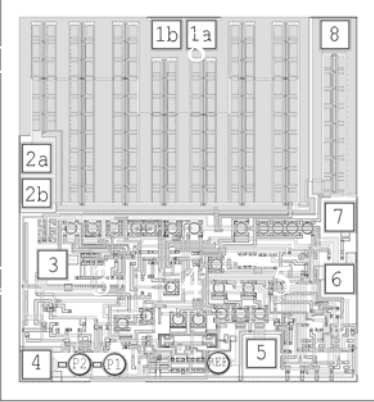


**TYPE: 34063n.d.2**

|   |                       |           |                            |            |
|---|-----------------------|-----------|----------------------------|------------|
| CHIP APPEARANCE   |                       | CHIP SIZE | 1,18 × 1,27 mm             |            |
|  | CHIP THICKNESS        |           | 460 ± 20 μm                |            |
|   | BONDING PAD DIMENSION | 1a        | SWITCH COLLECTOR           | 90 × 90 μm |
|   |                       | 1b        | SWITCH EMITTER             | 90 × 90 μm |
|   |                       | 2a        | TIMING CAPACITOR           | 90 × 90 μm |
|   |                       | 2b        | GROUND                     | 90 × 90 μm |
|   |                       | 3         | COMPARATOR INVERTING INPUT | 90 × 90 μm |
|   |                       | 4         | V <sub>CC</sub>            | 90 × 90 μm |
|   |                       | 5         | I <sub>pk</sub> SENSE      | 90 × 90 μm |
|   |                       | 6         | DRIVER COLLECTOR           | 90 × 90 μm |
|   | SCRIBE LINE WIDTH     |           | 96 μm                      |            |
| TOP METAL   |                       | Al        |                            |            |
| BACK METAL  |                       | –         |                            |            |
| WAFER SIZE  |                       | 100 mm    |                            |            |

**ELECTRICAL CHARACTERISTICS**

 (V<sub>CC</sub> = 5.0 V, T<sub>A</sub> = T<sub>low</sub> to T<sub>high</sub>, unless otherwise specified.)

| Characteristics  | Symbol                                 | Min           | T <sub>vp</sub> | Max           | Unit |
|--|--|---------------|-----------------|---------------|------|
| <b>OSCILLATOR</b>  |  |               |                 |               |      |
| Frequency<br>(V <sub>pin5</sub> = 0V, C <sub>T</sub> = 1.0 nF, T <sub>A</sub> = 25°C)  | f <sub>OSC</sub>                       | 24            | 33              | 42            | kHz  |
| Charge Current<br>(V <sub>CC</sub> = 5.0V to 40V, T <sub>A</sub> = 25°C)   | I <sub>chg</sub>                       | 24            | 35              | 42            | μA   |
| Discharge Current<br>(V <sub>CC</sub> = 5.0V to 40V, T <sub>A</sub> = 25°C)  | I <sub>dischg</sub>                    | 140           | 220             | 260           | μA   |
| Discharge to Charge Current Ratio<br>(Pin 7 to V <sub>CC</sub> , T <sub>A</sub> = 25°C)  | I <sub>dischg</sub> / I <sub>chg</sub> | 5.2           | 6.5             | 7.5           | –    |
| Current Limit Sense Voltage<br>(I <sub>chg</sub> = I <sub>dischg</sub> , T <sub>A</sub> = 25°C)  | V <sub>Ipk(sense)</sub>                | 250           | 300             | 350           | mV   |
| <b>OUTPUT SWITCH (NOTE 2)</b>  |  |               |                 |               |      |
| Saturation Voltage, Darlington Connection<br>(I <sub>SW</sub> = 1.0 A, Pins 1, 8 connected)  | V <sub>CE(sat)</sub>                   | –             | 1.0             | 1.3           | V    |
| Saturation Voltage, Darlington Connection<br>(I <sub>SW</sub> = 1.0 A, R <sub>din8</sub> = 82Ω to V <sub>CC</sub> , Forced β ≅ 20)   | V <sub>CE(sat)</sub>                   | –             | 0.45            | 0.7           | V    |
| DC Current Gain<br>(I <sub>SW</sub> = 1.0 A, V <sub>CE</sub> = 5.0 V, T <sub>A</sub> = 25°C)   | h <sub>FE</sub>                        | 50            | 75              | –             | –    |
| Collector Off-State Current (V <sub>CE</sub> = 40 V)   | I <sub>C(off)</sub>                    | –             | 40              | 100           | μA   |
| <b>COMPARATOR</b>  |  |               |                 |               |      |
| Threshold Voltage<br>(T <sub>A</sub> = 25°C)<br>(T <sub>A</sub> = T <sub>low</sub> to T <sub>high</sub> )  | V <sub>th</sub>                        | 1.225<br>1.21 | 1.25<br>–       | 1.275<br>1.29 | V    |
| Threshold Voltage Line Regulation<br>(V <sub>CC</sub> = 3.0 V to 40 V)   | Reg <sub>line</sub>                    | –             | 1.4             | 5.0           | mV   |
| Input Bias Current<br>(V <sub>in</sub> = 0 V)  | I <sub>IB</sub>                        | –             | -20             | -400          | nA   |
| <b>TOTAL DEVICE</b>  |  |               |                 |               |      |
| Supply Current<br>(V <sub>CC</sub> = 5.0 V to 40 V, C <sub>T</sub> = 1.0 nF, Pin 7 = V <sub>CC</sub> ,<br>V <sub>pin 5</sub> > V <sub>th</sub> , Pin 2 = Gnd, remaining pins open) | I <sub>CC</sub>                        | –             | –               | 4.0           | mA   |

**NOTES :**

1. Maximum package power dissipation limits must be observed.
2. Low duty cycle pulse techniques are used during test to maintain junction temperature as close to ambient temperature as possible.

## ABSOLUTE MAXIMUM RATINGS

| Rating                                      | Symbol           | Value       | Unit |
|---|------------------|-------------|------|
| Power Supply Voltage                        | $V_{CC}$         | 40          | Vdc  |
| Comparator Input Voltage Range              | $V_{IR}$         | -0.3 to +40 | Vdc  |
| Switch Collector Voltage                    | $V_{C(switch)}$  | 40          | Vdc  |
| Switch Emitter Voltage ( $V_{PIN1} = 40$ V) | $V_{E(switch)}$  | 40          | Vdc  |
| Switch Collector to Emitter Voltage         | $V_{CE(switch)}$ | 40          | Vdc  |
| Driver Collector Voltage                    | $V_{C(driver)}$  | 40          | Vdc  |
| Driver Collector Current (Note 1)           | $I_{C(driver)}$  | 100         | mA   |
| Switch Current                              | $I_{SW}$         | 1.5         | A    |
| Operating Junction Temperature              | $T_J$            | +150        | °C   |
| Operating Ambient Temperature Range         | $T_A$            | 0 to +70    | °C   |
| Storage Temperature Range                   | $T_{stg}$        | -65 to +150 | °C   |