TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75393P, TA75393PA, TA75393S, TA75393F, TA75393FB

DUAL COMPARATOR

This device consist of two independent voltage comparators that 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.

VCC is necessary at least more 1.5V than the input common mode voltage.

The output can be connected to other open collector outputs to achieve Wired-OR relation ship.

FEATURES

 Be possible to operate at the wide range single or two supply voltage.

2~36V or ±1~18V

Low supply current : 0.8mA (Typ.)

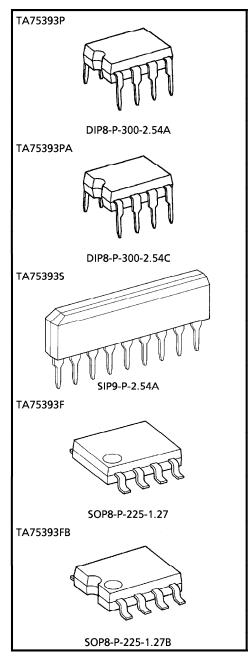
Low input offset voltage : ±2mV (Typ.)

Wide common mode input voltage : 0~V_{CC} − 1.5V

Output is compatible with TTL, DTL, MOS and C-MOS.

Output is open collector and wired-OR possible.

Weight
DIP8-P-300-2.54A : 0.5g (Typ.)
DIP8-P-300-2.54C : 0.6g (Typ.)
SIP9-P-2.54A : 0.9g (Typ.)
SOP8-P-225-1.27 : 0.1g (Typ.)
SOP8-P-225-1.27B : 0.1g (Typ.)

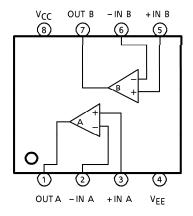


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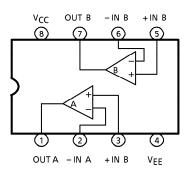
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PIN CONNECTION (TOP VIEW)

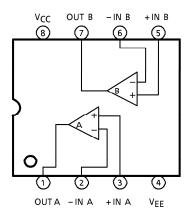
TA75393F



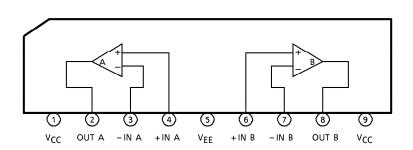
TA75393P, TA75393PA



TA75393FB



TA75393S



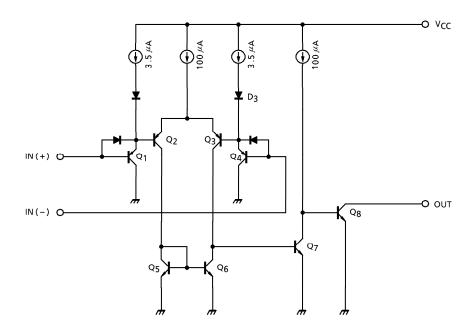
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The information contained herein is subject to change without notice.

EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25° C)

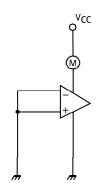
CHARACTERISTIC	SYMBOL	TA75393P TA75393PA TA75393S	TA75393F TA75393FB	UNIT
Supply Voltage	VCC	± 18 OR 36	± 18 OR 36	٧
Differential Input Voltage	DVIN	± 36	± 36	٧
Common Mode Input Voltage	CMVIN	−0.3~V _{CC}	−0.3~V _{CC}	٧
Power Dissipation	PD	500	240	mW
Operating Temperature	T _{opr}	- 40∼85	- 40∼85	°C
Storage Temperature	T _{stg}	- 55~125	- 55∼125	°C

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

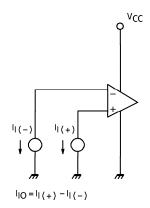
CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT				
Input Offset Voltage	V _{IO}	4	_	_	2	5	mV				
Input Bias Current	Ц	2	_	_	25	250	nA				
Input Offset Current	lio	2		_	5	50	nA				
Common Mode Input Voltage	CMVIN	4	_	0	_	V _C C - 1.5	V				
Voltage Gain	GV	_	$R_L = 15k\Omega$	_	200	_	V/mV				
Supply Current	lcc	1	No load	_	0.8	2	mA				
Sink Current	ISINK	5	IN (+) = 0V, IN (-) = 1V V _{OL} = 1.5V	6	16	_	mA				
Output Voltage ("L" Level)	V _{OL}	5	IN (+) = 0V, IN (-) = 1V ISINK = 3mA	_	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	_	μ s				

TEST CIRCUIT

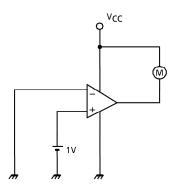
(1) I_{CC}



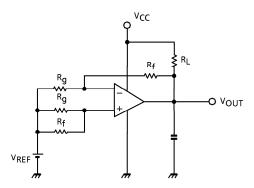
(2) I_I , I_{IO}



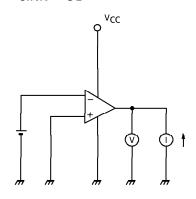
(3) I_{LEAK}



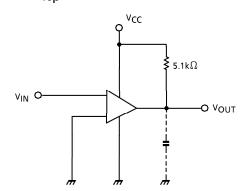
(4) V_{IO}, CMV_{IN}



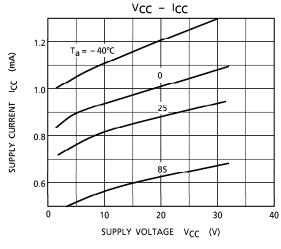
(5) I_{SINK}, V_{OL}

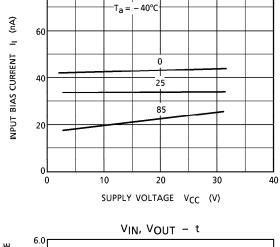


(6) t_{rsp}



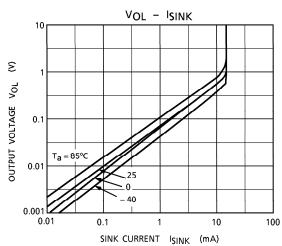
CHARACTERISTICS

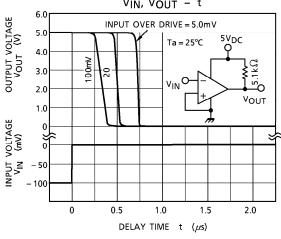


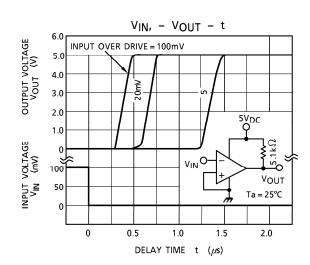


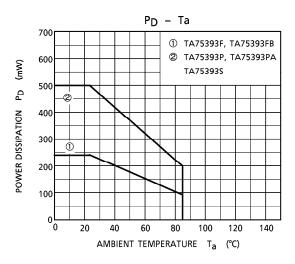
VCC - II

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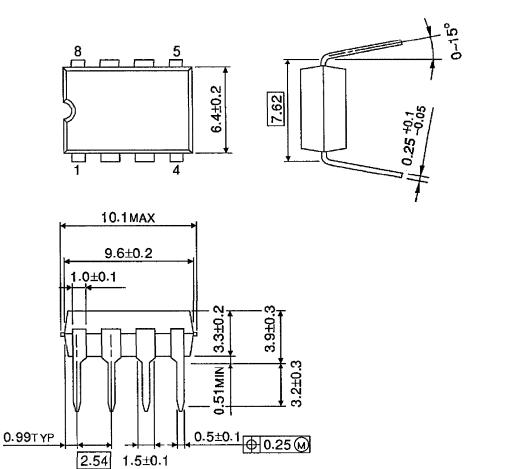




OUTLINE DRAWING DIP8-P-300-2.54A Unit : mm 10.1 MAX 9.6±0.2 0.99TYP 2.54 1.2±0.1

Weight: 0.5g (Typ.)

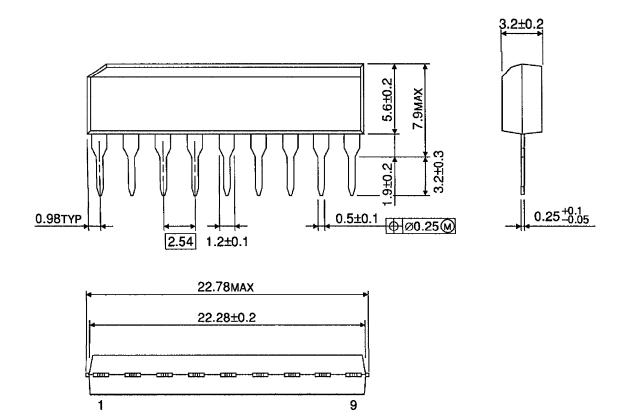
OUTLINE DRAWING



Weight: 0.6g (Typ.)

OUTLINE DRAWING

SIP9-P-2.54A Unit: mm

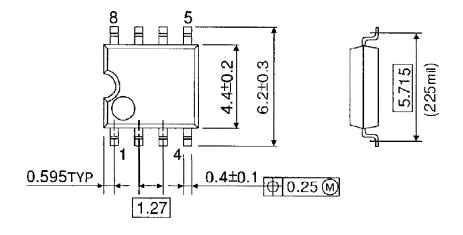


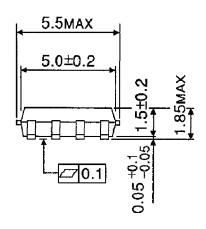
Weight: 0.9g (Typ.)

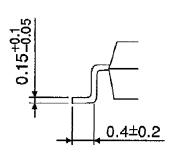
OUTLINE DRAWING SOP8-P-225-1.27 Unit : mm 0.595TYP 1.27 5.5MAX 5.0±0.2 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.1 7.0±0.2 7.0±0.

Weight: 0.1g (Typ.)

OUTLINE DRAWING







Weight: 0.1g (Typ.)