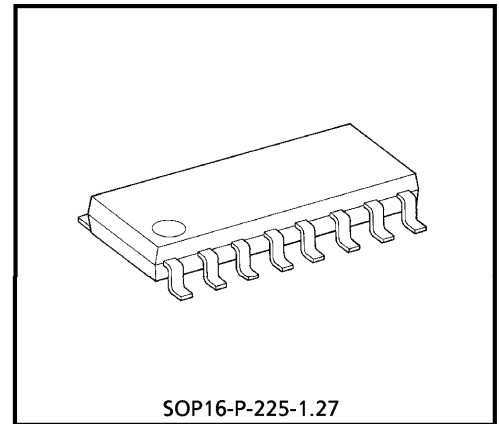


# TA8517F

## HIGH SPEED DUAL COMPARATOR

### FEATURES

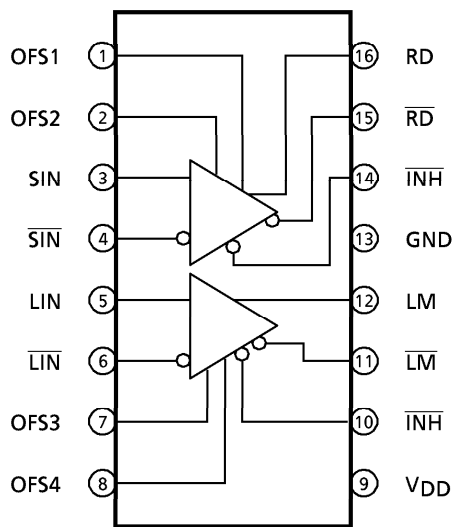
- Standard +5V power supply
- TTL OUT
- FLP-16pin
- Inhibit function



SOP16-P-225-1.27

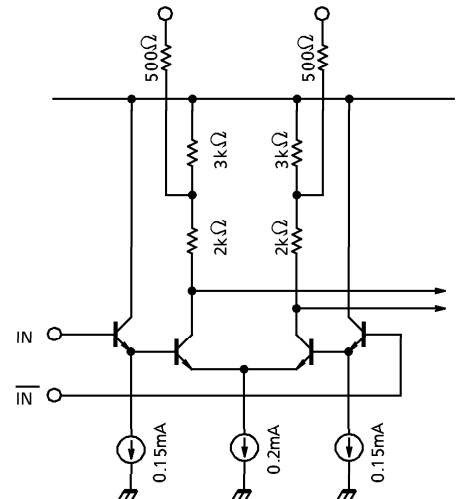
Weight : 0.2g (Typ.)

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



### EQUIVALENT CIRCUIT

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



**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)

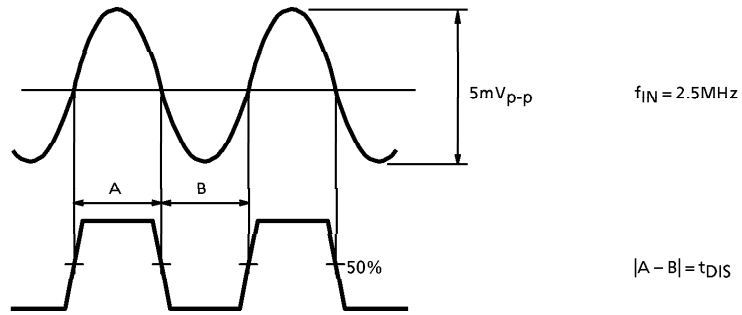
**ELECTRICAL CHARACTERISTICS (V<sub>DD</sub> = 5V, Ta = 25°C Unless otherwise noted)**

| 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)<br>V <sub>IN</sub> = 5mV <sub>p-p</sub> , f <sub>IN</sub> = 2.5MHz | —    | 2    | —    | ns   |

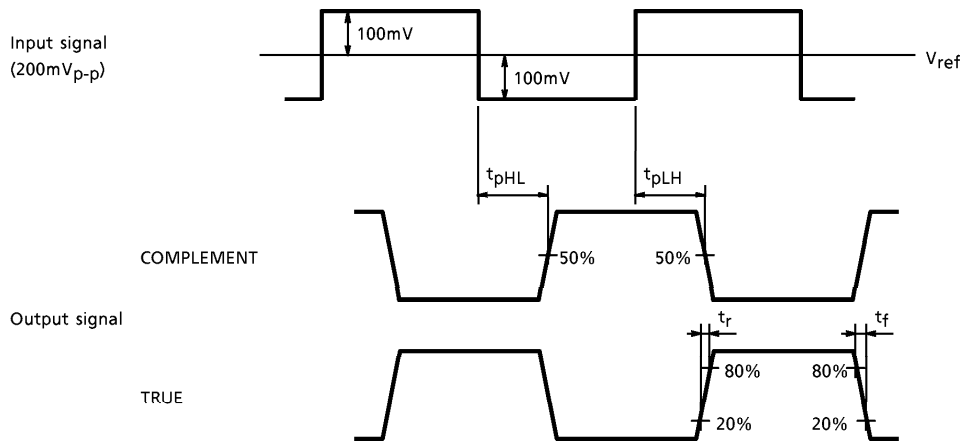
**INHIBIT FUNCTION**

|  | OUTPUT FUNCTION |                     |
|---|-----------------|---------------------|
|   | RD, LM          | RD, $\overline{LM}$ |
| High  | Active          | Active              |
| Low   | High            | High                |

(Note 1)

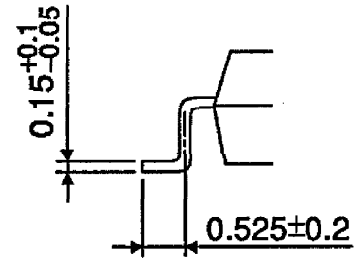
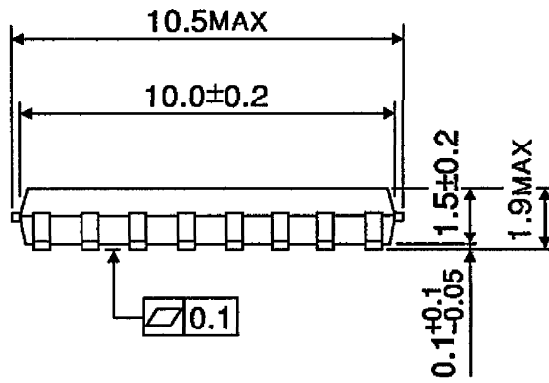
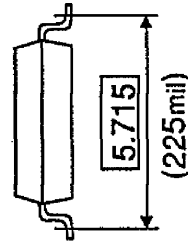
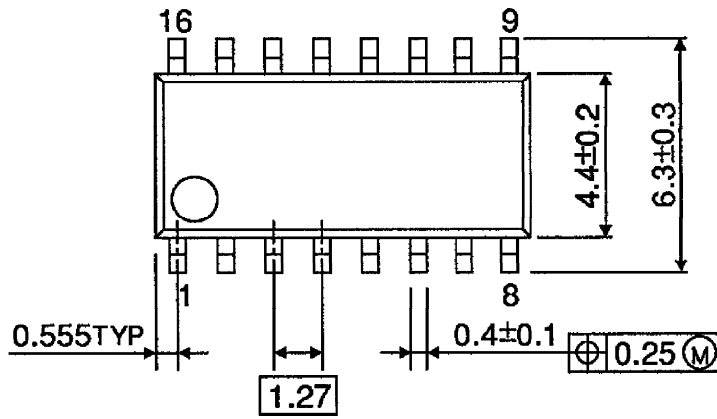


(Note 2)



**PACKAGE DIMENSIONS**  
SOP16-P-225-1.27

Unit : mm



Weight : 0.2g (Typ.)

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000707EBA

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