

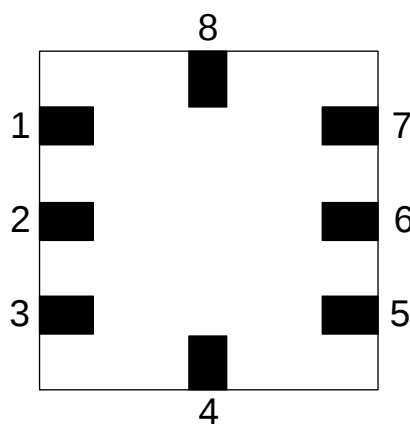
General Description

LSS5010T-A is a small 8pin QFN packaged customized ASIC with configurable parameters. It support four selectable watch time.

Features

- Ultra low power consumption.
- Pb - Free and RoHS Compliant and Halogen - Free
- STQFN - 8 Package

Pin Configuration



**1.3mm x 1.3mm 8 Pin STQFN
Top View**

Ordering Information

Part Number	Package Type
LSS5010T-A	8-pin QFN, 3k units Tape and Reel

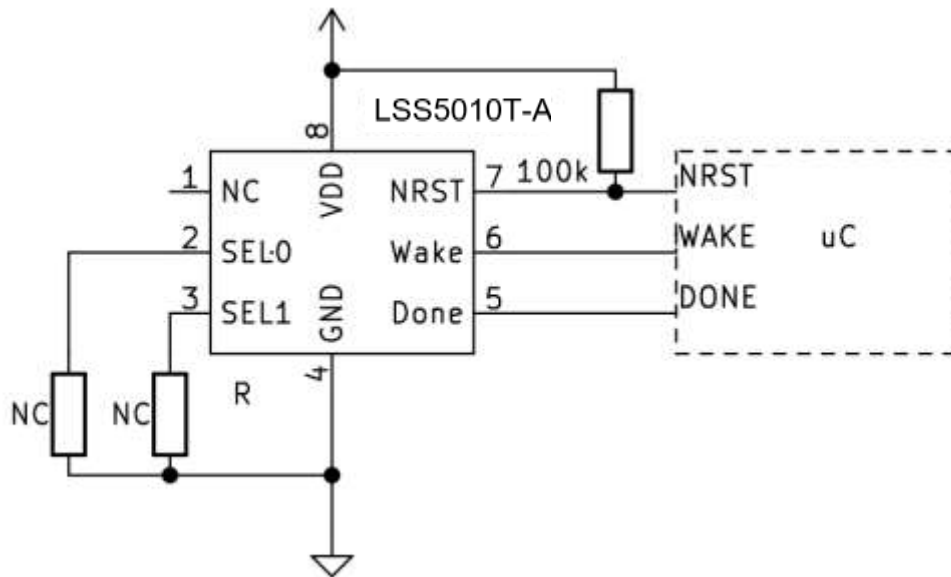
Program Code Version Information

Date	Datasheet Version	Programming Code Version	Lock Status	Checksum	Part Code	Code Version
2022-12-22	0.1	001	L	0XCE1C08FC		

Datasheet Revision History

Date	Version	Change
2022-12-22	0.1	Initial version, new design for LS98003-A chip

Reference Schematic



Note:

1. Voltage on any pin must be within GND to VDD.
2. ESD protection must be considered on all Pins which connected to external interface.

Pin name

Pin	Pin name	TYPE	Function
1	NC	NC	NC
2	SEL0	Digital input	Pull up 1M internal
3	SEL1	Low Voltage Input and Open Drain Output	Pull up 1M internal
4	GND	Power	Ground
5	Done	1x Push Pull Digital Output	Digital signal driven by the μ C to indicate successful processing of the WAKE signal.
6	Wake	1x Push Pull Digital Output	Digital pulsed signal to wake up the μ C at the end of the programmed time interval.
7	NRST	Open drain digital output	NRST output
8	VCC	Power	Power supply input, 1.8V~5.5V

Customize Electrical Characteristics

Symbol	Parameter	Condition/Note	Min.	Typ.	Max.	Unit
I_Q	Quiescent Current	Static inputs and floating outputs	--	3	--	μ A
T_{wake}	SEL0=0,SEL1=0	At temperature 25°C		0.5		s
	SEL0=1,SEL1=0	At temperature 25°C		2		s
	SEL0=0/1,SEL1=1	At temperature 25°C		16		s
T_{nRST}	Low Reset Time	At temperature 25°C		320		ms

Absolute Maximum Conditions

Parameter	Min.	Max.	Unit
Supply Voltage on VDD to GND	-0.3	7	V
Maximum Voltage Input to Pins	--	VDD + 0.3	V
VDD to GND Maximum DC Current	--	90	mA
Input Leakage Current	--	1000	nA
Storage Temperature Range	-65	150	°C
Junction Temperature	--	150	°C
ESD Protection (HBM)	2000	--	V
ESD Protection (CDM)	500	--	V
Moisture Sensitivity Level (MSL)	1		

Electrical Characteristics

EC at T = -40°C to +125°C, VDD = 1.8V to 5.5V Unless Otherwise Noted

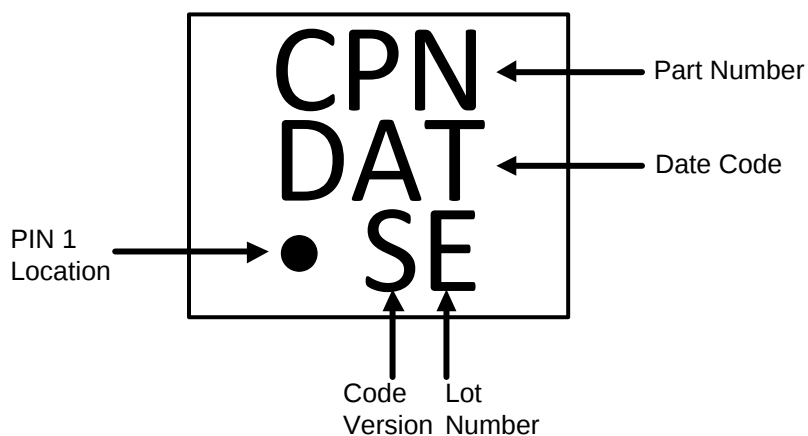
Symbol	Parameter	Condition/Note	Min.	Typ.	Max.	Unit
V _{DD}	Supply Voltage		1.8	5.0	5.5	V
T _A	Operating Temperature		-40	25	85	°C
C _{VDD}	Capacitor Value at VDD		--	0.1	--	μF
V _O	Maximal Voltage Applied to any PIN in High-Impedance State		--	--	VDD	V
I _{VDD}	Maximum Average or DC Current Through VDD Pin	T _J = 85°C	--	--	90	mA
I _{IH}	HIGH-Level Input Current	Logic Input PINs; V _{IN} = VDD	-1.0	--	1.0	μA
I _{IL}	LOW-Level Input Current	Logic Input PINs; V _{IN} = 0V	-1.0	--	1.0	μA
V _{IH}	HIGH-Level Input Voltage	Logic Input with Schmitt Trigger, at VDD=3.3V				V
		Logic Input with Schmitt Trigger, at VDD=5.0V				V
		Logic Input without Schmitt Trigger, at VDD=3.3V				V
		Logic Input without Schmitt Trigger, at VDD=5.0V				V
		Low Voltage Input, at VDD=3.3V				V
		Low Voltage Input,				V

		at VDD=5.0V				
V _{IL}	LOW-Level Input Voltage	Logic Input with Schmitt Trigger, at VDD=3.3V				V
		Logic Input with Schmitt Trigger, at VDD=5.0V				V
		Logic Input without Schmitt Trigger, at VDD=3.3V				V
		Logic Input without Schmitt Trigger, at VDD=5.0V				V
		Low Voltage Input, at VDD=3.3V				V
		Low Voltage Input, at VDD=5.0V				V
V _{OH}	HIGH-Level Output Voltage	Push Pull, 1x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Push Pull, 1x Drive I _{OH} = 5mA, at VDD=5.0 V				V
		Push Pull, 2x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Push Pull, 2x Drive I _{OH} = 5mA, at VDD=5.0 V				V
		Open Drain, 1x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Open Drain, 1x Drive I _{OH} = 3mA, at VDD=5.0 V				V
		Open Drain, 2x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Open Drain, 2x Drive I _{OH} = 3mA, at VDD=5.0 V				V
V _{OL}	LOW-Level Output Voltage	Push Pull, 1x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Push Pull, 1x Drive I _{OH} = 5mA, at VDD=5.0 V				V
		Push Pull, 2x Drive I _{OH} = 3mA, at VDD=3.3 V				V
		Push Pull, 2x Drive I _{OH} = 5mA, at VDD=5.0 V				V
		Open Drain, 1x Drive I _{OH} = 3mA, at VDD=3.3 V				V

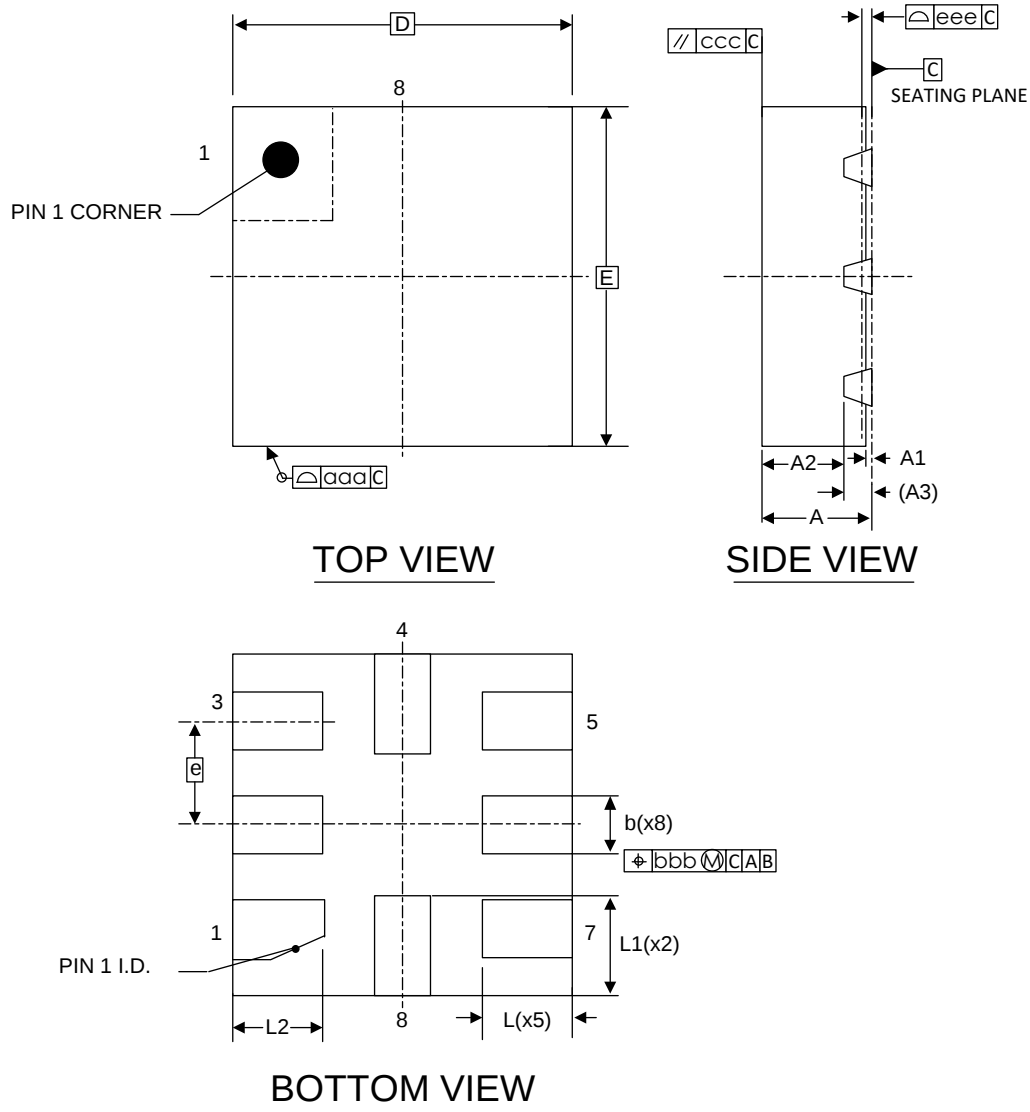
		Open Drain, 1x Drive $I_{OH} = 3mA$, at $VDD=5.0V$				V
		Open Drain, 2x Drive $I_{OH} = 3mA$, at $VDD=3.3V$				V
		Open Drain, 2x Drive $I_{OH} = 3mA$, at $VDD=5.0V$				V
I_{OH}	HIGH-Level Output Current	Push Pull, $V_{OH} = 2.4V$, 1X Driver, at $VDD=3.3V$				mA
		Push Pull, $V_{OH} = 2.4V$, 1X Driver, at $VDD=5.0V$				mA
		Push Pull, $V_{OH} = 2.4V$, 2X Driver, at $VDD=3.3V$				mA
		Push Pull, $V_{OH} = 2.4V$, 2X Driver, at $VDD=5.0V$				mA
		Open Drain, $V_{OH} = 2.4V$, 1X Driver, at $VDD=3.3V$				mA
		Open Drain, $V_{OH} = 2.4V$, 1X Driver, at $VDD=5.0V$				mA
		Open Drain, $V_{OH} = 2.4V$, 2X Driver, at $VDD=3.3V$				mA
		Open Drain, $V_{OH} = 2.4V$, 2X Driver, at $VDD=5.0V$				mA
I_{OL}	LOW-Level Output Current	Push Pull, $V_{OH} = 2.4V$, 1X Driver, at $VDD=3.3V$				mA
		Push Pull, $V_{OH} = 2.4V$, 1X Driver, at $VDD=5.0V$				mA
		Push Pull, $V_{OH} = 2.4V$, 2X Driver, at $VDD=3.3V$				mA
		Push Pull, $V_{OH} = 2.4V$, 2X Driver, at $VDD=5.0V$				mA
		Open Drain, $V_{OH} = 2.4V$, 1X Driver, at $VDD=3.3V$				mA
		Open Drain, $V_{OH} = 2.4V$, 1X Driver, at $VDD=5.0V$				mA
		Open Drain, $V_{OH} = 2.4V$, 2X Driver, at $VDD=3.3V$				mA
		Open Drain, $V_{OH} = 2.4V$, 2X Driver, at $VDD=5.0V$				mA
R_{PULL}	Pull up or down Resistance	1Mohm Pull up or down				MΩ
		100Kohm Pull up or down				kΩ
		10Kohm Pull up or down				kΩ

T_{SU}	Startup Time	From VDD rising past PON threshold				ms
PON_{THR}	Power On Threshold	V _{DD} Level Required to Start Up the Chip				V
$POFF_{THR}$	Power Off Threshold	V _{DD} Level Required to Switch Off the Chip				V
E_{LFOSC}	Error of 20KHz Oscillator	VDD = 2.3V to 5.5V, T = 25°C				%
		VDD = 2.3V to 5.5V, T = -40°C~125°C				%
E_{HFOSC}	Error of 2MHz Oscillator	VDD = 2.3V to 5.5V, T = 25°C				%
		VDD = 2.3V to 5.5V, T = -40°C~125°C				%

Package Top Marking



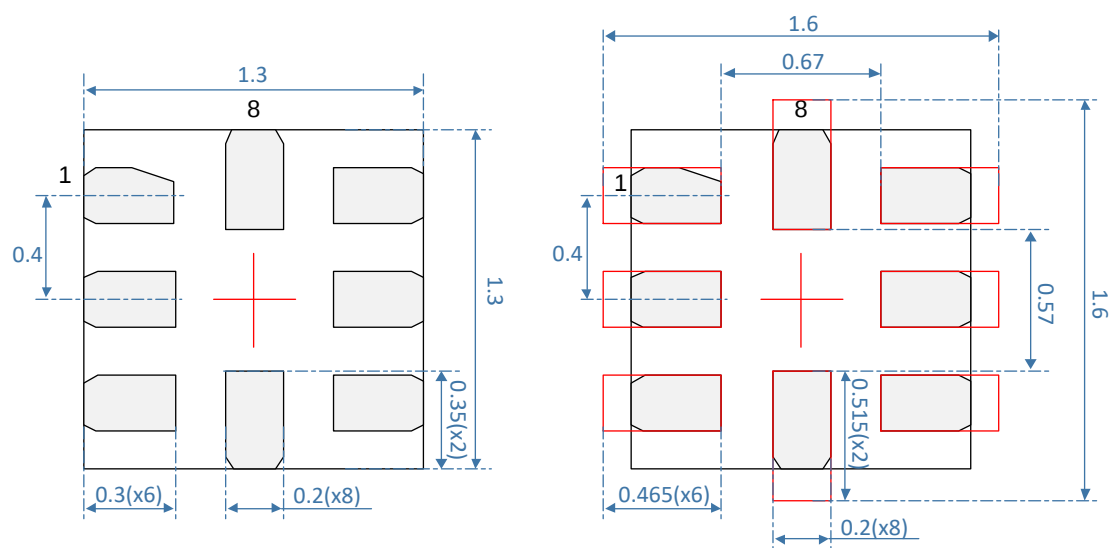
Package Drawing and Dimensions



Unit: mm

Symbol	Min	Nom.	Max	Symbol	Min	Nom.	Max
A	0.5	0.55	0.6	D	1.3BSC		
A1	0	0.02	0.05	E	1.3BSC		
A2	---	0.4	---	L	0.25	0.3	0.35
A3	0.152REF			L1	0.3	0.35	0.4
b	0.15	0.2	0.25	L2	0.2	0.3	0.4
aaa	0.1			bbb	0.1		
ccc	0.1			eee	0.05		
e	0.4 BSC						

Recommended Land Pattern

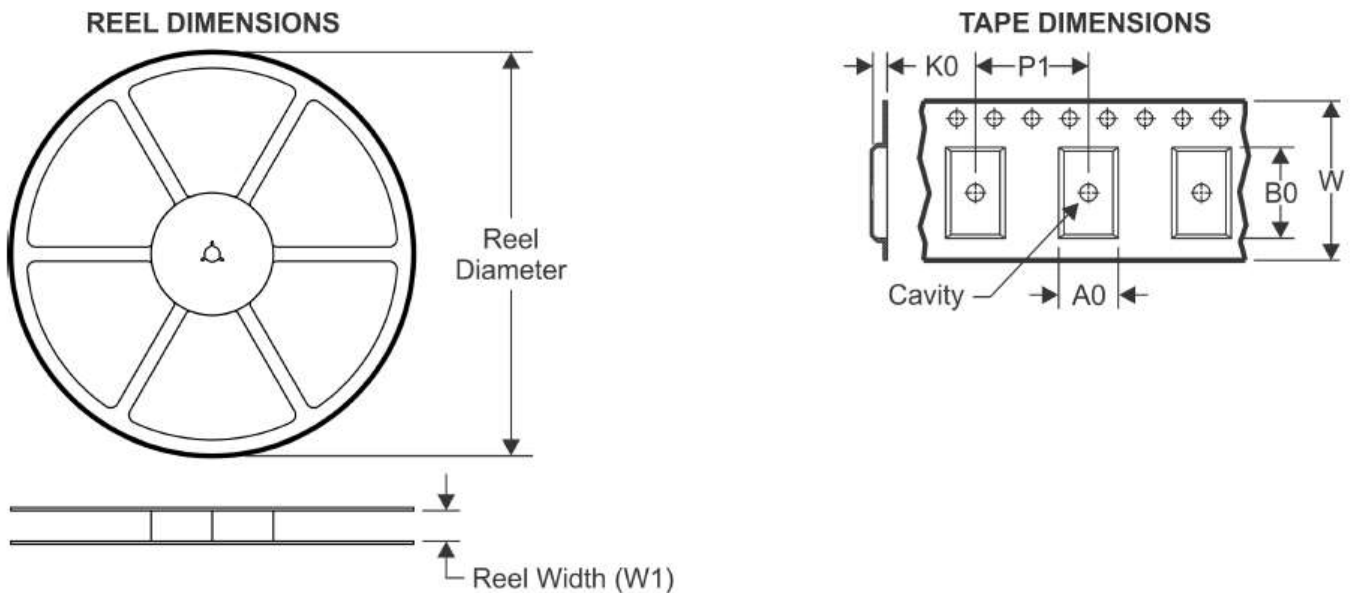


Unit: mm

Tape and Reel Information

Package Type	Num of Pins	Package Size [mm]	Units/package		Reel & Hub Size [mm]	Leader (min)		Trailer (min)		Tape Width [mm]	Part Pitch [mm]
			SPQ	1 Box		Pockets	Length [mm]	Pockets	Length [mm]		
QFN 8L 1.3x1.3 mm	8	1.3x1.3x0.55	3000	3000	178/60	30	120	140	560	8	4

Carrier Tape Drawing and Dimensions



A0	Dimension designed to accommodate the component width	1.60mm
B0	Dimension designed to accommodate the component length	1.60mm
K0	Dimension designed to accommodate the component thickness	0.80mm
W	Overall width of the carrier tape	8.00mm
W1	Reel Width	8.80mm
P0	Pitch between Index Hole Pitch	4.00mm
P1	Pitch between successive cavity centers	4.00mm

Recommended Reflow Soldering Profile

Please see IPC/JEDEC J-STD-020