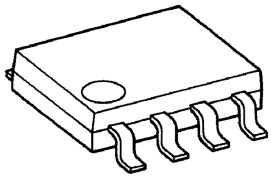
TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA8504F

High Speed Comparator

Features

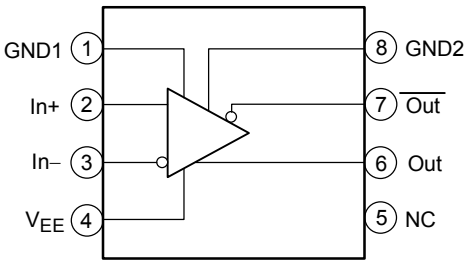
- Pulse delay: 1.6ns (typ.)
- Differential ECL output
- 50Ω line drive output
- 8pin mini flat package
- −5V single power supply



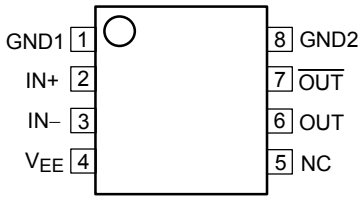
SOP8-P-225-1.27

Weight: 0.1g (typ.)

Block Diagram



Pin Connection (top view)



Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Supply voltage	V_{EE}	0.3~−6.0	V
Differential input voltage	DV_{IN}	±3	V
Common mode input voltage	CMV_{IN}	−0.3~V_{EE}	V
Power dissipation	P_D	(*) 300	mW
Operating temperature	T_{opr}	−20~85	°C
Storage temperature	T_{stg}	−55~150	°C

Recommended operating voltage: V_{EE} = −5.5~−4.5V, Ta = −20~70°C

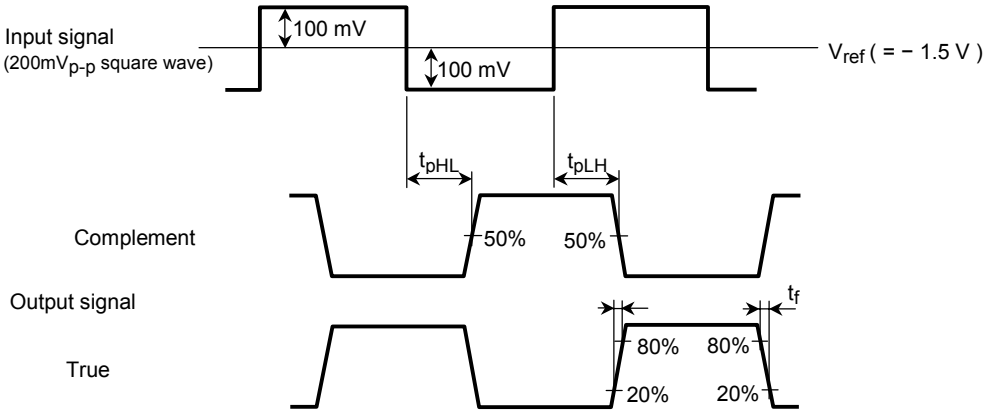
(Note *) Shown here is date for the single unit of IC only and when mounted on a substrate, power dissipation can be made larger than this. However, as it varies largely depending upon the state of mounted on a substrate, it shall be examined thoroughly.

(Note **) As this product is weak to surge voltage, please handle carefully.

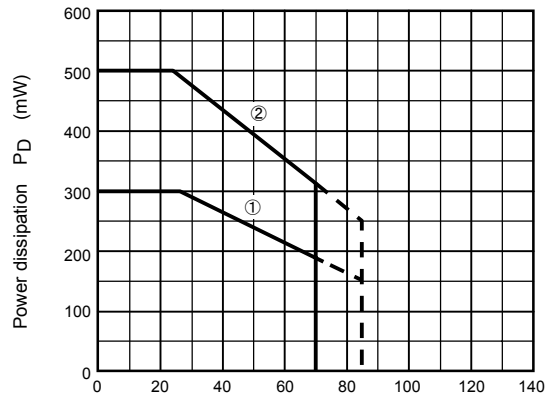
Electrical Characteristics (V_{EE} = −5V, R_L = 50Ω, Ta = 25°C)

Characteristic		Symbol	Test Cir−cuit	Test Condition	Min.	Typ.	Max.	Unit
Input offset voltage		—	—	R_S < 500Ω	−10	—	10	mV
Input bias current		—	—	—	—	20	40	μA
Input offset current		—	—	—	—	—	10	μA
Supply current		I_{EE}	—	V_{EE} = −5.5V	—	26	37	mA
Propagation delay		t_{pLH}	—	(Note 1)	—	1.6	2.6	ns
		t_{pHL}	—	(Note 1)	—	1.6	2.6	
Rise time	20~80%	t_r	—	(Note 1)	—	1.0	1.8	ns
Fall time	20~80%	t_f		(Note 1)	—	0.7	1.6	
Common mode input voltage range		—	—	—	−2.5	—	−0.8	V
Output voltage		V_{OH}	—	R_L = 50Ω is load per −2V.	−1.025	—	−0.88	V
		V_{OL}	—		−1.81	—	−1.62	
Input capacitance		—	—	—	—	3.5	—	pF
Open loop gain		—	—	—	—	70	—	dB

(Note 1) Input / output conditions are as illustrated below.



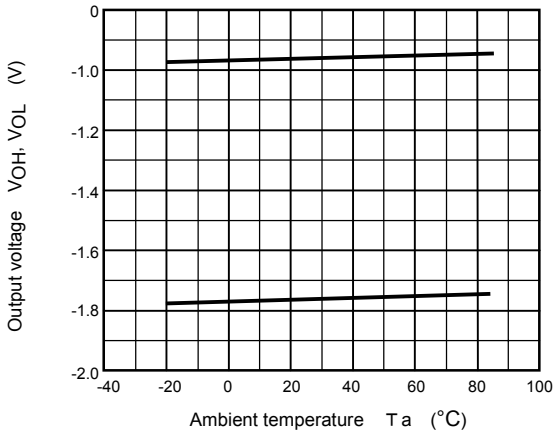
P_D – Ta



(Note 1) (1) is date of a single unit of IC only.

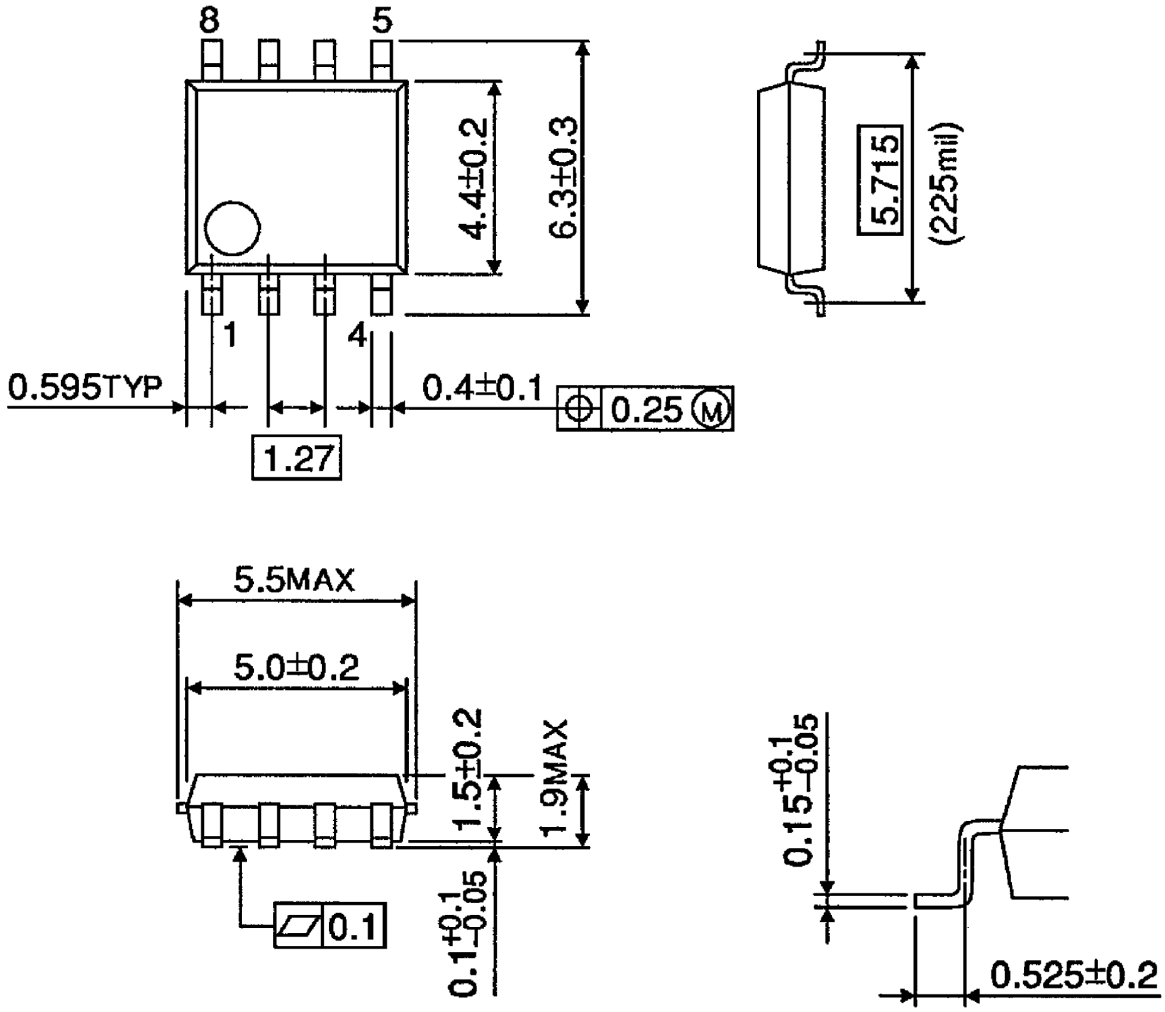
(Note 2) (2) is reference date when mounted on a glass epoxy resion substrate in 20 × 20 × 1.8mm^3, and the copper laminted area is 60% of the substrate.

V_{OH}, V_{OL} – Ta



Package Dimensions

SOP8-P-225-1.27 Unit : mm



Weight: 0.1g (typ.)

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