TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75S393F

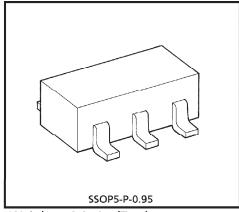
SINGLE VOLTAGE COMPARATOR

This device of voltage comparator 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 ±1V to ±18V.

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

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

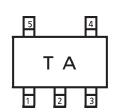


Weight: 0.014g (Typ.)

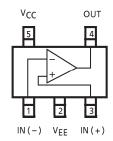
FEATURES

- Compatible to TA75393.
- Small Package
- Single supply voltage range or dual supplies : $2V_{DC}$ to $36V_{DC}$ or $\pm 1V_{DC}$ to $\pm 18V_{DC}$
- Low supply current : 0.4mA (Typ.)
- Low input offset voltage : ±2mV (Typ.)
- Wide input common mode voltage range : 0VDC to VCC 1.5VDC
- Output compatible with TTL, DTL, MOS and CMOS logic system.
- The output can be connected to achieve Wired-OR relation.

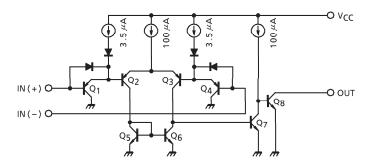
MARKING (TOP VIEW)



PIN CONNECTION (TOP VIEW)



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25° C)

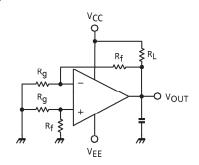
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	VCC, VEE	± 18 or 36	V
Differential Input Voltage	DVIN	± 36	V
Input Voltage	VIN	−0.3~V _{CC}	V
Power Dissipation	PD	200	mW
Operating Temperature	T _{opr}	- 40∼8 5	°C
Storage Temperature	T _{stg}	- 55∼125	°C

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

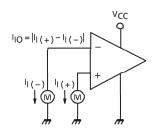
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CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	1	_		2	5	mV
Input Bias Current	lio	2	_	_	5	50	nΑ
Input Offset Current	Ц	2	_		25	250	nΑ
Common Mode Input Voltage	CMVIN	_	_	0	_	V _{CC} – 1.5	V
Supply Current	Icc	3	No load		0.4	0.8	mA
Voltage Gain	GV	_	$R_L = 15k\Omega$	_	200	_	V/mV
Sink Current	l _{sink}	4	IN(+) = 0V, IN(-) = 1V $V_{OL} = 1.5V$	6	16	_	mA
Output Voltage ("L" Level)	V _{OL}	5	IN(+) = 0V, IN(-) = 1V $I_{sink} = 3mA$		0.2	0.4	V
Output Leak Current	ILEAK	_	IN(+) = 1V, IN(-) = 0V $V_O = 5V$		0.1	_	nA
Response Time	t _{rsp}	6	$R_L = 5.1k\Omega$, $C_L = 15pF$	_	1.3	_	μs

TEST CIRCUIT

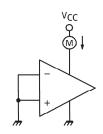
(1) V_{IO}



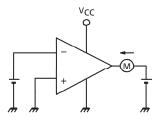
(2) I_I, I_{IO}



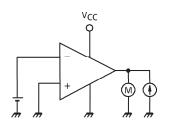
(3) I_CC



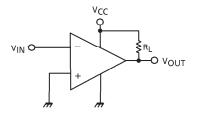
(4) I_{sink}

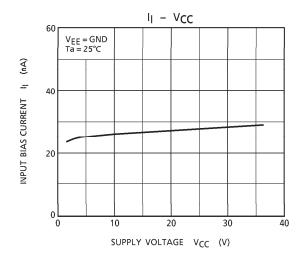


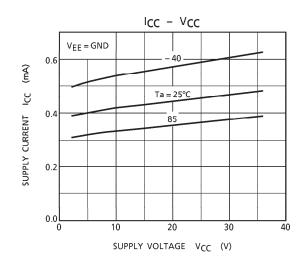
(5) V_{OL}

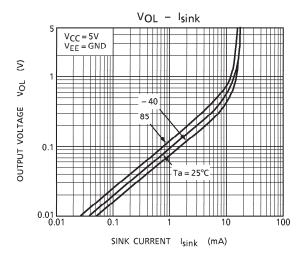


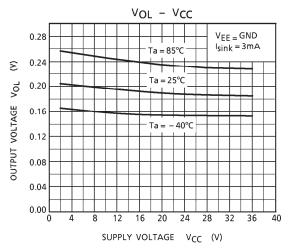
(6) t_{rsp}

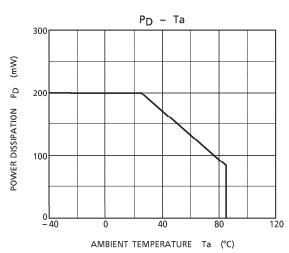






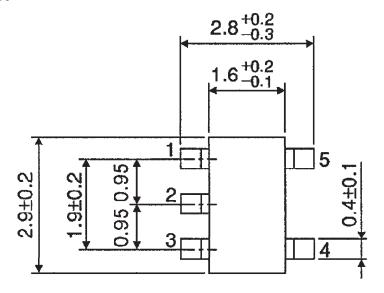


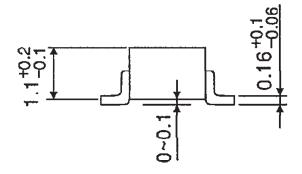




OUTLINE DRAWING SSOP5-P-0.95

Unit: mm





Weight: 0.014g (Typ.)

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