

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75393AP, TA75393AS

DUAL COMPARATOR

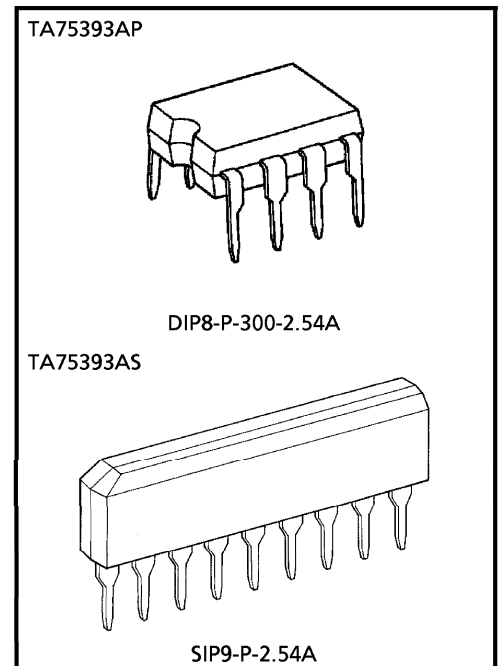
The TA75393AP series consist of two independent voltage comparators with an output sink current specification as low as 60mA Min for all two comparators.

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 $\pm 1V \sim \pm 18V$
- Low Input Offset Voltage : $\pm 2mV$ (Typ.)
- Wide Input Common Mode Voltage Range
: $0V \sim V_{CC} - 1.5V$
- 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.)

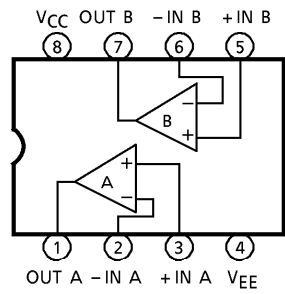


Weight

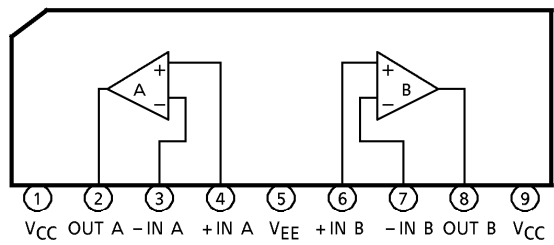
DIP8-P-300-2.54A : 0.5g (Typ.)
SIP9-P-2.54A : 0.9g (Typ.)

PIN CONNECTION (TOP VIEW)

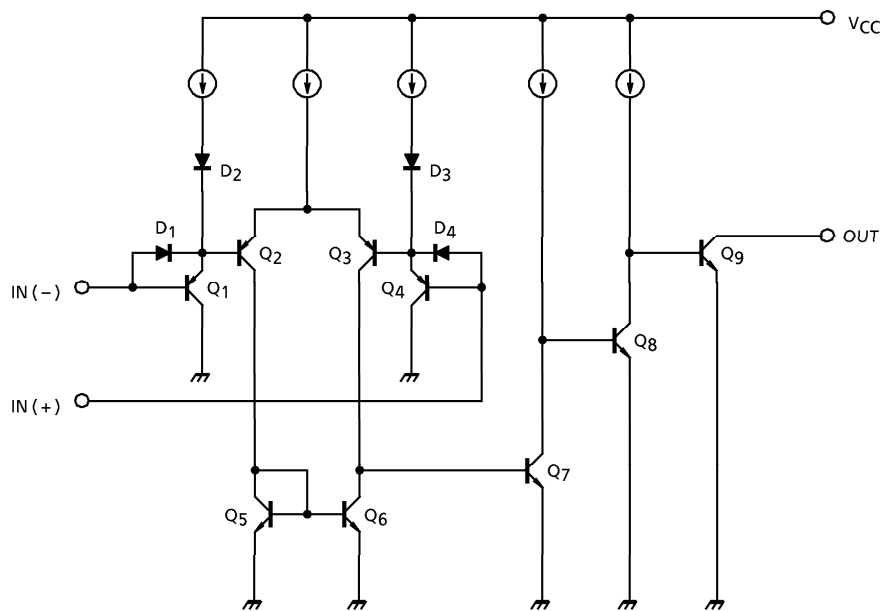
TA75393AP



TA75393AS



EQUIVALENT CIRCUIT



MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

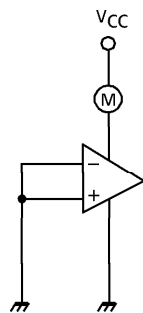
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	± 18 OR 36	V
Differential Input Voltage	DV_{IN}	± 36	V
Common Mode Input Voltage	CMV_{IN}	$-0.3 \sim V_{CC}$	V
Power Dissipation	P_D	500	mW
Operating Temperature	T_{opr}	$-40 \sim 85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

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

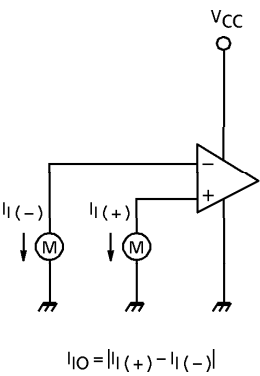
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	4	—	—	2	7	mV
Input Bias Current	I_I	2	—	—	25	250	nA
Input Offset Current	I_{IO}	2	—	—	5	50	nA
Common Mode Input Voltage	CMV_{IN}	4	—	0	—	$V_{CC} - 1.5$	V
Voltage Gain	G_V	—	$R_L = 15\text{k}\Omega$	—	200	—	V/mV
Supply Current	I_{CC}	1	No load	—	5.5	8.0	mA
Sink Current	I_{SINK}	5	$IN(+) = 0\text{V}$, $IN(-) = 1\text{V}$ $V_{OL} = 1.5\text{V}$	65	100	—	mA
Output Voltage ("L" Level)	V_{OL}	5	$IN(+) = 0\text{V}$, $IN(-) = 1\text{V}$ $I_{SINK} = 60\text{mA}$	—	0.2	0.4	V
Output Leak Current	I_{LEAK}	3	$IN(+) = 1\text{V}$, $IN(-) = 0\text{V}$ $V_O = 5\text{V}$	—	0.1	—	nA
Response Time	t_{rsp}	6	$R_L = 5.1\text{k}\Omega$, $C_L = 15\text{pF}$	—	1.3	—	μs

TEST CIRCUIT

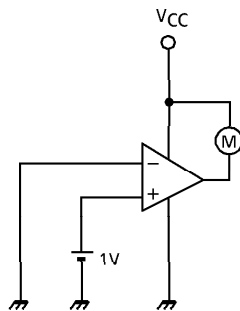
(1) I_{CC}



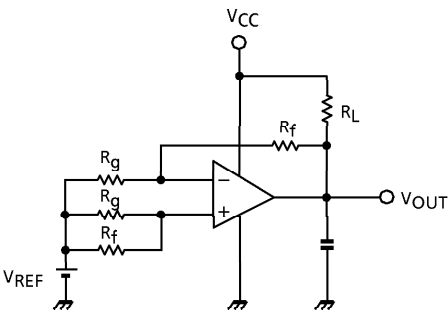
(2) I_{IO}



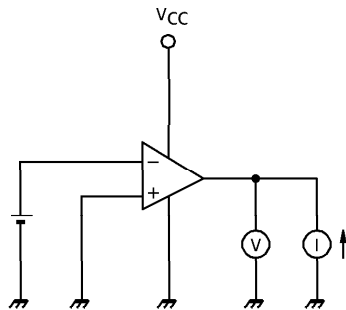
(3) I_{LEAK}



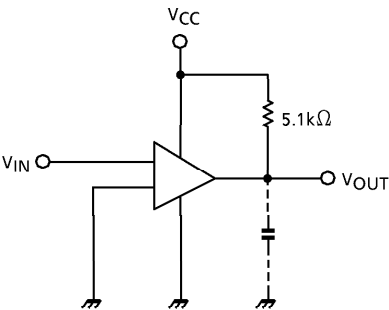
(4) V_{IO} , CMV_{IN}



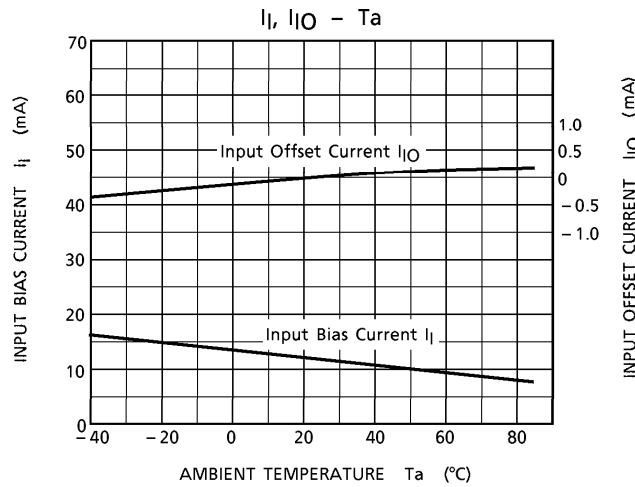
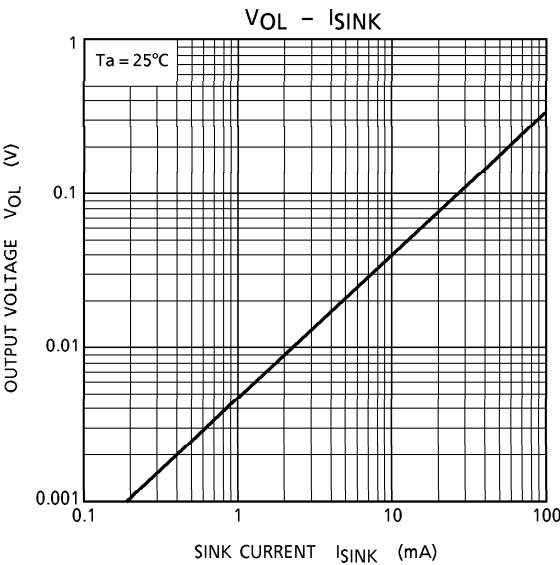
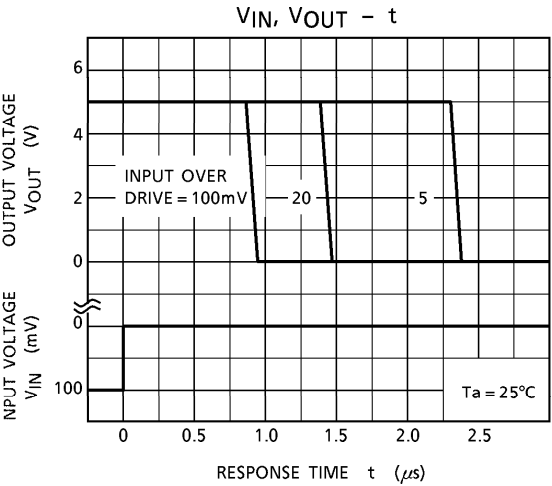
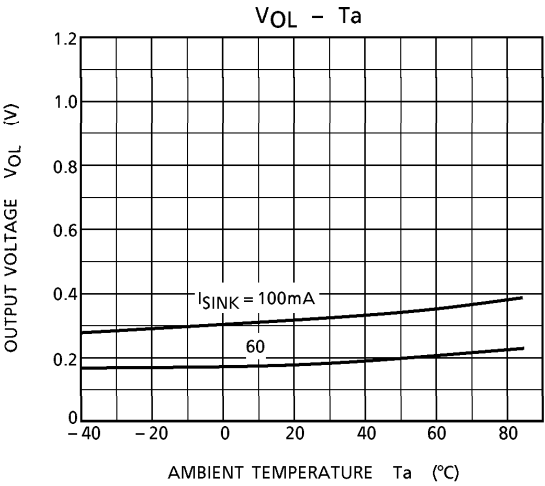
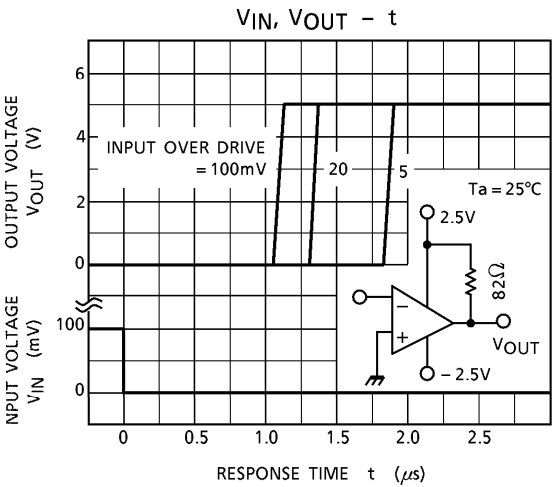
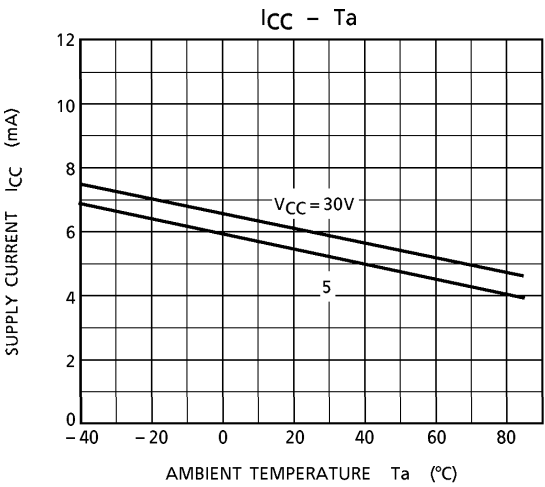
(5) I_{SINK} , V_{OL}



(6) t_{rsp}



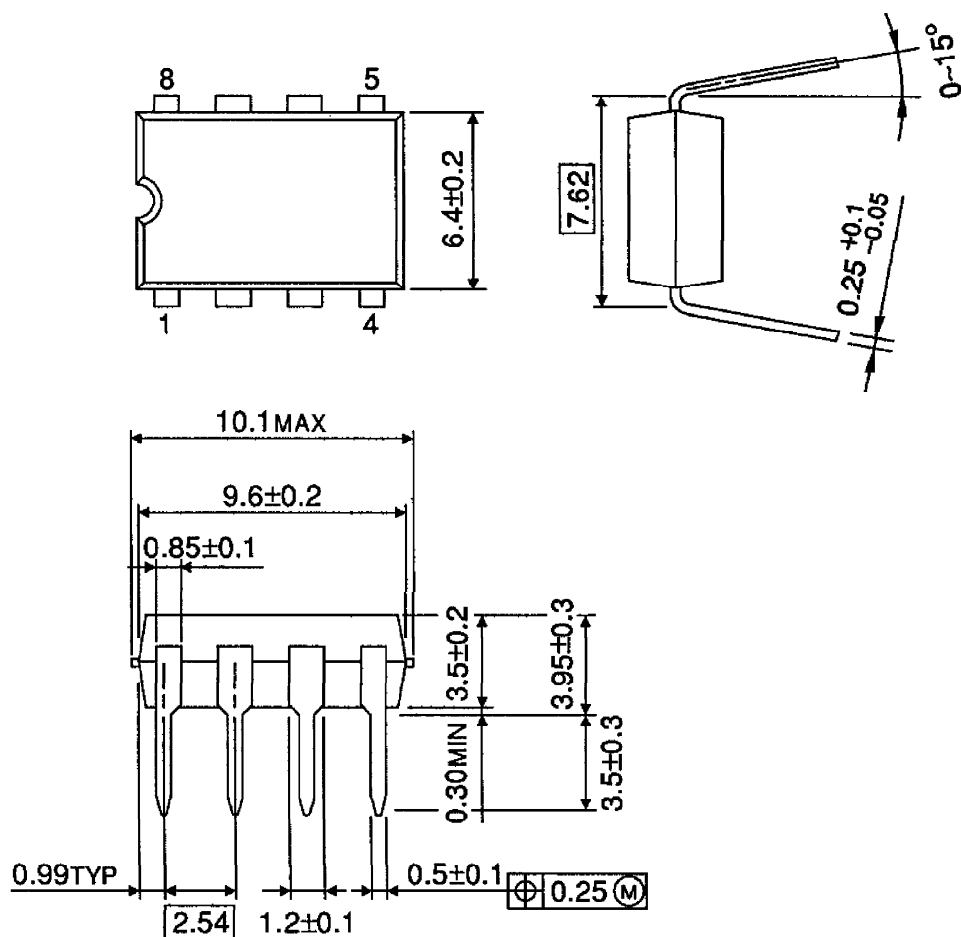
CHARACTERISTICS



PACKAGE DIMENSIONS

DIP8-P-300-2.54A

Unit : mm



Weight : 0.5g (Typ.)

SIP9-P-2.54A

2001-06-19

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000707EBA

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