

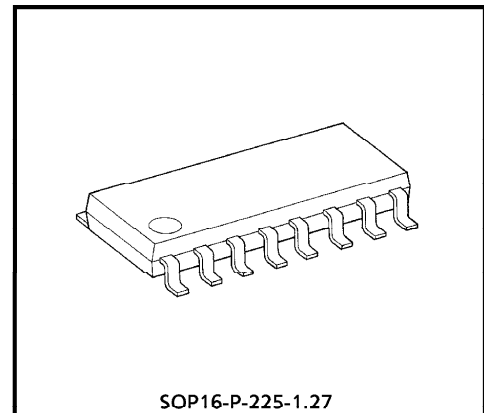
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8517F

HIGH SPEED DUAL COMPARATOR

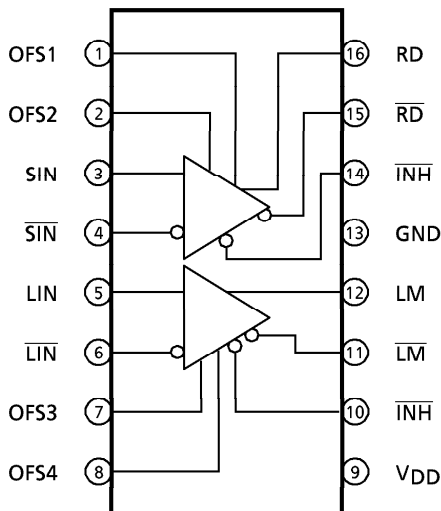
FEATURES

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



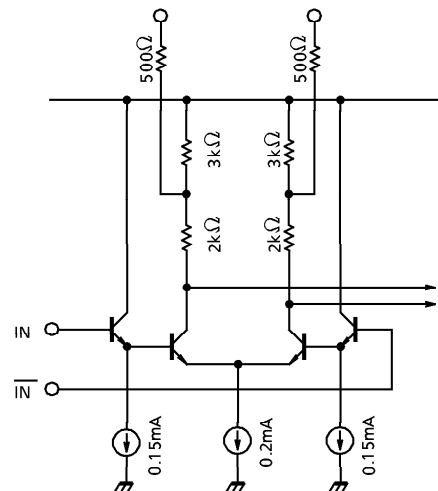
Weight : 0.2g (Typ.)

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 _{DD} | 7 | V |
| Diffusion Input Voltage | DV _{IN} | ±3 | V |
| Common Mode Input Voltage | CV _{IN} | -0.3~V _{DD} +0.3 | V |
| Power Dissipation | P _D | 0.625 | W |
| Operating Temperature | T _{opr} | -20~85 | °C |
| Storage Temperature | T _{stg} | -55~150 | °C |
| Inhibit Terminal | V _{ih} | -0.3~V _{DD} +0.3 | V |

Recommended Operating Range : V_{DD} = 5V ± 10%, Ta = -20~70°C
 (*) On Glass Epoxy PCD (20×20×1.6mm)

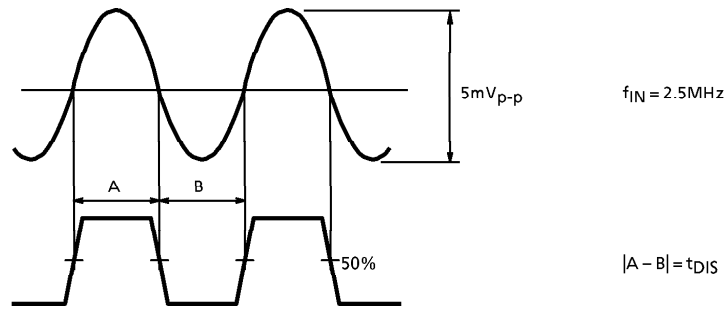
ELECTRICAL CHARACTERISTICS (V_{DD} = 5V, Ta = 25°C Unless otherwise noted)

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

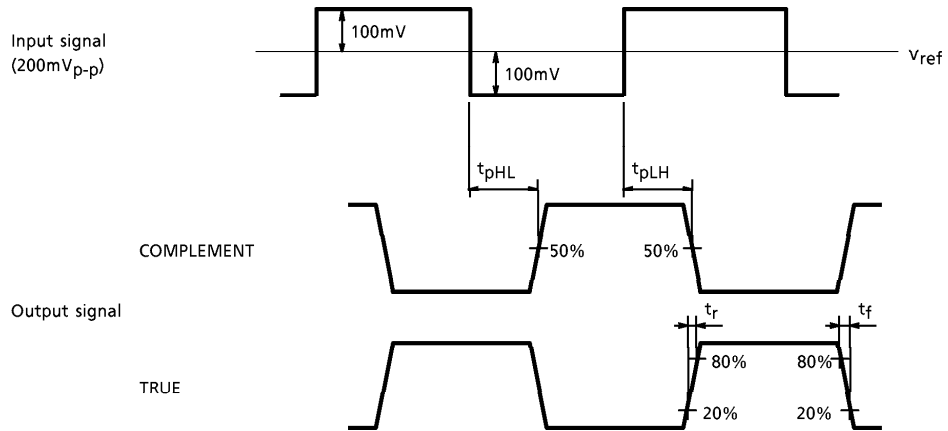
INHIBIT FUNCTION

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

(Note 1)

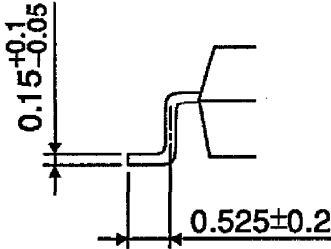
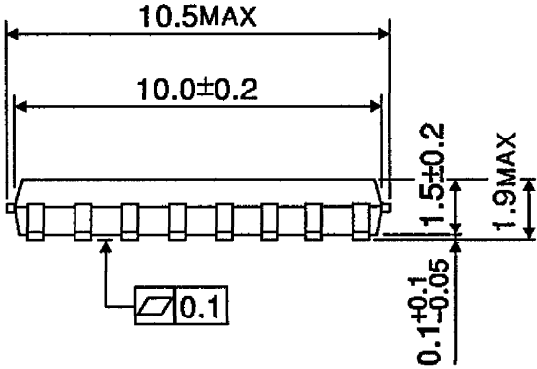
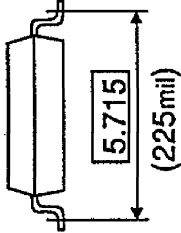
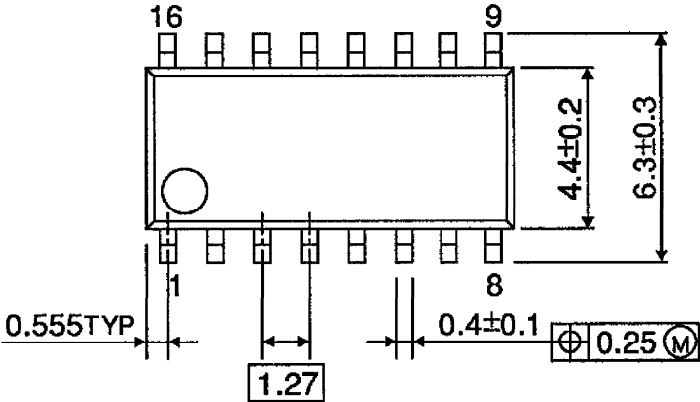


(Note 2)



OUTLINE DRAWING
SOP16-P-225-1.27

Unit : mm



Weight : 0.2g (Typ.)