

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75393AP, TA75393AS**DUAL COMPARATOR**

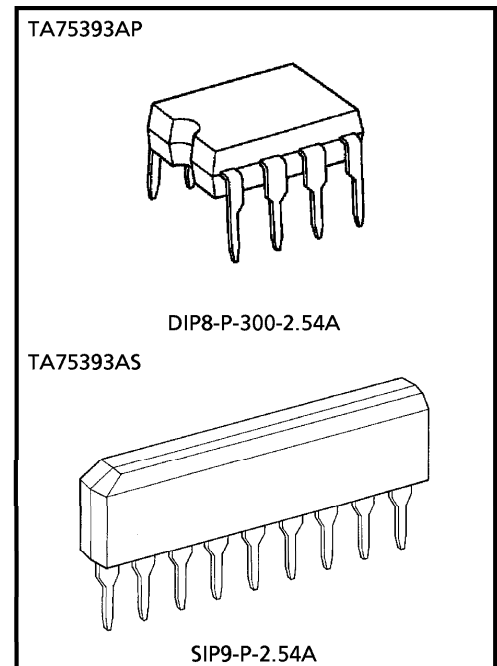
The TA75393AP series consist of two independent voltage comparators with an output sink current specification as low as 60mA Min for all two comparators.

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 relationship and it can drive relays or lamps.

FEATURES

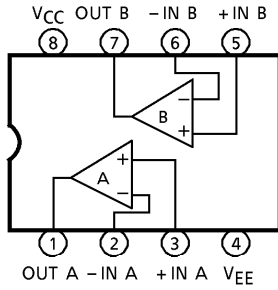
- Single Supply Voltage Range or Dual Supplies
: 2V~36V or $\pm 1V \sim \pm 18V$
- Low Input Offset Voltage : $\pm 2mV$ (Typ.)
- Wide Input Common Mode Voltage Range
: $0V \sim V_{CC} - 1.5V$
- Output Compatible with TTL, DTL, MOS and CMOS Logic System.
- The Output Can be Connected to Achieve Wired-OR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



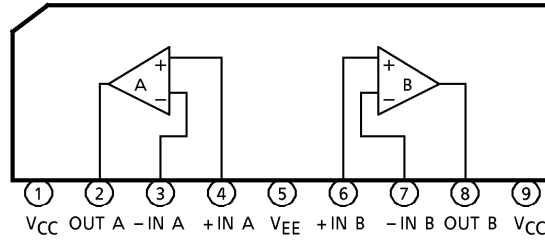
Weight
 DIP8-P-300-2.54A : 0.5g (Typ.)
 SIP9-P-2.54A : 0.9g (Typ.)

PIN CONNECTION (TOP VIEW)

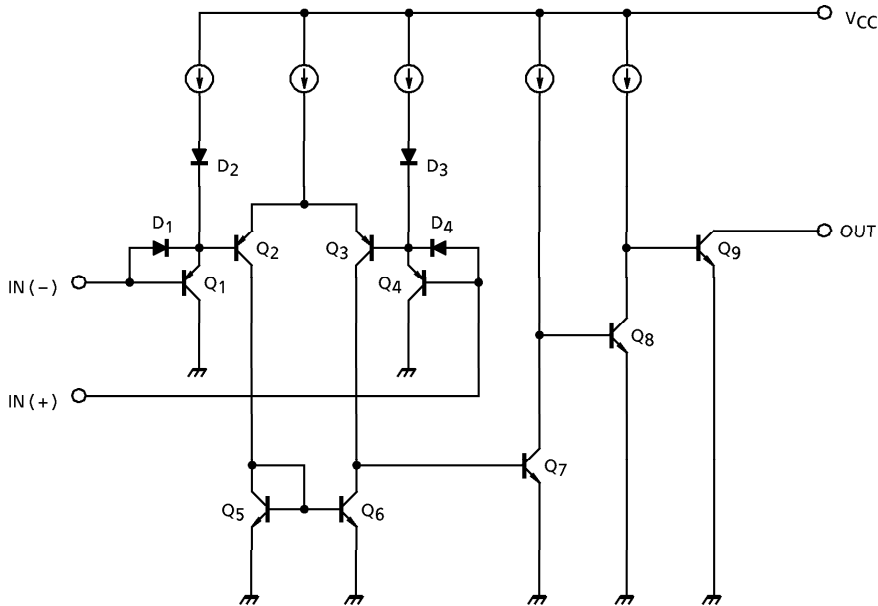
TA75393AP



TA75393AS



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

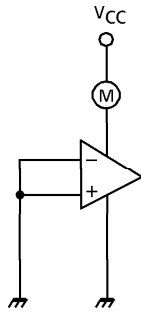
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	± 18 OR 36	V
Differential Input Voltage	DV _{IN}	± 36	V
Common Mode Input Voltage	CMV _{IN}	- 0.3~V _{CC}	V
Power Dissipation	P _D	500	mW
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 55~125	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 5V, Ta = 25°C)

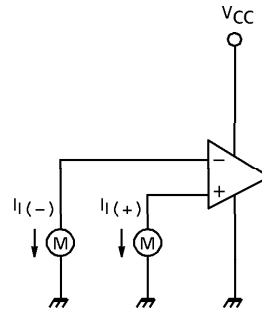
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	4	—	—	2	7	mV
Input Bias Current	I _I	2	—	—	25	250	nA
Input Offset Current	I _{IO}	2	—	—	5	50	nA
Common Mode Input Voltage	CMV _{IN}	4	—	0	—	V _{CC} - 1.5	V
Voltage Gain	G _V	—	R _L = 15kΩ	—	200	—	V / mV
Supply Current	I _{CC}	1	No load	—	5.5	8.0	mA
Sink Current	I _{SINK}	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	I _{LEAK}	3	IN (+) = 1V, IN (-) = 0V V _O = 5V	—	0.1	—	nA
Response Time	t _{rsp}	6	R _L = 5.1kΩ, C _L = 15pF	—	1.3	—	μs

TEST CIRCUIT

(1) I_{CC}

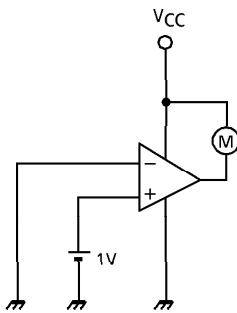


(2) I_{IO}

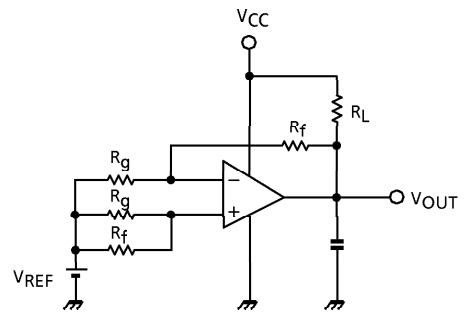


$$I_{IO} = |I_i(+)-I_i(-)|$$

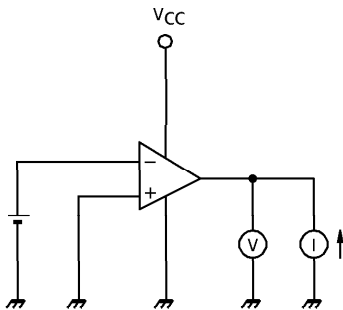
(3) I_{LEAK}



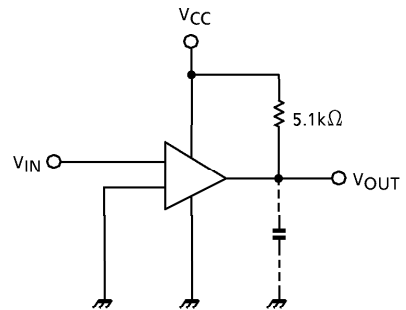
(4) V_{IO}, CMV_{IN}



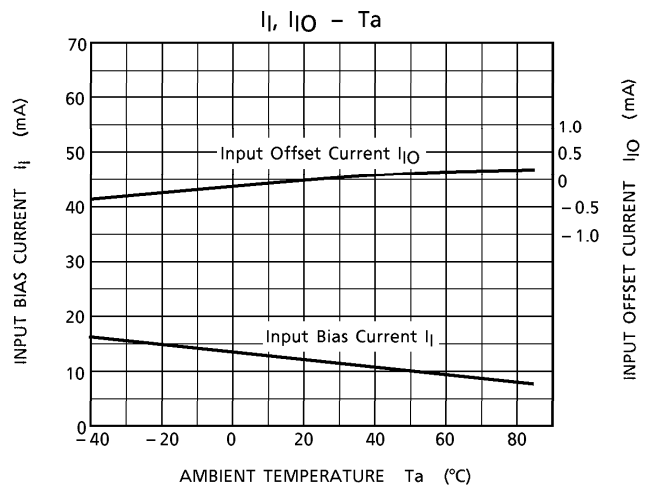
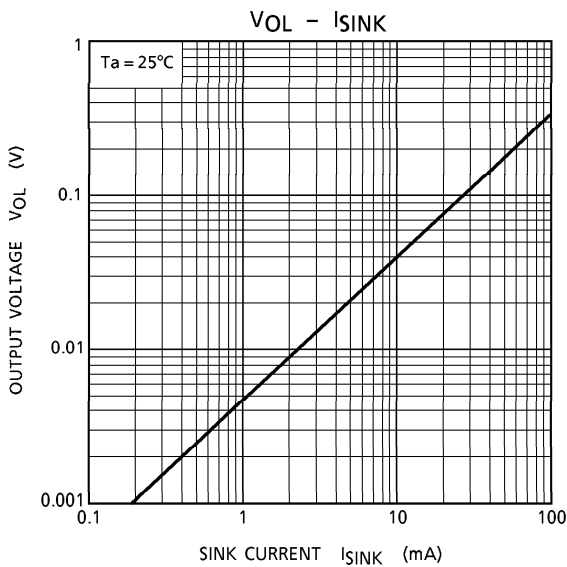
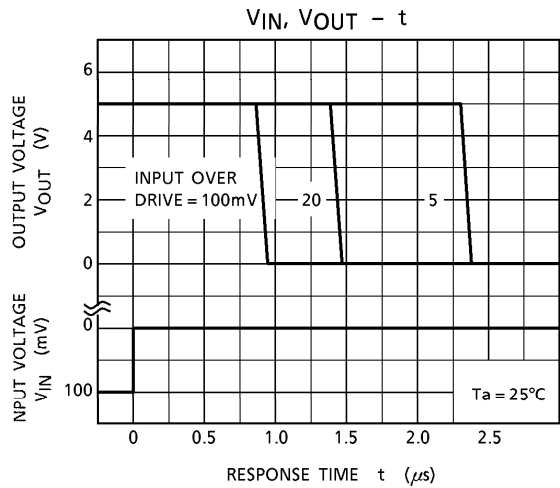
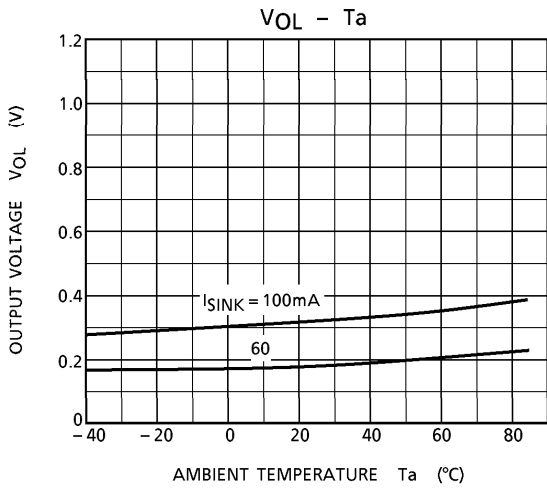
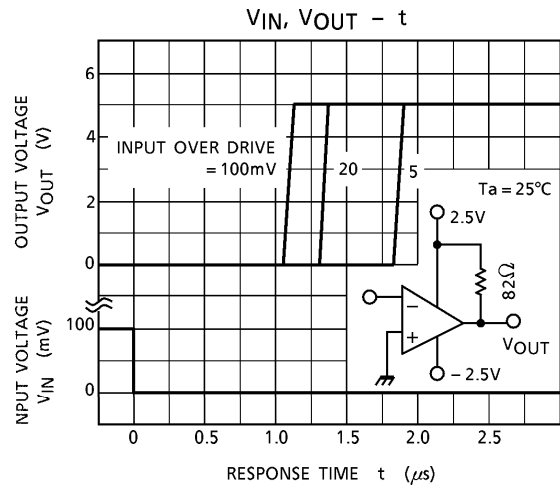
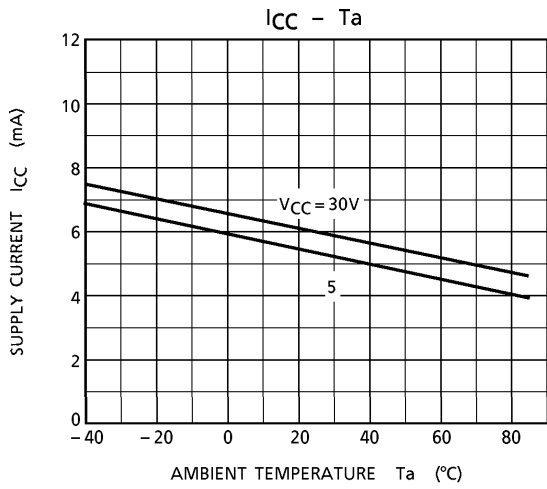
(5) I_{SINK}, V_{OL}



(6) t_{rsp}

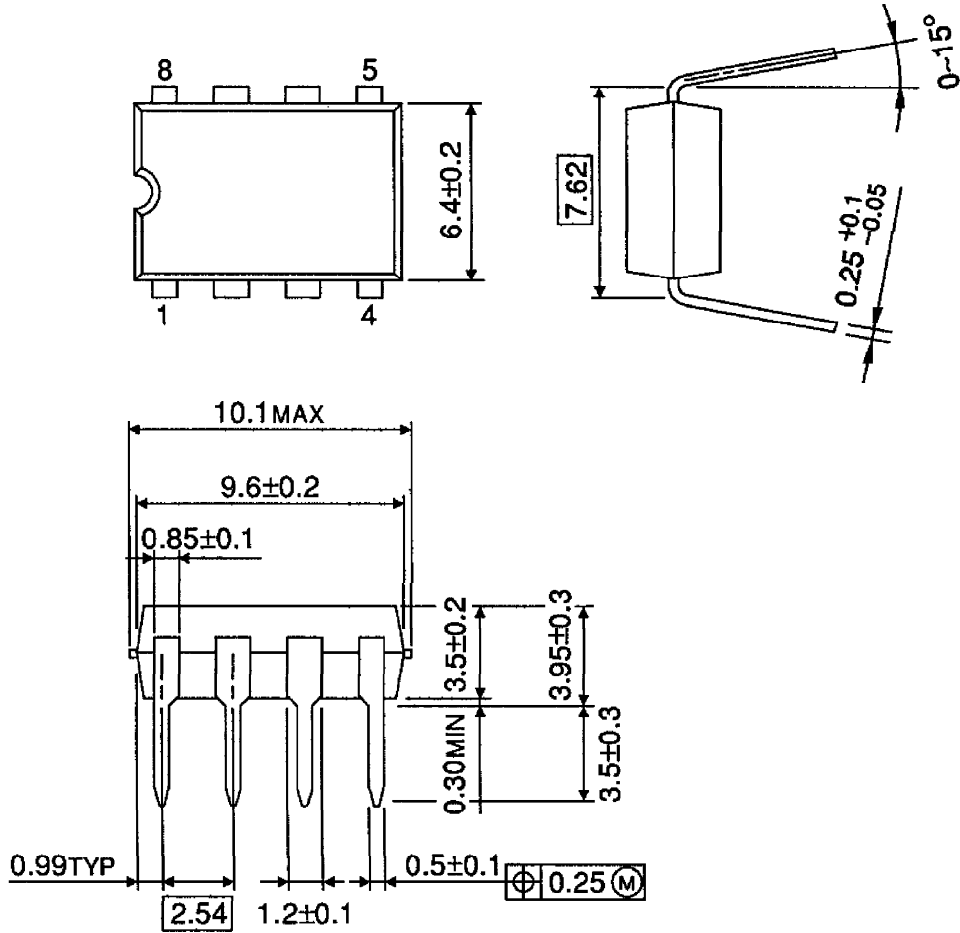


CHARACTERISTICS



PACKAGE DIMENSIONS
DIP8-P-300-2.54A

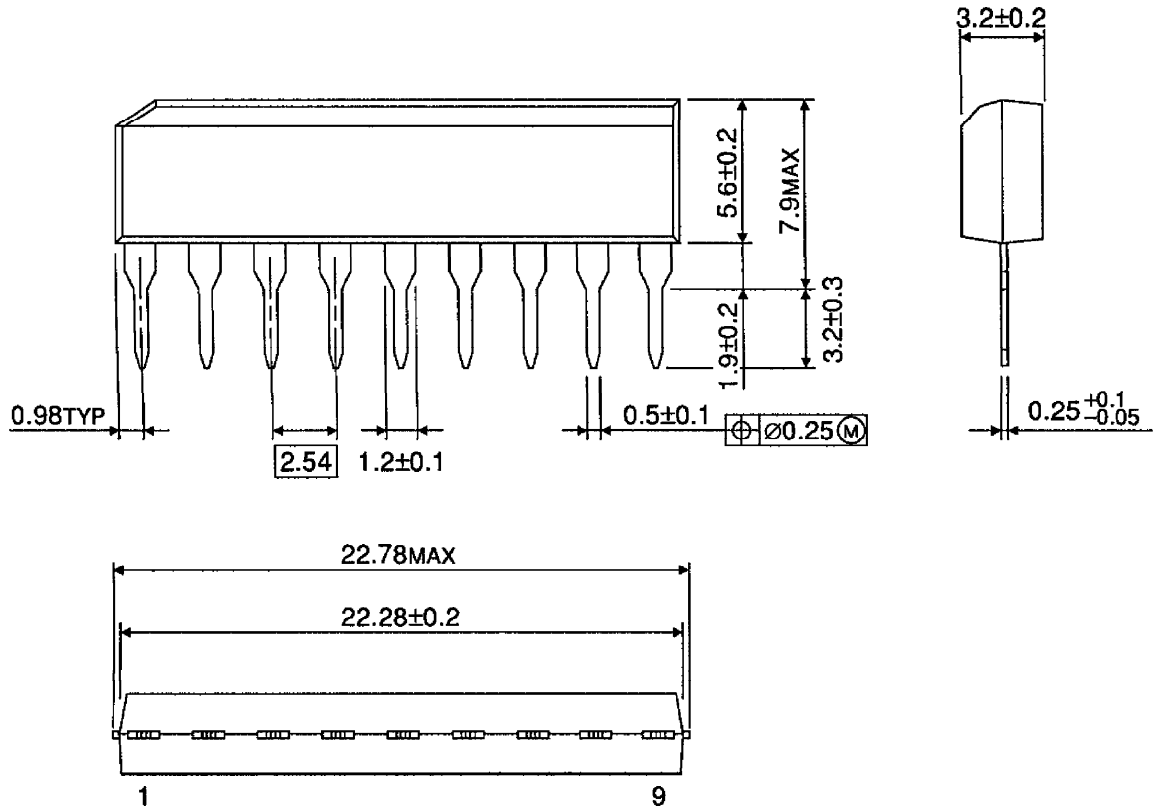
Unit : mm



Weight : 0.5g (Typ.)

PACKAGE DIMENSIONS
SIP9-P-2.54A

Unit : mm



Weight : 0.9g (Typ.)

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000707EBA

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