



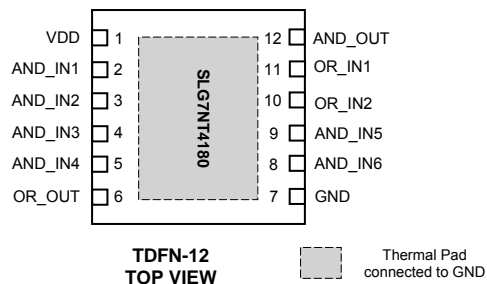
### General Description

Silego GreenPAK 2 SLG7NT4180 is a low power and small form device. The SoC is housed in a 2.5mm x 2.5mm TDFN package which is optimal for using with small devices.

### Features

- Low Power Consumption
- 3.3V Supply Voltage
- RoHS Compliant / Halogen-Free
- Pb-Free TDFN-12 Package

### Pin Configuration

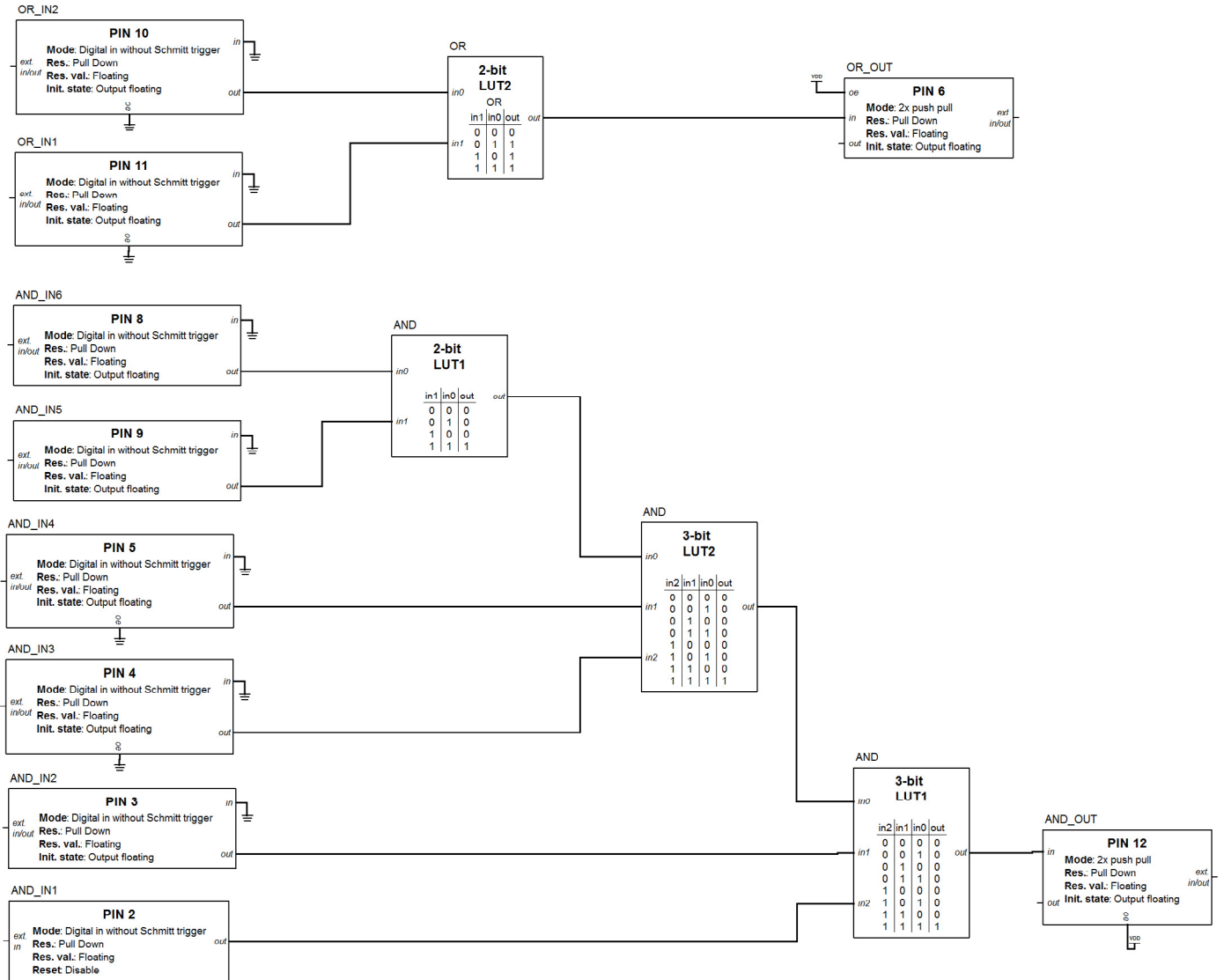


### Output Summary

- 2 Outputs - Push Pull



## Block Diagram





#### Pin Configuration

| Pin #              | Pin Name           | Type   | Pin Description |
|--------------------|--------------------|--------|-----------------|
| 1                  | VDD                | PWR    | Supply Voltage  |
| 2                  | AND_IN1            | Input  | Digital Input   |
| 3                  | AND_IN2            | Input  | Digital Input   |
| 4                  | AND_IN3            | Input  | Digital Input   |
| 5                  | AND_IN4            | Input  | Digital Input   |
| 6                  | OR_OUT             | Output | Push Pull       |
| 7                  | GND                | GND    | Ground          |
| 8                  | AND_IN6            | Input  | Digital Input   |
| 9                  | AND_IN5            | Input  | Digital Input   |
| 10                 | OR_IN0             | Input  | Digital Input   |
| 11                 | OR_IN1             | Input  | Digital Input   |
| 12                 | AND_OUT            | Output | Push Pull       |
| Exposed Bottom Pad | Exposed Bottom Pad | GND    | Ground          |

#### Ordering Information

| Part Number   | Package Type                             |
|---------------|--|
| SLG7NT4180V   | V = TDFN-12                              |
| SLG7NT4180VTR | VTR = TDFN-12 - Tape and Reel (3k units) |



#### Absolute Maximum Conditions

| Parameter                 | Min. | Max. | Unit |
|---------------------------|------|------|------|
| V <sub>HIGH</sub> to GND  | -0.3 | 7    | V    |
| Voltage at input pins     | -0.3 | 7    | V    |
| Current at input pin      | -1.0 | 1.0  | mA   |
| Storage temperature range | -65  | 150  | °C   |
| Junction temperature      | --   | 150  | °C   |

#### Electrical Characteristics

(@ 25°C, unless otherwise stated)

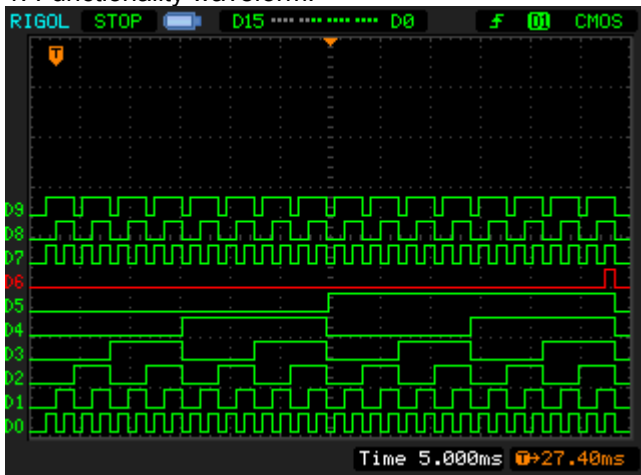
| Symbol          | Parameter  | Condition/Note  | Min. | Typ. | Max. | Unit |
|-----------------|--|---|------|------|------|------|
| V <sub>DD</sub> | Supply Voltage   |   | 3.0  | 3.3  | 3.6  | V    |
| I <sub>Q</sub>  | Quiescent Current  | Static inputs and outputs                                 | --   | 1    | --   | μA   |
| T <sub>A</sub>  | Operating Temperature                                      |   | -40  | 25   | 85   | °C   |
| I <sub>L</sub>  | Input Leakage Current                                      | Leakage Current Inputs or outputs in High impedance state | -100 | --   | 100  | nA   |
| V <sub>IH</sub> | HIGH-Level Input Voltage                                   | Logic Input   | 1.8  | --   | --   | V    |
| V <sub>IL</sub> | LOW-Level Input Voltage                                    | Logic Input   | --   | --   | 1.10 | V    |
| V <sub>OH</sub> | HIGH-Level Output Voltage                                  | Push-Pull, I <sub>OH</sub> = 3mA                          | 2.6  | --   | --   |      |
| V <sub>OL</sub> | LOW-Level Output Voltage                                   | Push-Pull, I <sub>OL</sub> = 3mA                          | --   | --   | 0.32 | V    |
| V <sub>O</sub>  | Maximal Voltage Applied to any PIN in High-Impedance State |   | --   | --   | VDD  | V    |
| I <sub>OL</sub> | LOW-Level Output Current                                   | Push-Pull, V <sub>OL</sub> = 0.4V, 1X Drive               | 3.6  | --   | --   | mA   |
| T <sub>SU</sub> | Start up Time  | After VDD reaches 1.6V level                              | --   | 7    | --   | ms   |



#### SLG7NT4180 Functionality Waveform

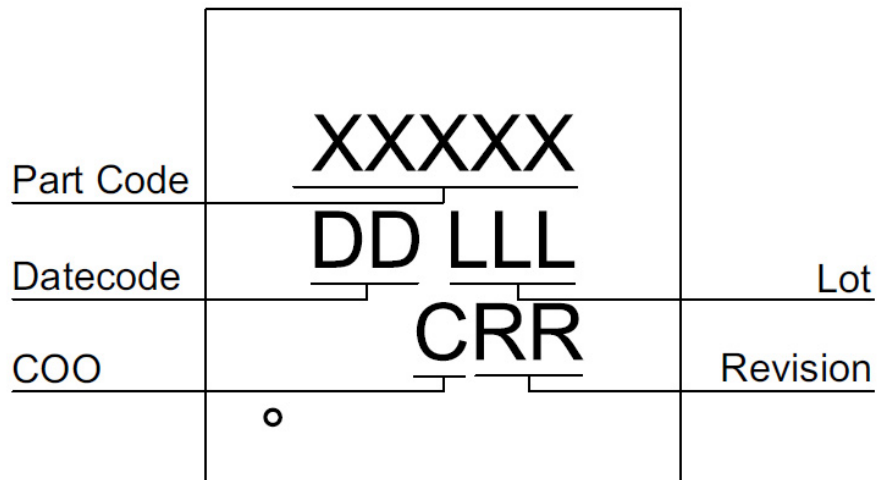
- D0 – PIN2 (AND\_IN1)
- D1 – PIN3 (AND\_IN2)
- D2 – PIN4 (AND\_IN3)
- D3 – PIN5 (AND\_IN4)
- D4 – PIN9 (AND\_IN5)
- D5 – PIN8 (AND\_IN6)
- D6 – PIN12 (AND\_OUT)
- D7 – PIN10 (OR\_IN2)
- D8 – PIN11 (OR\_IN1)
- D9 – PIN6 (OR\_OUT)

1. Functionality waveform.





#### Package Top Marking



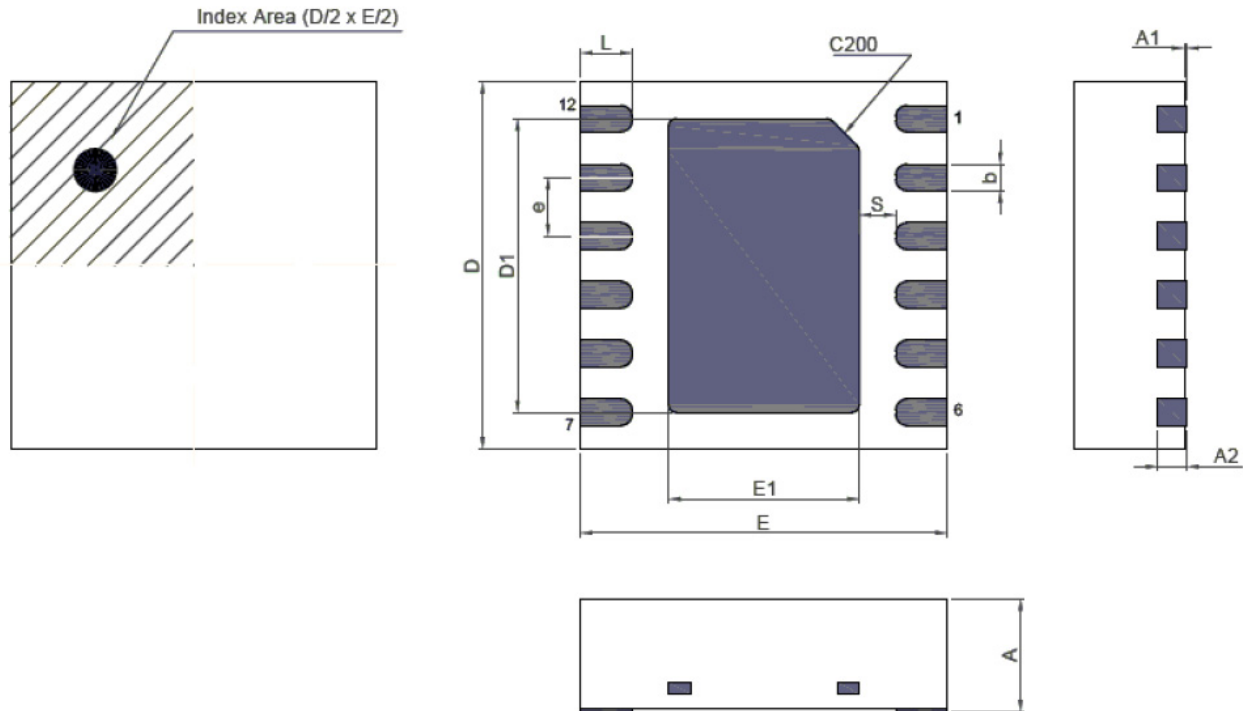
- XXXXXX – Part ID Field: identifies the specific device configuration
- DD – Date Code Field: Coded date of manufacture
- LLL – Lot Code: Designates Lot #
- C – COO: Specifies Country of Origin
- RR – Revision Code: Device Revision

| Datasheet Revision | Programming Code Number | Part Code | Revision | Date       |
|--------------------|-------------------------|-----------|----------|------------|
| 1.0                | 02                      | 4180V     | AA       | 06/05/2013 |



### Package Drawing and Dimensions

#### 12 Lead TDFN Package JEDEC MO-252, Variation 2525E



Unit: mm

| Symbol | Min   | Nom. | Max   | Symbol | Min      | Nom. | Max  |
|--------|-------|------|-------|--------|----------|------|------|
| A      | 0.70  | 0.75 | 0.80  | D1     | 1.95     | 2.00 | 2.05 |
| A1     | 0.005 | -    | 0.060 | E1     | 1.25     | 1.30 | 1.35 |
| A2     | 0.15  | 0.20 | 0.25  | e      | 0.40 BSC |      |      |
| b      | 0.13  | 0.18 | 0.23  | L      | 0.30     | 0.35 | 0.40 |
| D      | 2.45  | 2.50 | 2.55  | S      | 0.18     | -    | -    |
| E      | 2.45  | 2.50 | 2.55  |        |          |      |      |



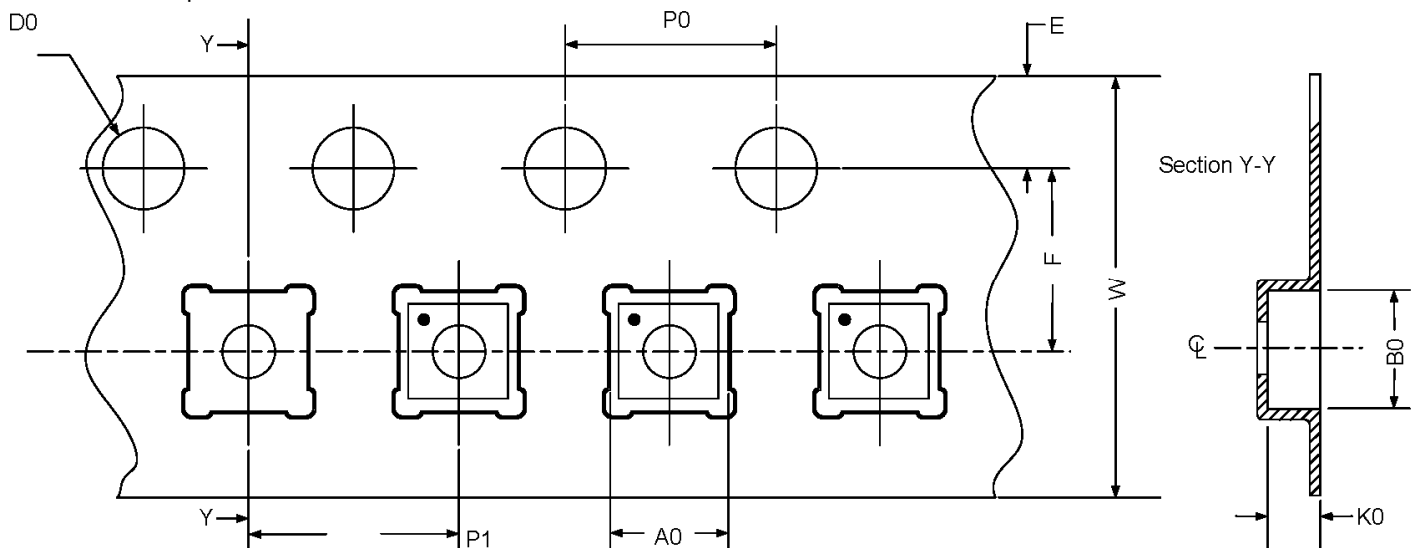
### Tape and Reel Specification

| Package Type                        | # of Pins | Nominal Package Size (mm) | Max Units |         | Reel & Hub Size (mm) | Trailer A |             | Leader B |             | Pocket (mm) |       |
|-------------------------------------|-----------|---------------------------|-----------|---------|----------------------|-----------|-------------|----------|-------------|-------------|-------|
|                                     |           |                           | per reel  | per box |                      | Pockets   | Length (mm) | Pockets  | Length (mm) | Width       | Pitch |
| TDFN 12L<br>2.5x2.5mm<br>0.4P Green | 12        | 2.5x2.5x0.75              | 3000      | 3000    | 178/60               | 42        | 168         | 42       | 168         | 8           | 4     |

### Carrier Tape Drawing and Dimensions

| Package Type                        | Pocket BTM Length (mm) | Pocket BTM Width (mm) | Pocket Depth (mm) | Index Hole Pitch (mm) | Pocket Pitch (mm) | Index Hole Diameter (mm) | Index Hole to Tape Edge (mm) | Index Hole to Pocket Center (mm) | Tape Width (mm) |
|-------------------------------------|------------------------|-----------------------|-------------------|-----------------------|-------------------|--------------------------|------------------------------|----------------------------------|-----------------|
|                                     | A0                     | B0                    | K0                | P0                    | P1                | D0                       | E                            | F                                | W               |
| TDFN 12L<br>2.5x2.5mm<br>0.4P Green | 2.75                   | 2.75                  | 1.05              | 4                     | 4                 | 1.55                     | 1.75                         | 3.5                              | 8               |

Refer to EIA-481 Specifications



### Recommended Reflow Soldering Profile

Please see IPC/JEDEC J-STD-020: latest revision for reflow profile based on package volume of 4.6875 mm<sup>3</sup> (nominal). More information can be found at [www.jedec.org](http://www.jedec.org).





---

#### Datasheet Revision History

| Date       | Version | Change                        |
|------------|---------|-------------------------------|
| 04/15/2013 | 0.10    | New design                    |
| 04/16/2013 | 0.11    | OR Gate is added              |
| 05/06/2013 | 0.12    | Updated Device Revision Table |
| 06/05/2013 | 1.0     | Production release            |



## Silego Website & Support

### Silego Technology Website

Silego Technology provides online support via our website at <http://www.silego.com/>. This website is used as a means to make files and information easily available to customers.

For more information regarding Silego Green products, please visit:

<http://greenpak.silego.com/>  
<http://greenpak2.silego.com/>  
<http://greenfet.silego.com/>  
<http://greenfet2.silego.com/>  
<http://greenclock.silego.com/>

Products are also available for purchase directly from Silego at the Silego Online Store at <http://store.silego.com/>.

### Silego Technical Support

Datasheets and errata, application notes and example designs, user guides, and hardware support documents and the latest software releases are available at the Silego website or can be requested directly at [info@silego.com](mailto:info@silego.com).

For specific GreenPAK design or applications questions and support please send email requests to [GreenPAK@silego.com](mailto:GreenPAK@silego.com)

Users of Silego products can receive assistance through several channels:

#### Contact Your Local Sales Representative

Customers can contact their local sales representative or field application engineer (FAE) for support. Local sales offices are also available to help customers. More information regarding your local representative is available at the Silego website or send a request to [info@silego.com](mailto:info@silego.com)

#### Contact Silego Directly

Silego can be contacted directly via e-mail at [info@silego.com](mailto:info@silego.com) or user submission form, located at the following URL: <http://support.silego.com/>

#### Other Information

The latest Silego Technology press releases, listing of seminars and events, listings of worldwide Silego Technology offices and representatives are all available at <http://www.silego.com/>

THIS PRODUCT HAS BEEN DESIGNED AND QUALIFIED FOR THE CONSUMER MARKET. APPLICATIONS OR USES AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS ARE NOT AUTHORIZED. SILEGO TECHNOLOGY DOES NOT ASSUME ANY LIABILITY ARISING OUT OF SUCH APPLICATIONS OR USES OF ITS PRODUCTS. SILEGO TECHNOLOGY RESERVES THE RIGHT TO IMPROVE PRODUCT DESIGN, FUNCTIONS AND RELIABILITY WITHOUT NOTICE.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)