

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA75W393FU

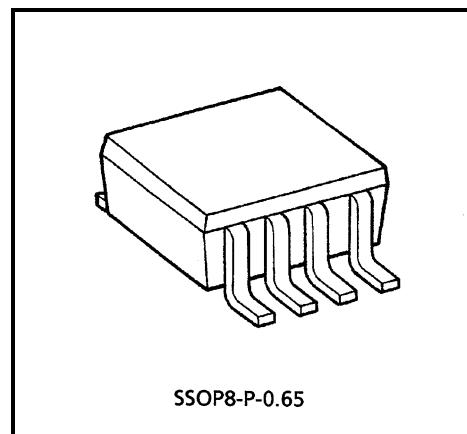
Dual Voltage Comparator

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 $\pm 1V$ to $\pm 18V$.

V_{CC} 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.

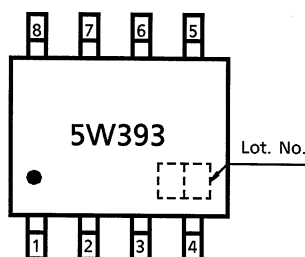


Weight: 0.021g (typ.)

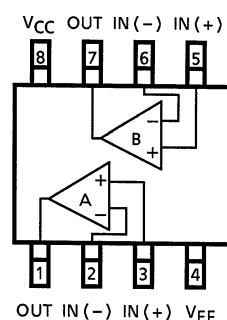
Features

- Compatible to TA75393.
- Single supply voltage range or dual supplies : 2VDC to 36VDC or $\pm 1VDC$ to $\pm 18VDC$
- Low supply current : 0.8mA (typ.)
- Low input offset voltage : $\pm 2mV$ (typ.)
- Wide input common mode voltage range : 0VDC to $V_{CC} - 1.5VDC$
- Output compatible with TTL, DTL, MOS and CMOS logic system.
- The output can be connected to achieve Wired-OR relation..

Marking (Top View)



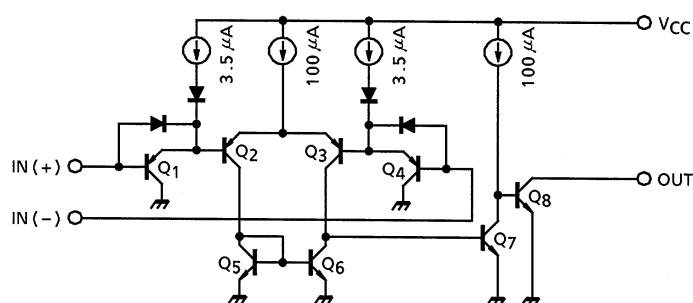
Pin Connection (Top View)



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Equivalent Circuit



Maximum Ratings (Ta = 25°C)

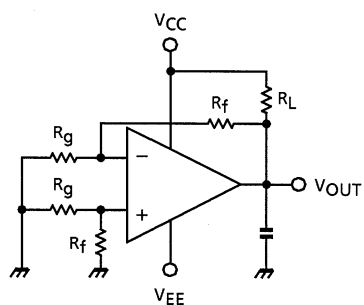
Characteristic	Symbol	Rating	Unit
Supply voltage	V_{CC}, V_{EE}	± 18 or 36	V
Differential input voltage	DV_{IN}	± 36	V
Input voltage	V_{IN}	$+0.3 \sim V_{CC}$	V
Power dissipation	P_D	250	mW
Operating temperature	T_{opr}	$-40 \sim 85$	°C
Storage temperature	T_{stg}	$-55 \sim 125$	°C

Electrical Characteristics ($V_{CC} = 5V$, $V_{EE} = GND$, $T_a = 25^\circ C$)

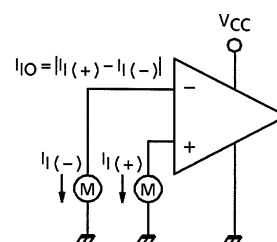
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Input offset voltage	V_{IO}	1	—	—	2	5	mV
Input bias current	I_I	2	—	—	25	250	nA
Input offset current	I_{IO}	2	—	—	5	50	nA
Common mode input voltage	CMV_{IN}	—	—	0	—	$V_{CC} - 1.5$	V
Supply current	I_{CC}	3	No load	—	0.8	2	mA
Voltage gain	G_V	—	$R_L = 15k\Omega$	—	200	—	V/mA
Sink current	I_{sink}	4	$IN(+) = 0V_{DC}, IN(-) = 1V_{DC}$ $V_{OL} = 1.5V$	6	16	—	nA
Output Voltage ("L" Level)	V_{OL}	5	$IN(+) = 0V_{DC}, IN(-) = 1V_{DC}$ $I_{sink} = 3mA$	—	0.2	0.4	V
Output Leak Current	I_{LEAK}	—	$IN(+) = 1V_{DC}, IN(-) = 0V_{DC}$ $V_O = 5V_{DC}$	—	0.1	—	nA
Response Time	t_{rsp}	6	$R_L = 5.1k\Omega, C_L = 15pF$	—	1.3	—	μs

Test Circuit

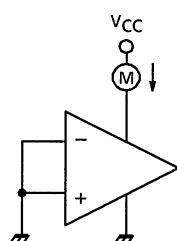
(1) V_{IO}



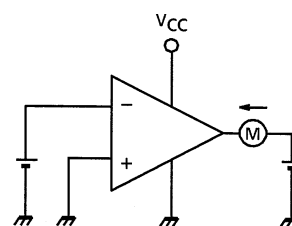
(2) I_I, I_{IO}



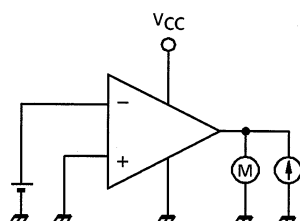
(3) I_{CC}



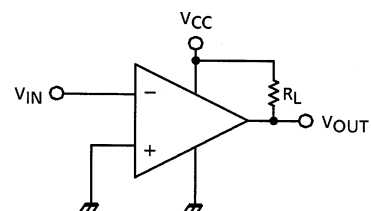
(4) I_{sink}

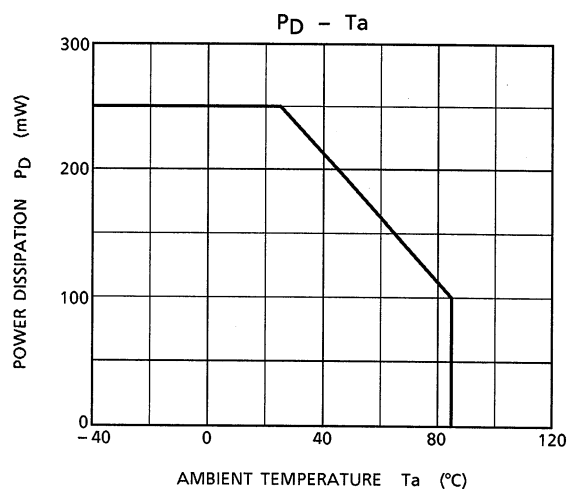
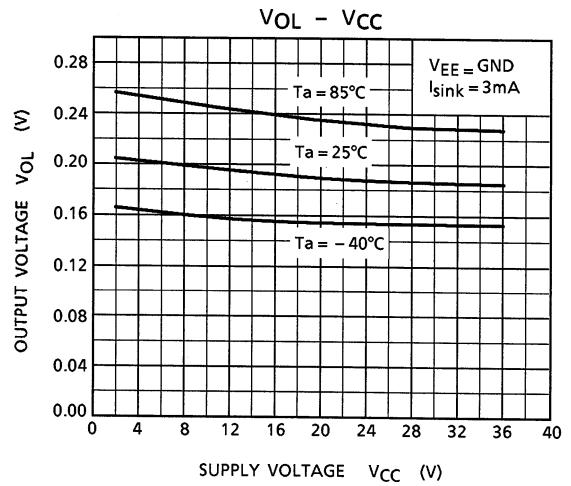
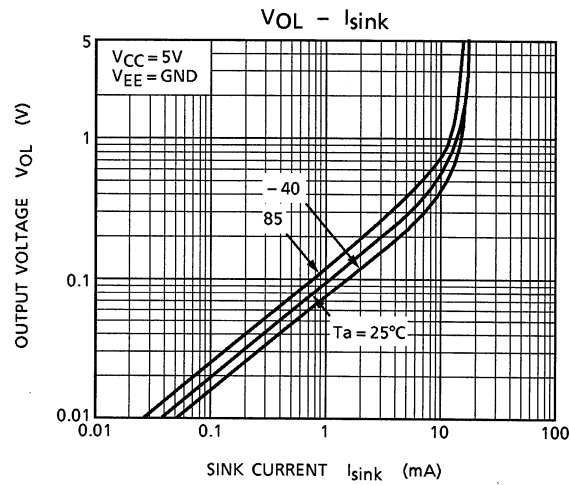
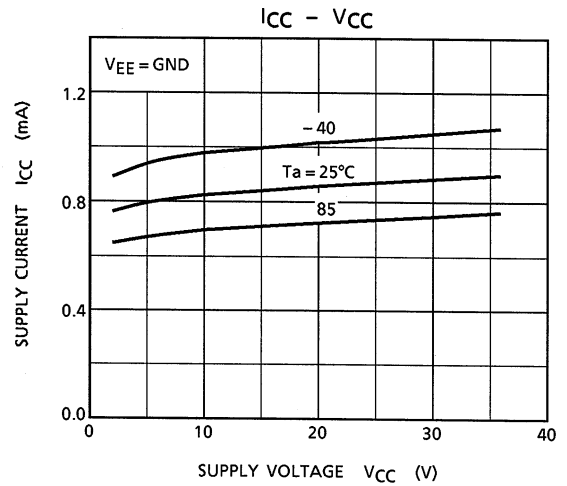
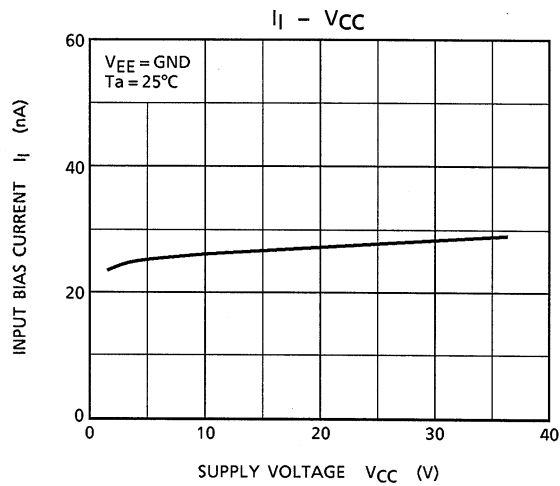


(5) V_{OL}



(6) t_{rsp}

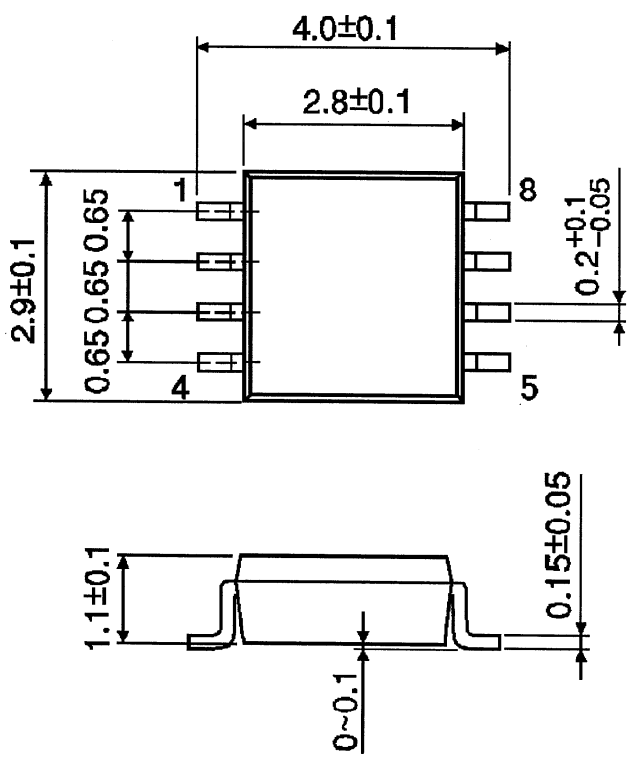




Outline Drawing

SSOP8-P-0.65

Unit: mm



Weight: 0.021g (typ.)