



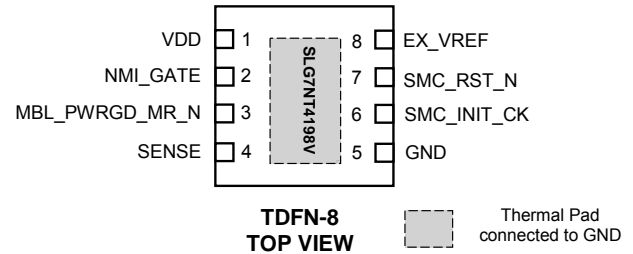
### General Description

Silego SLG7NT4198V 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.

### Features

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

### Pin Configuration



### Output Summary

- 1 Output – Push Pull
- 1 Output – Open Drain



#### Pin Configuration

| Pin #              | Pin Name       | Type   | Pin Description     |
|--------------------|----------------|--------|---------------------|
| 1                  | VDD            | Power  | 3.3V Supply Voltage |
| 2                  | NMI_GATE       | Input  | Digital Input       |
| 3                  | MBL_PWRGD_MR_N | Input  | Digital Input       |
| 4                  | SENSE          | Input  | Analog input        |
| 5                  | GND            | GND    | Ground              |
| 6                  | SMC_INIT_CK    | Output | Push Pull           |
| 7                  | SMC_RST_N      | Output | Open Drain          |
| 8                  | EX_VREF        | Input  | Analog input        |
| Exposed Bottom Pad | GND            | GND    | Ground              |

#### Ordering Options & Configuration

| Part Number   | Package Type                            |
|---------------|---|
| SLG7NT4198V   | V = TDFN-8                              |
| SLG7NT4198VTR | VTR = TDFN-8 – Tape and Reel (3k units) |



### Absolute Maximum Ratings

| Parameter                 | Min. | Max. | Unit |
|---------------------------|------|------|------|
| V <sub>DD</sub> 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

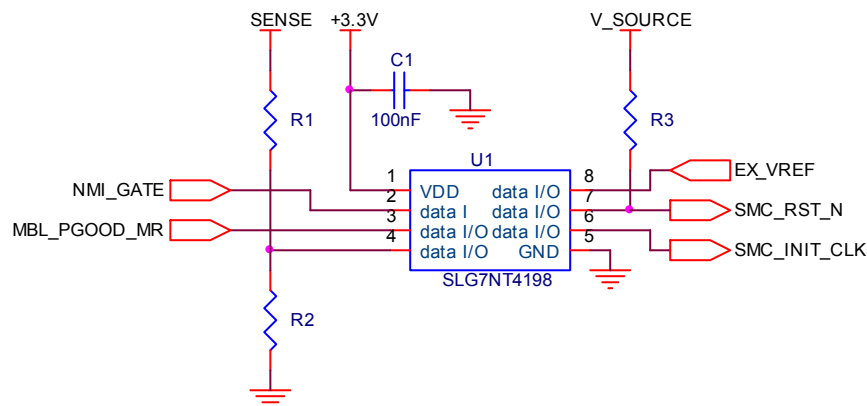
| Symbol               | Parameter                        | Condition / Note               | Min  | Typ | Max | Unit |
|----------------------|----------------------------------|--------------------------------|------|-----|-----|------|
| V <sub>DD</sub>      | Supply Voltage                   |                                | 3.0  | 3.3 | 3.6 | V    |
| I <sub>Q</sub>       | Quiescent Current                | Static Inputs and Outputs      | --   | 30  | --  | μA   |
| T <sub>A</sub>       | Operating temperature            |                                | -40  | 25  | 85  | °C   |
| V <sub>AIR</sub>     | Analog Input Voltage Range       | for PIN8                       | 0    | --  | 1.5 | V    |
| V <sub>IH</sub>      | HIGH-Level Input Voltage         | Logic Input                    | 1.8  | --  | --  | V    |
| V <sub>IL</sub>      | LOW-Level Input Voltage          | Logic Input                    | --   | --  | 0.8 | V    |
| I <sub>IH</sub>      | HIGH-Level Input Leakage Current | Logic Input Pins; VIN=3.3V     | -1.0 | --  | 1.0 | μA   |
| I <sub>IL</sub>      | LOW-Level Input Leakage Current  | Logic Input Pins; VIN=0V       | -1.0 | --  | 1.0 | μA   |
| V <sub>OH</sub>      | HIGH-Level Output Voltage        | Push Pull Logic Level Outputs  | 2.4  | --  | --  | V    |
| V <sub>OL</sub>      | LOW-Level Output Voltage         | Push Pull Logic Level Outputs  | --   | --  | 0.4 | V    |
| V <sub>OL</sub>      | LOW-Level Output Voltage         | Open Drain Logic Level Outputs | --   | --  | 0.4 | V    |
| I <sub>OH</sub>      | HIGH-Level Output Current        | Push Pull                      | --   | 8   | --  | mA   |
| I <sub>OL</sub>      | LOW-Level Output Current         | Push Pull                      | --   | -8  | --  | mA   |
| I <sub>OL</sub>      | LOW-Level Output Current         | Open Drain                     | --   | 20  | --  | mA   |
| V <sub>OFFSET</sub>  | Analog Comparator Offset Voltage | Analog Comparator 0            | --   | ±20 | --  | mV   |
| V <sub>HYST</sub>    | Analog Comparator hysteresis     | Analog Comparator 0            | --   | 50  | --  | mV   |
| R <sub>PULL UP</sub> | Internal Pull Up Resistance      | Pull up on PIN3                | 80   | 100 | 120 | kΩ   |
| T <sub>DLY0</sub>    | Delay0 Time                      |                                | 16   | 20  | 24  | ms   |
| T <sub>DLY2</sub>    | Delay2 Time                      |                                | 1.6  | 2   | 2.4 | ms   |
| T <sub>StUp</sub>    | Start Up Time                    | After VDD > 2.4V               | --   | 7   | --  | ms   |



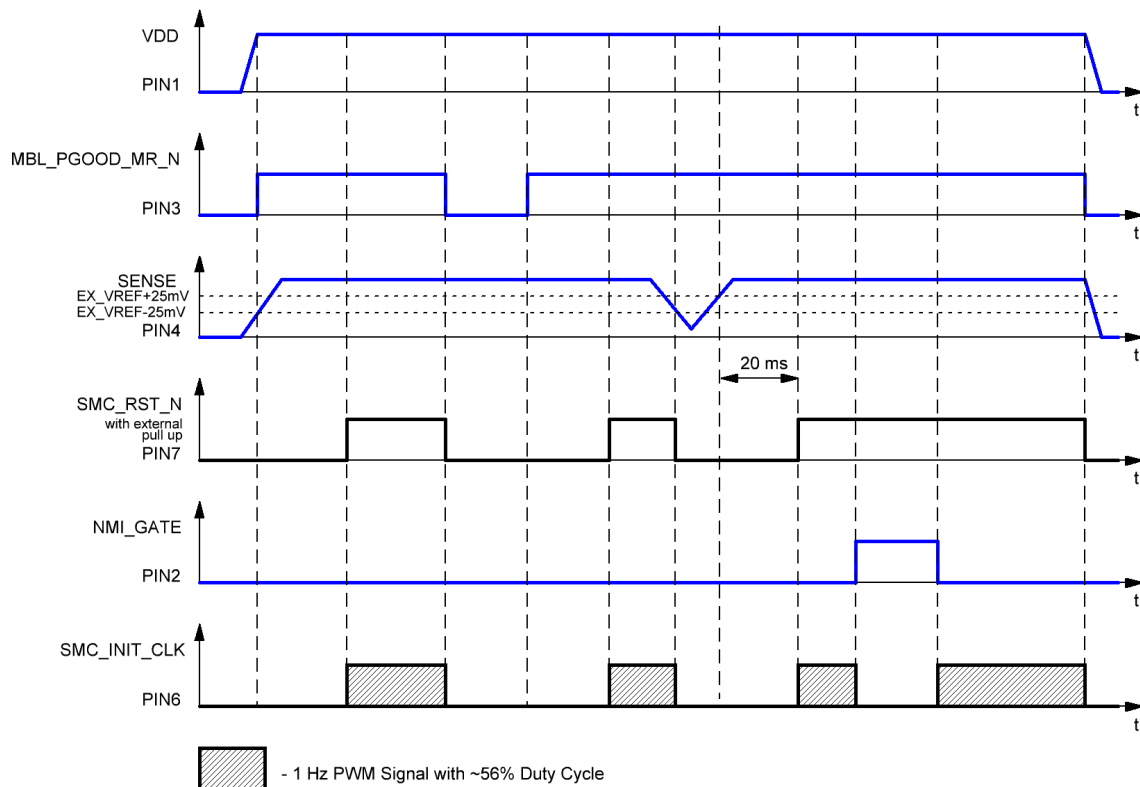
### Description

This is a special oscillator with supervisor system. Three inputs are used to control the oscillator. SENSE (PIN4) controls the voltage supply of the chip. If supply voltage decreases down to the threshold set by EX\_VREF (PIN8), the chip disables the oscillator and sets SMC\_INICK to LOW. When the voltage is bigger than threshold set by EX\_VREF is detected on the SENSE pin, SMC\_RST\_N (PIN7) is set to HIGH with 20 ms delay and enables the oscillator. MBL\_PWRGD\_MR\_N (PIN3) is used for manual reset of SMC\_RST\_N. Use NMI\_GATE (NMI\_GATE) to disable the oscillator.

### Typical Application Circuit

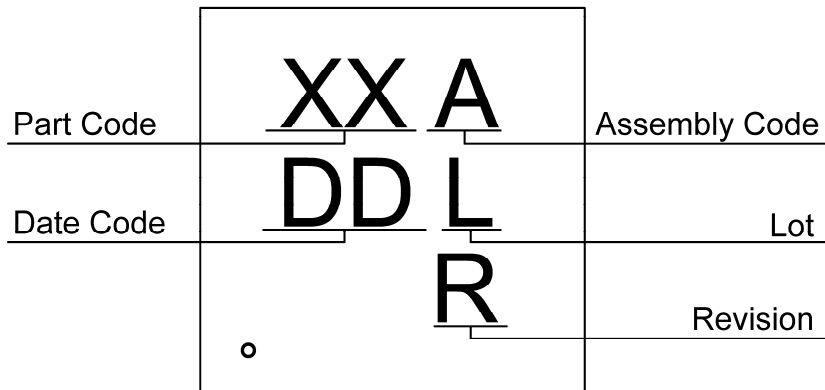


### Timing Diagrams





#### Package Top Marking



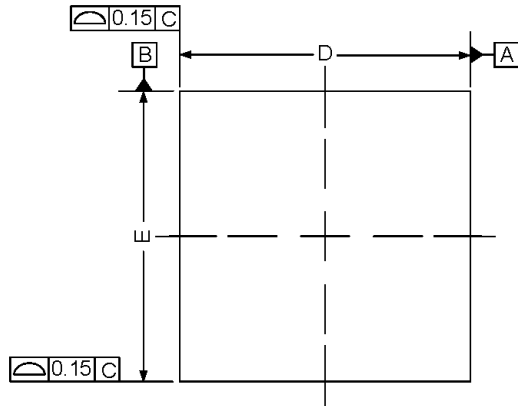
- XX – Part Code Field: identifies the specific device configuration
- A – Assembly Code Field: Assembly Location of the device.
- DD – Date Code Field: Coded date of manufacture
- L – Lot Code: Designates Lot #
- R – Revision Code: Device Revision

| Datasheet Revision | Programming Code Number | Part Code | Revision | Date       |
|--------------------|-------------------------|-----------|----------|------------|
| 1.0                | 03                      | ZR        | B        | 03/04/2014 |

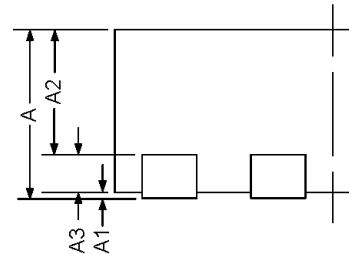
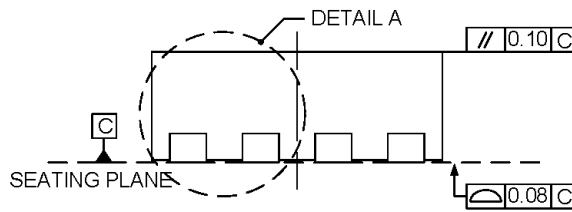


### Package Drawing and Dimensions

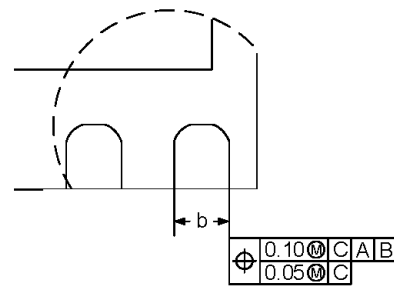
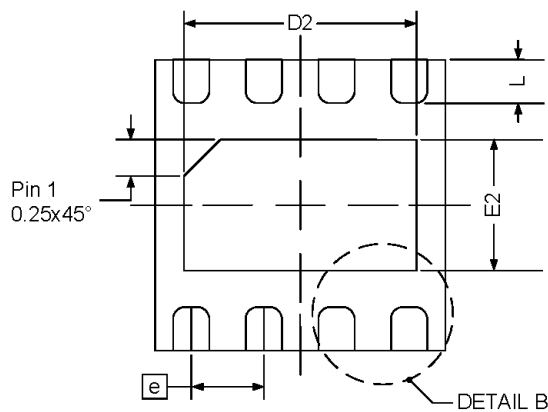
#### TDFN-8 Package



| Symbol | Min (mm) | NOM (mm) | Max (mm) |
|--------|----------|----------|----------|
| A      | 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     |
| e      | 0.50 BSC |          |          |
| L      | 0.20     | 0.30     | 0.40     |



DETAIL A



DETAIL B

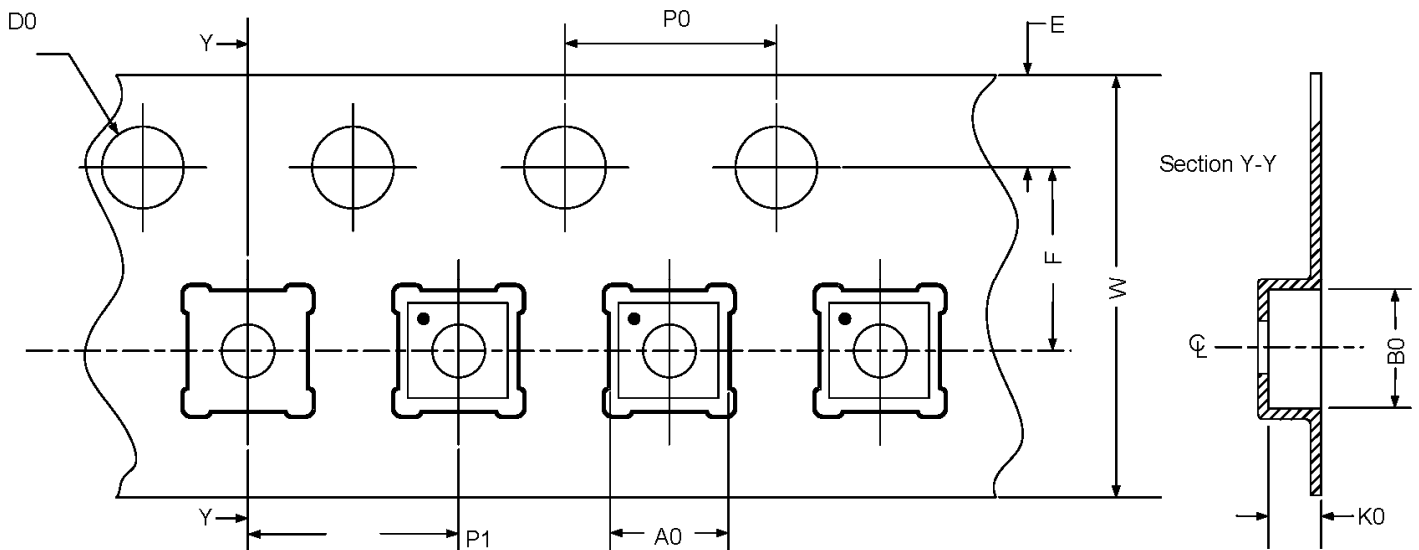


### Tape and Reel Specification

| 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 8L<br>2x2mm Green | 8         | 2x2x0.75                  | 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 8L<br>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 4.6875 mm<sup>3</sup> (nominal). More information can be found at [www.jedec.org](http://www.jedec.org).



# SILEGO

## SLG7NT4198V

### 1 Hz Interrupt Generator

---

#### Datasheet Revision History

| Date       | Version | Change   |
|------------|---------|--|
| 05/29/2013 | 0.1     | New Design   |
| 07/09/2013 | 0.12    | Jump to 0.12 version. Changed PWM frequency to 1Hz |
| 07/09/2013 | 0.13    | Updated Device Revision Table                      |
| 07/11/2013 | 0.14    | Changed PIN7 configuration to Open Drain           |
| 08/07/2013 | 0.15    | Updated Device Revision Table                      |
| 03/04/2014 | 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://greenclk.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 world wide 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.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Power Management Specialised - PMIC category](#):*

*Click to view products by [Silego manufacturer](#):*

Other Similar products are found below :

[LV5686PVC-XH](#) [FAN7710VN](#) [NCP391FCALT2G](#) [SLG7NT4081VTR](#) [SLG7NT4192VTR](#) [AP4313UKTR-G1](#) [AS3729B-BWLM](#)  
[MB39C831QN-G-EFE2](#) [MAX4940MB](#) [LV56841PVD-XH](#) [MAX77686EWE+T](#) [AP4306BUKTR-G1](#) [MIC5164YMM](#) [PT8A3252WE](#)  
[NCP392CSFCCT1G](#) [TEA1998TS/1H](#) [PT8A3284WE](#) [PI3VST01ZEEX](#) [PI5USB1458AZAEX](#) [PI5USB1468AZAEX](#) [MCP16502TAC-E/S8B](#)  
[MCP16502TAE-E/S8B](#) [MCP16502TAA-E/S8B](#) [MCP16502TAB-E/S8B](#) [ISL91211AIKZT7AR5874](#) [ISL91211BIKZT7AR5878](#)  
[MAX17506EVKITBE#](#) [MCP16501TC-E/RMB](#) [ISL91212AIIZ-TR5770](#) [ISL91212BIIZ-TR5775](#) [CPX200D](#) [TP-1303](#) [TP-1305](#) [TP-1603](#) [TP-](#)  
[2305](#) [TP-30102](#) [TP-4503N](#) [MIC5167YML-TR](#) [LPTM21-1AFTG237C](#) [MPS-3003L-3](#) [MPS-3005D](#) [NCP392ARFCCT1G](#) [SPD-3606](#)  
[MMPF0200F6AEP](#) [STLUX383A](#) [TP-60052](#) [ADN8834ACBZ-R7](#) [LM26480SQ-AA/NOPB](#) [LM81BIMTX-3/NOPB](#) [LM81CIMT-3/NOPB](#)