TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

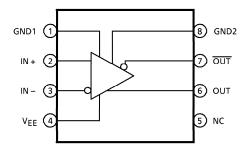
TA8504F

HIGH SPEED COMPARATOR

FEATURES

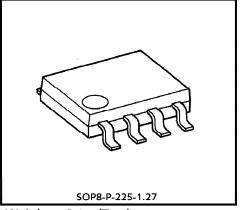
- Pulse delay: 1.6ns (Typ.)
- Differential ECL output
- 50 Ω Line drive output
- 8pin mini flat package
- 5V single power supply

BLOCK DIAGRAM



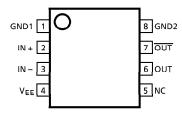
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{EE}	0.3~ - 6.0	V
Differential Input Voltage	DV_IN	±3	V
Common Mode Input Voltage	CMVIN	−0.3~V _{EE}	V
Power Dissipation	PD	(*) 300	mW
Operating Temperature	T _{opr}	- 20∼85	°C
Storage Temperature	T_{stg}	- 55∼150	°C



Weight: 0.1g (Typ.)

PIN CONNECTION (TOP VIEW)



Recommended Operating Voltage : $V_{EE} = -5.5 \sim -4.5 \text{V}$, $T_{a} = -20 \sim 70 ^{\circ} \text{C}$

(Note *) Shown here is data 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.

961001EBA2

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

 The products described in this document are subject to foreign exchange and foreign trade control laws.

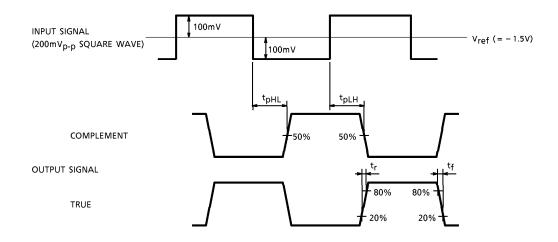
 The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.

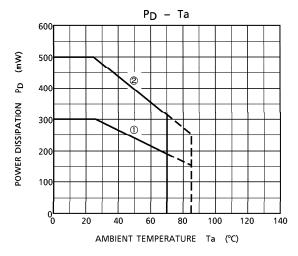
 The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (V_{EE} = -5V, R_L = 50Ω , Ta = 25° C)

CHARACTE	ERISTIC	SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Vo	ltage	_	_	R_S <500 Ω	- 10	_	10	mV
Input Bias Curre	ent	_	_	_	_	20	40	μΑ
Input Offset Cu	rrent	_	_	_	_	_	10	μΑ
Supply Current		IEE	_	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	
Fall Time	20~80%	t _f		(Note 1)	_	0.7	1.6	ns
Common Mode Voltage Range	Input	_	_	_	- 2.5	_	- 0.8	٧
Output Voltage		Voн	_	$R_L = 50\Omega$ is load per $-2V$.	- 1.025	_	- 0.88	V
		VOL	_		- 1.81	_	- 1.62	
Input Capacitan	ce	_	_	_	_	3.5	_	рF
Open Loop Gair	n	_	_	_	_	70	_	dB

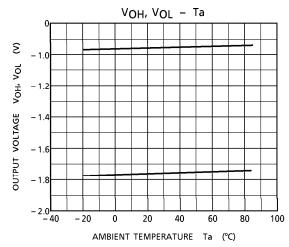
(Note 1) Input/Output conditions are as illustrated below.





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

(Note 2) ② is reference data when mounted on a glass epoxy resion substrate in 20×20×1.8mm³, and the copper laminted area is 60% of the substrate.



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.

Weight: 0.1g (Typ.)