(1) I_{CC}





(3) I_{LEAK}

(4) V_{IO} , CMV_{IN}

(2) I_{IO}



(5) I_{SINK}, V_{OL}







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CHARACTERISTICS



OUTLINE DRAWING DIP8-P-300-2.54A





Weight : 0.5g (Typ.)

OUTLINE DRAWING SIP9-P-2.54A

Unit : mm



Weight : 0.9g (Typ.)