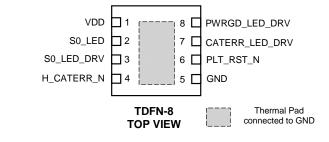


SLG7NT4084

LED CONTROL

General Description

Silego SLG7NT4084 is a low power and small form device. The SoC is housed in a 2mm x 2mm TDFN package which is optimal for using with small devices.



Output Summary

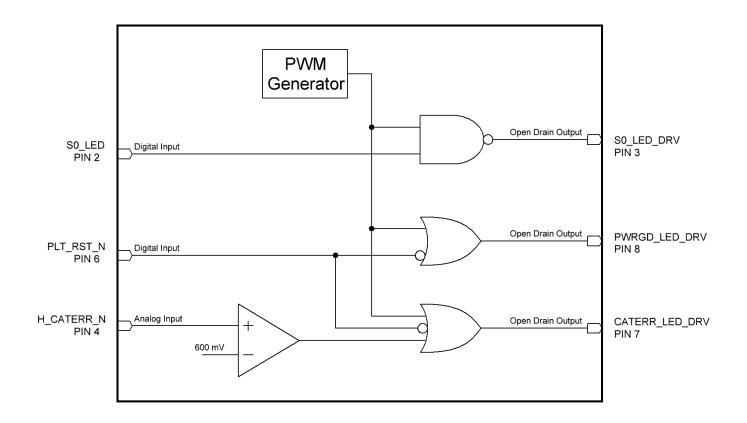
•3 Outputs – Open Drain

Features

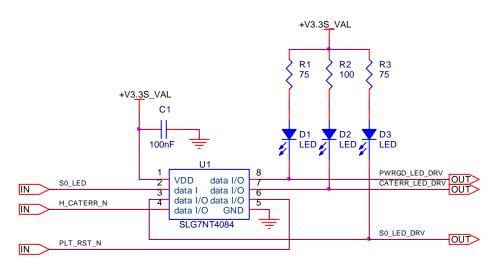
- Low Power Consumption
- 3.3V Supply
- Pb-Free / RoHS Compliant
- Halogen-Free
- TDFN-8 Package



Block Diagram



Typical Application Circuit





Pin Configuration

| Pin # | Pin Name | Туре | Pin Description |
|-----------------------|----------------|--------|---------------------|
| 1 | VDD | Power | 3.3V Supply Voltage |
| 2 | S0_LED | Input | Digital input |
| 3 | S0_LED_DRV | Output | Open Drain |
| 4 | H_CATERR_N | Input | Analog input |
| 5 | GND | GND | Ground |
| 6 | PLT_RST_N | Input | Digital input |
| 7 | CATERR_LED_DRV | Output | Open Drain |
| 8 | PWRGD_LED_DRV | Output | Open Drain |
| Exposed Bottom Pad | GND | GND | Ground |

Ordering Options & Configuration

| Part Number | Package Type |
|---------------|---|
| SLG7NT4084V | V = TDFN-8 |
| SLG7NT4084VTR | VTR = TDFN-8 – Tape and Reel (3k units) |



Absolute Maximum Ratings

| Parameter | Min. | Max. | Unit |
|---------------------------|------|------|------|
| V _{DD} to GND | -0.3 | 4.6 | V |
| Voltage at input pins | -0.3 | 4.6 | V |
| Current at input pin | -1.0 | 1.0 | mA |
| Storage temperature range | -65 | 150 | °C |
| Junction temperature | | 150 | °C |

Electrical Characteristics

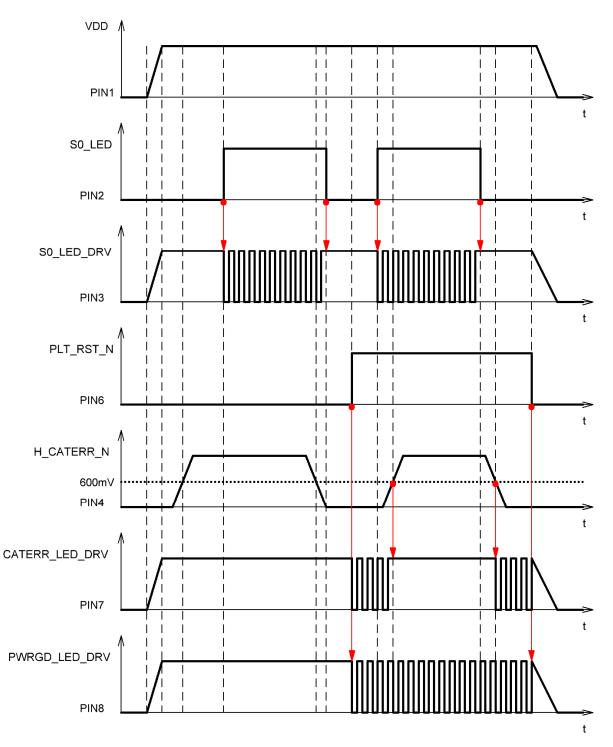
| Symbol | Parameter | Condition / Note | Min | Тур | Max | Unit |
|-------------------|----------------------------------|---|------|-----|------|------|
| V _{DD} | Supply Voltage | | 3.0 | 3.3 | 3.6 | V |
| Ι _Q | Quiescent Current | Static Inputs and Outputs | | 35 | | μA |
| T _A | Operating temperature | | -40 | 25 | 85 | °C |
| V _{IH} | HIGH-Level Input Voltage | Logic Input | 1.8 | | | V |
| V _{IL} | LOW-Level Input Voltage | Logic Input | | | 0.95 | V |
| V _{ACMP} | Analog Comparator Input Voltage | Analog Comparator Threshold Variation Including Hysteresis | 515 | | 685 | mV |
| I _{IH} | HIGH-Level Input Leakage Current | Logic Input Pins; VIN=3.3V | -100 | | 100 | nA |
| I _{IL} | LOW-Level Input Leakage Current | Logic Input Pins; VIN=0V | -100 | | 100 | nA |
| V _{OL} | LOW-Level Output Voltage | Open Drain Logic Level Outputs | | | 0.4 | V |
| I _{OL} | LOW-Level Output Current | Open Drain | | 20 | | mA |
| T _{StUp} | Start Up Time | After VDD reaches 1.4V level | | 7 | | ms |



SLG7NT4084

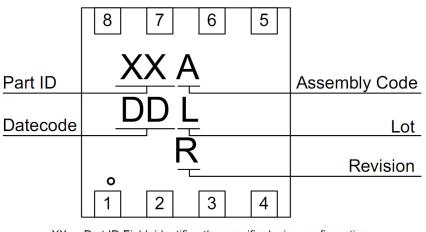
LED CONTROL

Timing Diagram





Package Top Marking



XX - Part ID Field: identifies the specific device configuration

- A Assembly Code Field: Assembly Location of the device.
- DD Date Code Field: Coded date of manufacture
- L Lot Code: Designates Lot #
- R Revision Code: Device Revision

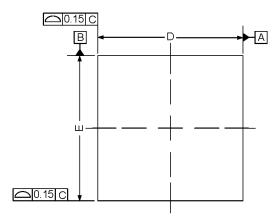
| Datasheet Revision | Programming Code Number | Part Code | Revision | Date |
|-----------------------|----------------------------|-----------|----------|------------|
| 1.01 | 06 | JU | F | 12/10/2012 |



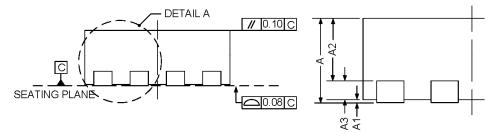


Package Drawing and Dimensions

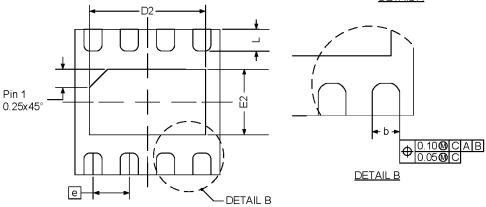
TDFN-8 Package JEDEC MO-229, Variation WCCD



| Symbol | Min (mm) | NOM (mm) | Max (mm) |
|--------|-------------|-------------|-------------|
| А | 0.70 | 0.75 | 0.80 |
| A1 | 0.00 | | 0.05 |
| A2 | | 0.55 | |
| A3 | | 0.20 | |
| b | 0.20 | 0.25 | 0.30 |
| D | 1.90 | 2.00 | 2.10 |
| D2 | 1.50 | 1.60 | 1.70 |
| E | 1.90 | 2.00 | 2.10 |
| E2 | 0.80 | 0.90 | 1.00 |
| е | | 0.50 BSC | |
| L | 0.20 | 0.30 | 0.40 |



<u>DETAIL A</u>



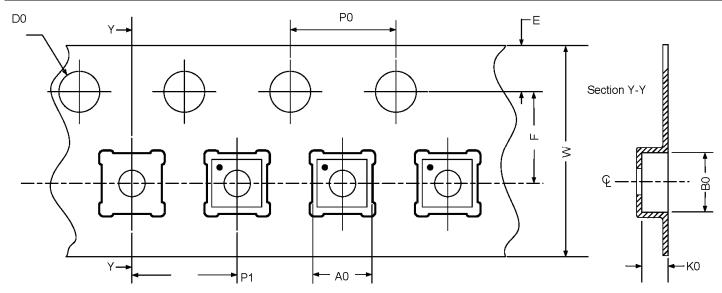


Tape and Reel Specification

| Package Type | # of Nominal | | Max Units | | Reel & | Trailer A | | Leader B | | Pocket (mm) | |
|------------------------|--------------|----------|-----------|---------|------------------|-----------|----------------|----------|----------------|-------------|-------|
| | Pins | Dackado | per reel | per box | Hub Size (mm) | Pockets | Length (mm) | Pockets | Length (mm) | Width | Pitch |
| TDFN 8L 2x2mm Green | 8 | 2x2x0.75 | 3000 | 3000 | 178/60 | 100 | 400 | 100 | 400 | 8 | 4 |

Carrier Tape Drawing and Dimensions

| Package Type | Pocket BTM Length (mm) A0 | Pocket BTM Width (mm) B0 | Pocket Depth (mm) K0 | Index Hole Pitch (mm) P0 | Pocket Pitch (mm) P1 | Index Hole Diameter (mm) D0 | Index Hole to Tape Edge (mm) E | Index Hole to Pocket Center (mm) F | Tape Width (mm) W |
|---------------------------|---------------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|--------------------------------------|--|--|-------------------------|
| TDFN 8L 2x2mm Green | 2.3 | 2.3 | 1.05 | 4 | 4 | 1.55 | 1.75 | 3.5 | 8 |



Recommended Reflow Soldering Profile

Please see IPC/JEDEC J-STD-020: latest revision for reflow profile based on package volume of 3.00 mm³ (nominal). More information can be found at <u>www.jedec.org</u>.



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