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

Block Diagram





Weight: 0.1g (typ.)

Pin Connection (top view)



Characteristic	Symbol	Rating		
Supply voltage	V _{EE}	0.3~-6.0		
Differential input voltage	DVIN	±3		
Common mode input voltage	CMVIN	-0.3~V _{EE}		
Power dissipation	PD	(*) 300		

Maximum Ratings (Ta = 25°C)

Operating temperature

Storage temperature

Recommended operating voltage: $V_{EE} = -5.5 \sim -4.5V$, Ta = $-20 \sim 70^{\circ}C$

Topr

T_{stg}

(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.

-20~85

-55~150

Unit V V wW

°C

°C

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

Electrical Characteristics ($V_{EE} = -5V$, $R_L = 50\Omega$, $Ta = 25^{\circ}C$)

Character	istic	Symbol	Test Cir– cuit	Test Condition	Min.	Тур.	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%	tr		(Note 1)	_	1.0	1.8	
Fall time	20~80%	t _f		(Note 1)	_	0.7	1.6	ns
Common mode inpu voltage range	t	_	_	_	-2.5	_	-0.8	V
Output voltage		V _{OH}	_	$D_{\rm r} = 500$ is lead nor -20	-1.025		-0.88	V
		V _{OL}		$R_{L} = 50\Omega$ is load per $-2v$.	-1.81		-1.62	
Input capacitance		—	_	—	_	3.5	_	pF
Open loop gain		—	_	—	_	70	—	dB

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



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(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 × 1.8mm³, and the copper laminted area is 60% of the substrate.



Package Dimensions



Weight: 0.1g (typ.)

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