

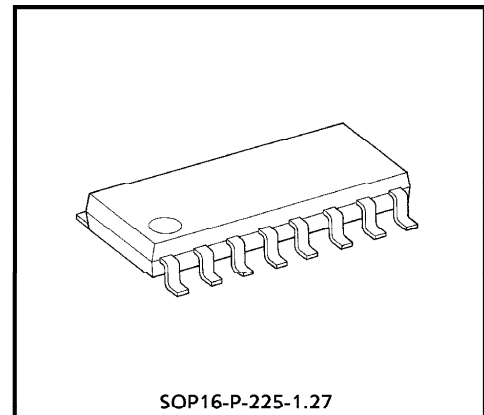
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA8517F

## HIGH SPEED DUAL COMPARATOR

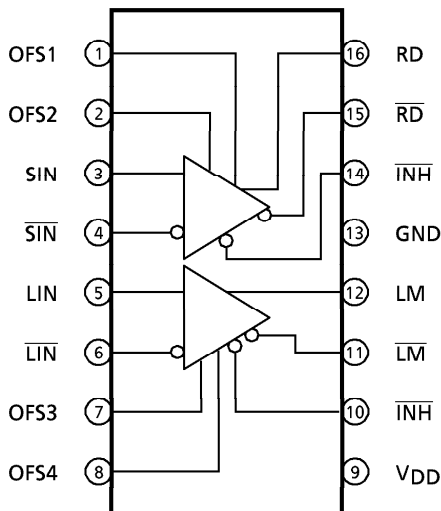
### FEATURES

- Standard +5V power supply
- TTL OUT
- FLP-16pin
- Inhibit function



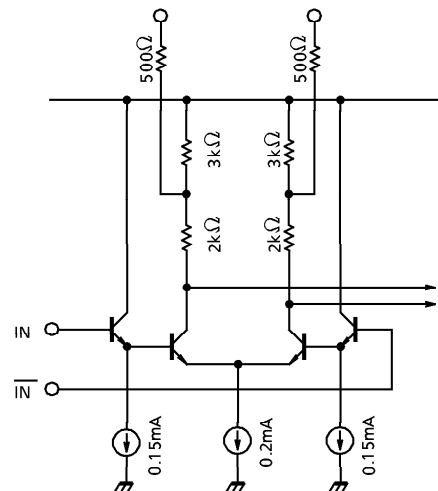
Weight : 0.2g (Typ.)

### BLOCK DIAGRAM & PIN CONNECTION (TOP VIEW)



### EQUIVALENT CIRCUIT

- Off set control terminal (OFS1, 2, 3, 4), Input terminal (SIN, SIN-bar, LIN, LIN-bar)



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**MAXIMUM RATINGS** (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>DD</sub>	7	V
Diffusion Input Voltage	DV <sub>IN</sub>	±3	V
Common Mode Input Voltage	CV <sub>IN</sub>	-0.3~V <sub>DD</sub> +0.3	V
Power Dissipation	P <sub>D</sub>	0.625	W
Operating Temperature	T <sub>opr</sub>	-20~85	°C
Storage Temperature	T <sub>stg</sub>	-55~150	°C
Inhibit Terminal	V <sub>ih</sub>	-0.3~V <sub>DD</sub> +0.3	V

Recommended Operating Range : V<sub>DD</sub> = 5V ± 10%, Ta = -20~70°C  
 (\*) On Glass Epoxy PCD (20×20×1.6mm)

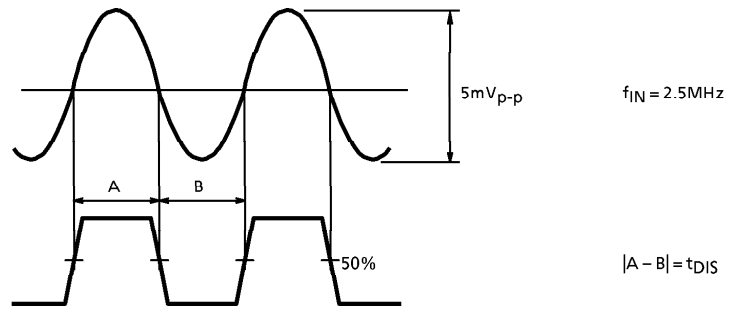
**ELECTRICAL CHARACTERISTICS** (V<sub>DD</sub> = 5V, Ta = 25°C Unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Power Supply Current	I <sub>DD</sub>	—	—	—	25	40	mA
Input Sensitivity	V <sub>MIN</sub>	—	—	5	—	—	mV
Input Off Set Voltage	V <sub>IO</sub>	—	OFS 1, 2, 3, 4 Terminal→OPEN	-10	—	+10	mV
Input Bias Current	I <sub>IB</sub>	—	—	—	—	6	μA
Input Offset Current	I <sub>IO</sub>	—	—	—	—	3	μA
Input Resistance	R <sub>I</sub>	—	—	10	—	—	kΩ
Input Capacitance	C <sub>I</sub>	—	—	—	—	3	pF
Common Mode Input Voltage Range	CV <sub>IN</sub>	—	—	2.0	—	4.3	V
Open-Loop Gain	G <sub>V</sub>	—	—	70	—	—	dB
Output Voltage	V <sub>OH</sub>	—	V <sub>DD</sub> = 4.5V, I <sub>OH</sub> = 1mA	2.4	—	—	V
	V <sub>OL</sub>	—	V <sub>DD</sub> = 4.5V, I <sub>OL</sub> = 10mA	—	—	0.5	
Inhibit Terminal Input Voltage	V <sub>IH</sub>	—	—	2.0	—	—	V
	V <sub>IL</sub>	—	—	—	—	0.8	
Inhibit Propagation Delay	t <sub>ih</sub>	—	—	—	—	30	μs
Propagation Delay	t <sub>pLH</sub>	—	(Note 2)	—	11	20	ns
	t <sub>pHL</sub>	—	(Note 2)	—	10	22	
Rise Time	t <sub>r</sub>	—	(Note 2)	—	4	—	ns
Fall Time	t <sub>f</sub>	—	(Note 2)	—	2	—	ns
Time Distortion	t <sub>DIS</sub>	—	(Note 1) V <sub>IN</sub> = 5mV <sub>p-p</sub> , f <sub>IN</sub> = 2.5MHz	—	2	—	ns

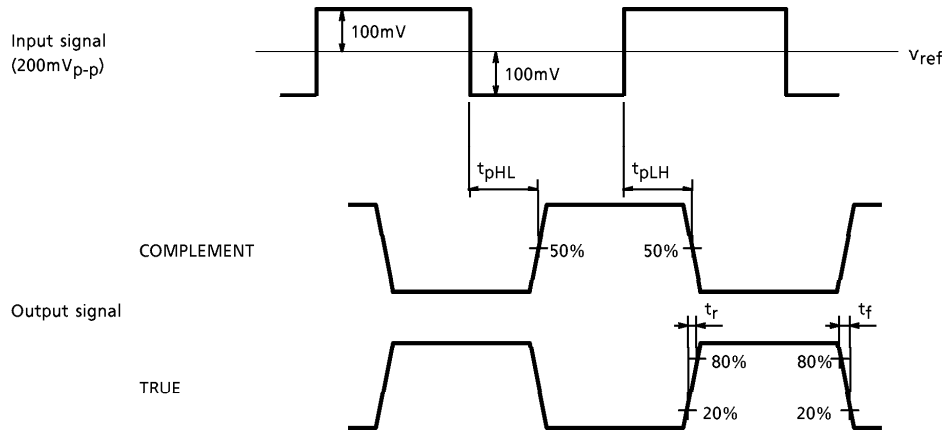
**INHIBIT FUNCTION**

INH TERMINAL	OUTPUT FUNCTION	
	RD, LM	$\overline{\text{RD}}$ , $\overline{\text{LM}}$
High	Active	Active
Low	High	High

(Note 1)

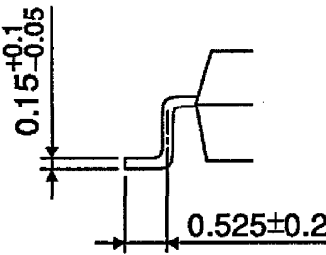
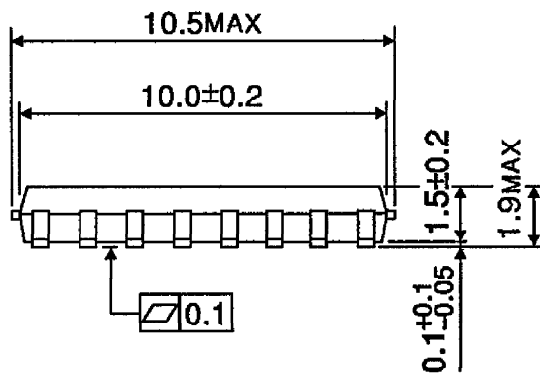
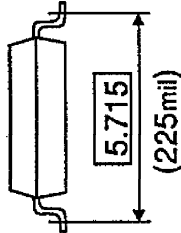
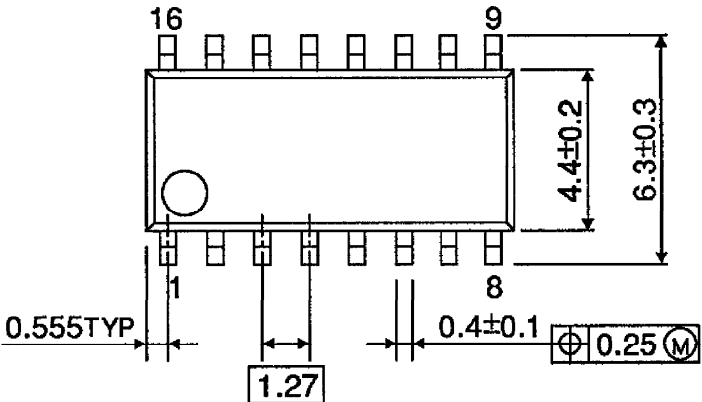


(Note 2)



OUTLINE DRAWING  
SOP16-P-225-1.27

Unit : mm



Weight : 0.2g (Typ.)