SLG7NT4317

GreenPAK 3™

CHERRY TRAIL ESSENTIALS

General Description

Silego SLG7NT4317 is a low power and small form device. The SoC is housed in a 2mm x 3mm TQFN package which is optimal for using with small devices.

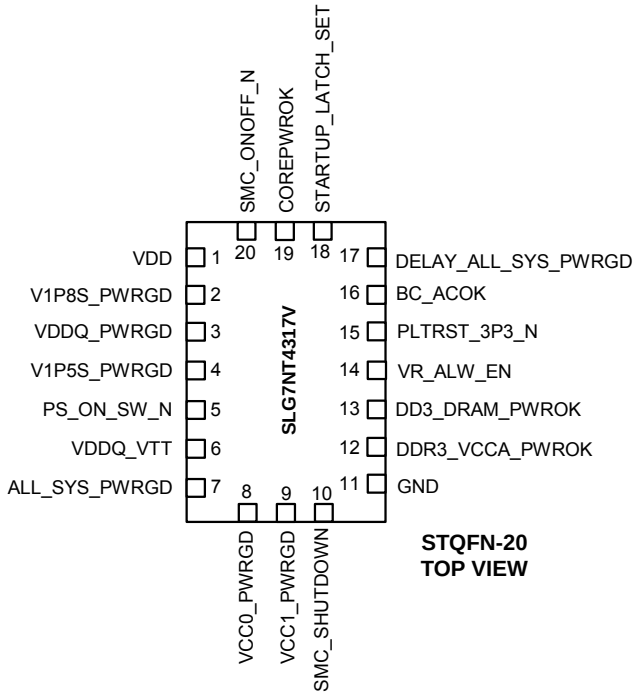
Features

- Low Power Consumption
- 3.3V Supply
- Pb-Free / RoHS Compliant
- Halogen-Free
- STQFN-20 Package

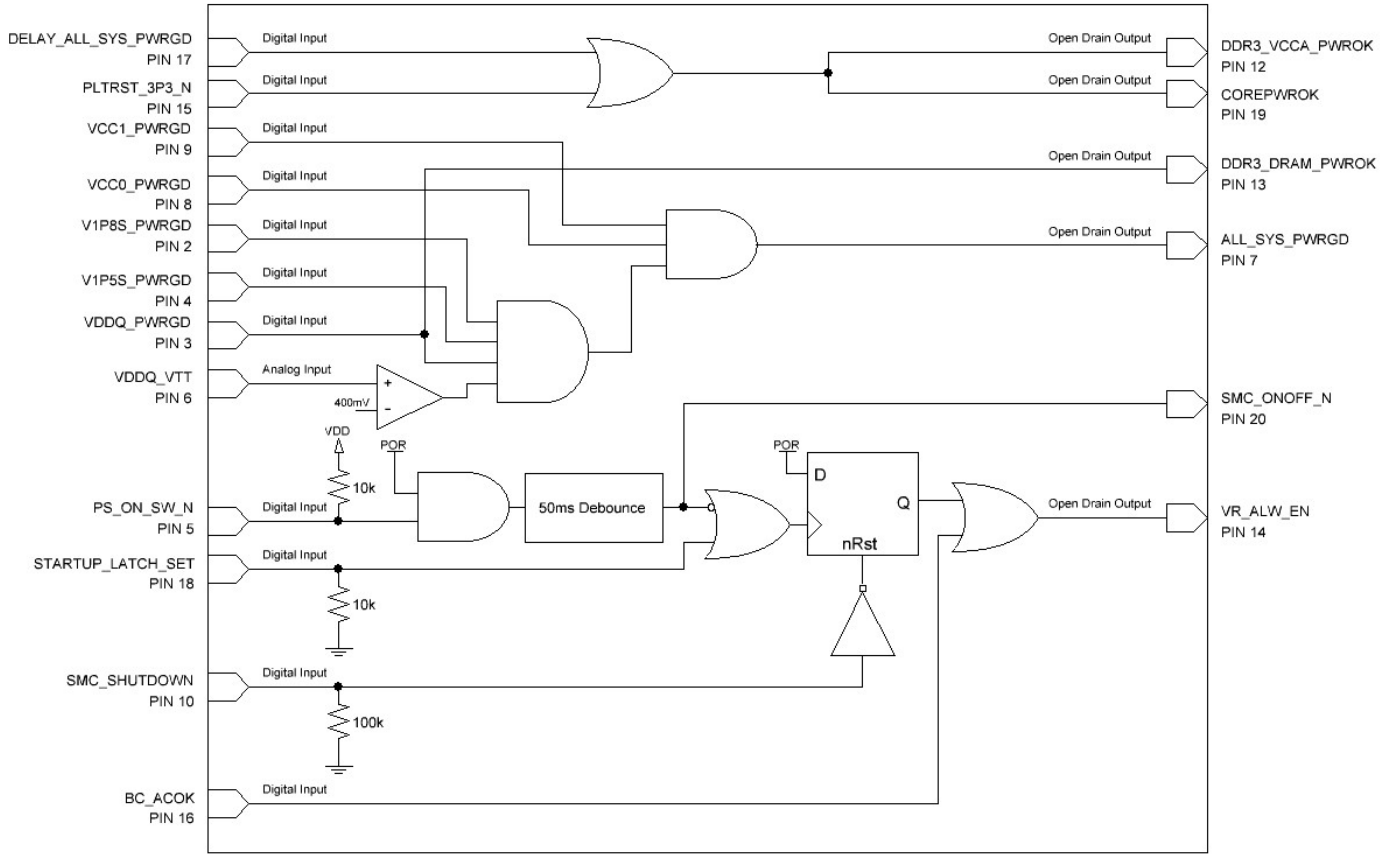
Output Summary

- 6 Outputs – NMOS Open Drain 1X

Pin Configuration



Block Diagram



Pin Configuration

Pin #	Pin Name	Type	Pin Description
1	VDD	PWR	Supply Voltage
2	V1P8S_PWRGD	Input	Digital Input
3	VDDQ_PWRGD	Input	Digital Input with Schmitt Trigger
4	V1P5S_PWRGD	Input	Digital Input
5	PS_ON_SW_N	Input	Digital Input with Schmitt Trigger
6	VDDQ_VTT	Input	Analog Input
7	ALL_SYS_PWRGD	Output	NMOS Open Drain 1X
8	VCC0_PWRGD	Input	Digital Input
9	VCC1_PWRGD	Input	Digital Input
10	SMC_SHUTDOWN	Input	Digital Input
11	GND	--	Ground
12	DDR3_VCCA_PWROK	Output	NMOS Open Drain 1X
13	DDR3_DRAM_PWROK	Output	NMOS Open Drain 1X
14	VR_ALW_EN	Output	NMOS Open Drain 1X
15	PLTRST_3P3_N	Input	Digital Input
16	BC_ACOK	Input	Digital Input
17	DELAY_ALL_SYS_PWRGD	Input	Digital Input
18	STARTUP_LATCH_SET	Input	Digital Input
19	COREPWROK	Output	NMOS Open Drain 1X
20	SMC_ONOFF_N	Output	NMOS Open Drain 1X

Ordering Information

Part Number	Package Type
SLG7NT4317V	V=STQFN-20
SLG7NT4317VTR	STQFN-20 – Tape and Reel (3k units)

Absolute Maximum Conditions

Parameter	Min.	Max.	Unit
V_{HIGH} 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

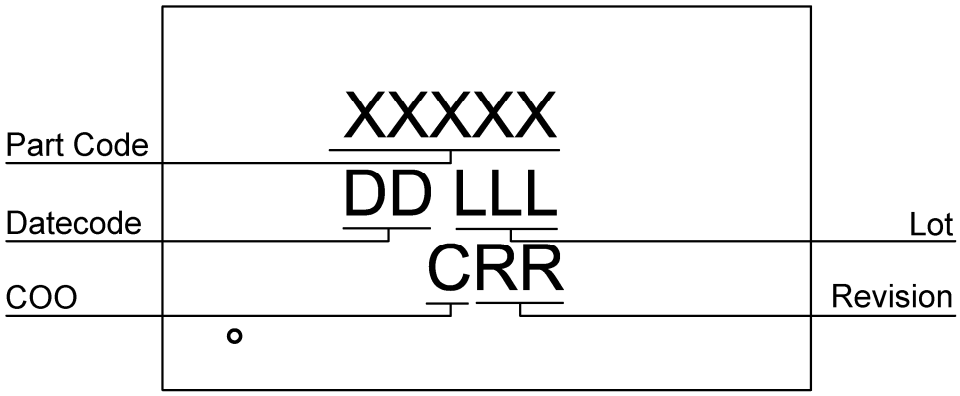
Electrical Characteristics

(@ 25°C, unless otherwise stated)

Symbol	Parameter	Condition/Note	Min.	Typ.	Max.	Unit
V_{DD}	Supply Voltage		3	--	4.5	V
T_A	Operating Temperature		-40	25	85	°C
I_Q	Quiescent Current	Static inputs and outputs at VDD=4.5V	--	70	--	µA
I_L	Input Leakage Current	Leakage Current for Digital Inputs or outputs in High impedance state	-1	--	1	µA
V_{IH}	HIGH-Level Input Voltage	Logic Input at VDD=3.3V	1.78	--	--	V
		Logic Input at VDD=5V	2.64	--	--	
		Logic Input with Schmitt trigger at VDD=3.3V	2.13	--	--	
		Logic Input with Schmitt trigger at VDD=5V	3.16	--	--	
V_{IL}	LOW-Level Input Voltage	Logic Input at VDD=3.3V	--	--	1.21	V
		Logic Input at VDD=5V	--	--	1.84	
		Logic Input with Schmitt trigger at VDD=3.3V	--	--	0.95	
		Logic Input with Schmitt trigger at VDD=5V	--	--	0.78	
I_{IH}	HIGH-Level Input Current	Logic Input Pins; V_{IN} = 3.3 V	-1.0	--	1.0	µA
I_{IL}	LOW-Level Input Current	Logic Input Pins; V_{IN} = 0 V	-1.0	--	1.0	µA
V_{OL}	LOW-Level Output Voltage	Open Drain, at VDD=3.3V, I_{OL} = 3 mA, 1X Driver	--	0.08	0.147	V
		Open Drain, at VDD=5V, I_{OL} = 3 mA, 1X Driver	--	0.102	0.180	
I_{OL}	LOW-Level Output Current	Open Drain, at VDD=3.3V, V_{OL} = 0.4 V 1X Driver	7.313	12.37	--	mA
		Open Drain, at VDD=5V, V_{OL} = 0.4 V, 1X Driver	10.82	17.38	--	
V_{ACMP}	Analog Comparator Threshold Voltage	ACMP0 threshold including input offset, Vref variation and hysteresis at 25°C temperature	368	--	432	mV
V_{HYST}	Analog Comparator Hysteresis	ACMP0, at 25°C	--	25	--	mV

V_O	Maximal Voltage Applied to any PIN in High-Impedance State		--	--	VDD	V
I_O	Maximal Average or DC Current	Per Each Side (PIN2-PIN10, PIN12-PIN20)	--	--	80	mA
T_{DLY0}	Delay0 Time	At 25°C temperature	48	--	52	ms
		At 0-70°C temperature range	44	--	56	
R_{PU}	Internal Pull Up Resistance	On PIN5	7	10	13	kΩ
R_{PD}	Internal Pull Down Resistance	On PIN18	7	10	13	kΩ
		On PIN10	70	100	130	
T_{SU}	Start up Time	After VDD reaches 1.6V level	--	1	--	ms

Package Top Marking



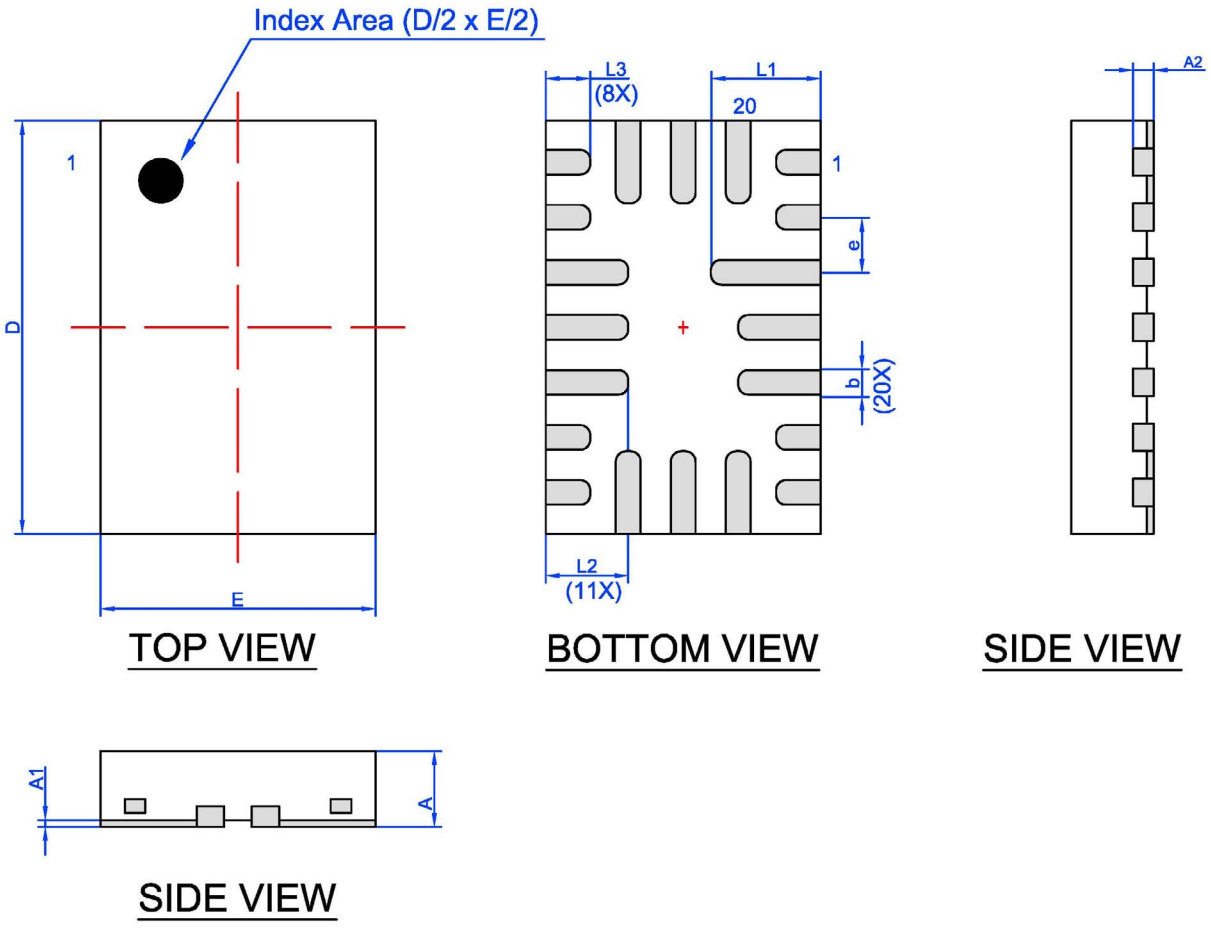
XXXXX – Part ID Field: identifies the specific device configuration
DD – Date Code Field: Coded date of manufacture
LLL – Lot Code: Designates Lot #
C – Assembly Site/COO: Specifies Assembly Site/Country of Origin
RR – Revision Code: Device Revision

Datasheet Revision	Programming Code Number	Locked Status	Part Code	Revision	Date
1.0	004	L	4317V	AB	01/26/2015

The IC security bit is locked/set for code security for production unless otherwise specified. Revision number is not changed for bit locking

Package Drawing and Dimensions

20 Lead STQFN Package
JEDEC MO-220, Variation WECE



Unit: mm

Symbol	Min	Nom.	Max	Symbol	Min	Nom.	Max
A	0.50	0.55	0.60	D	2.95	3.00	3.05
A1	0.005	-	0.050	E	1.95	2.00	2.05
A2	0.10	0.15	0.20	L1	0.75	0.80	0.85
b	0.13	0.18	0.23	L2	0.55	0.60	0.65
e	0.40 BSC			L3	0.275	0.325	0.375

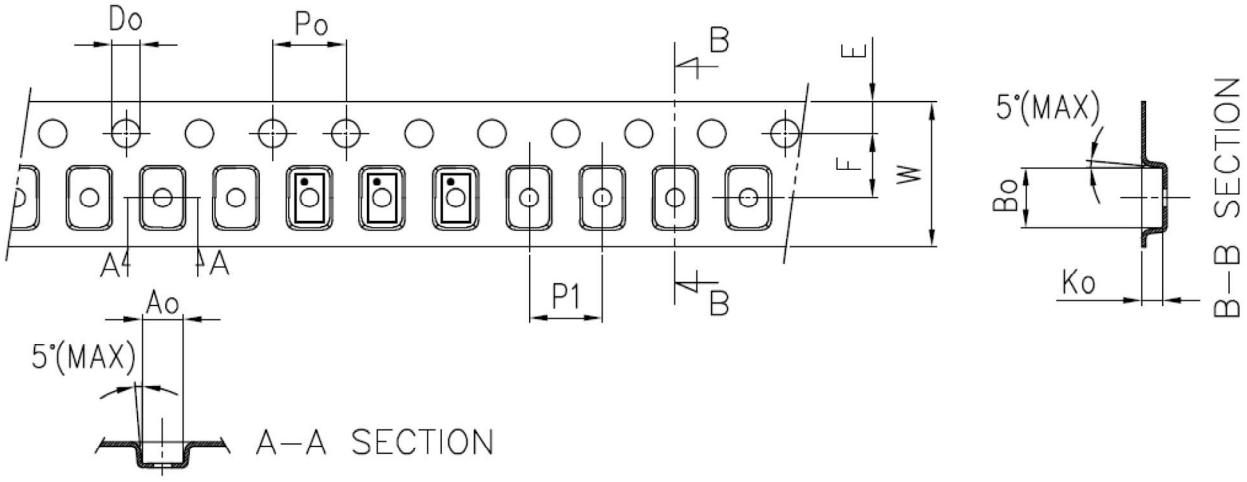
Tape and Reel Specification

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
STQFN 20L 2x3mm 0.4P Green	20	2x3x0.55	3000	3000	178/60	100	400	100	400	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
STQFN 20L 2x3mm 0.4P Green	2.2	3.15	0.76	4	4	1.5	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 3.3 mm^3 (nominal).
More information can be found at www.jedec.org.

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.

For specific GreenPAK design or applications questions and support please send email requests to 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

Contact Silego Directly

Silego can be contacted directly via e-mail at 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.