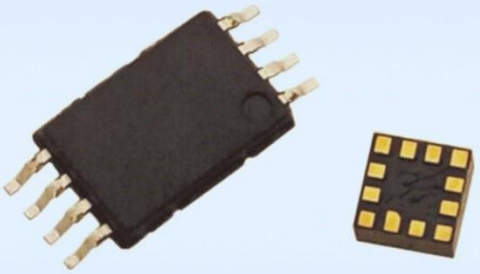
3D pedometer chipset

Pulse output for Wrist application

Product Specification



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Note: Revision History

Revision	Date	Comment
V1.0	2014-6-9	First release
V2.0	2016-8-9	Type set adjusted

1. Description:

STP101 is a 3D pedometer functional chipset which include a G-sensor and MCU for wirst application. It has adopted the pulse-type interface, with the 3D MEMS sensor (G sensor) and high precision of 3D pedometer algorithm, it can give a precisely pedometer in any direction. This module has the characteristics of small volume, low power consumption and high precision etc. The simple pulse ouput interface ensures it can be easily embedded in various kinds of pedometer functional system.

Note:The algorithm of our pedometer is adjustable according to customer's equirement.

We can provide the pedometer for shoes, table class pedometer and bracelet pedometer wearing on wrist,pedometer wearing on waist and pedometer putting inside the pocket. Please indicate clearly when purchasing.

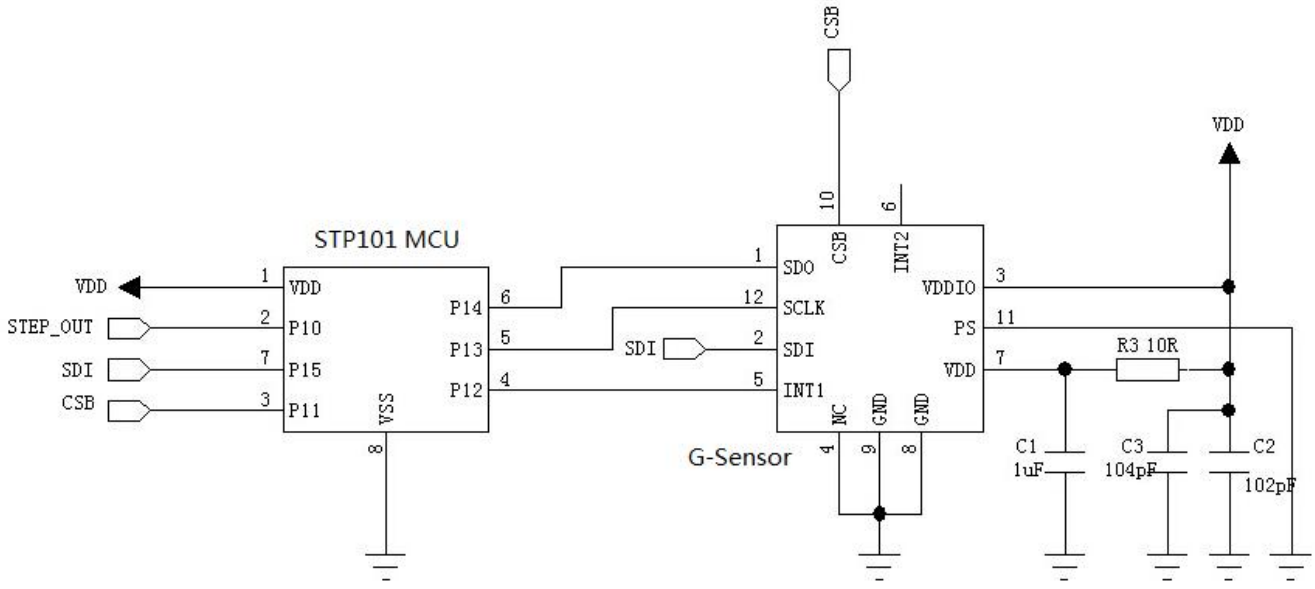
2. Features:

- Pulse output interface
- Wrist application
- High precision 3D pedometer algorithm
- Low power consumption,Ultra-small size

3. Application:

- Bracelet pedometer
- Sport watch
- Outdoor handheld
- Healthcare products

4. Application circuit:



5. Parameters:

Parameters	Condition	Performance			Unit
		MIN	TYP	MAX	
Working voltage		2.3	3	3.6	V
Working current	@3V		25		uA
Sleep current			< 4		uA
Step resolution			1		Step
Pedometer error	Uniform working		±3%		Step
Working temperature		-10		50	℃
Storage temperature		-10		50	℃

6. Working mode:

1) Normal work

The chipset goes into normal working mode when step motion is detected.

The Step-out pin is in low level usually, it will output one high pulse with one step motion, and the high level of the pulse is around 50ms.

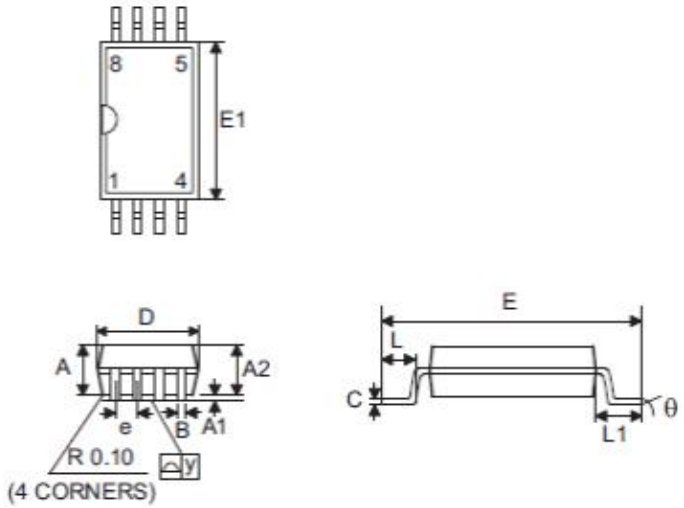
2) Sleep mode:

The pedometer goes into sleep mode when no step motion is detected.

Under sleep mode, the G sensor doesn't work, and MCU is in deep sleep mode, the entire pedometer chipset in low power consumption mode.

7. IC Seal:

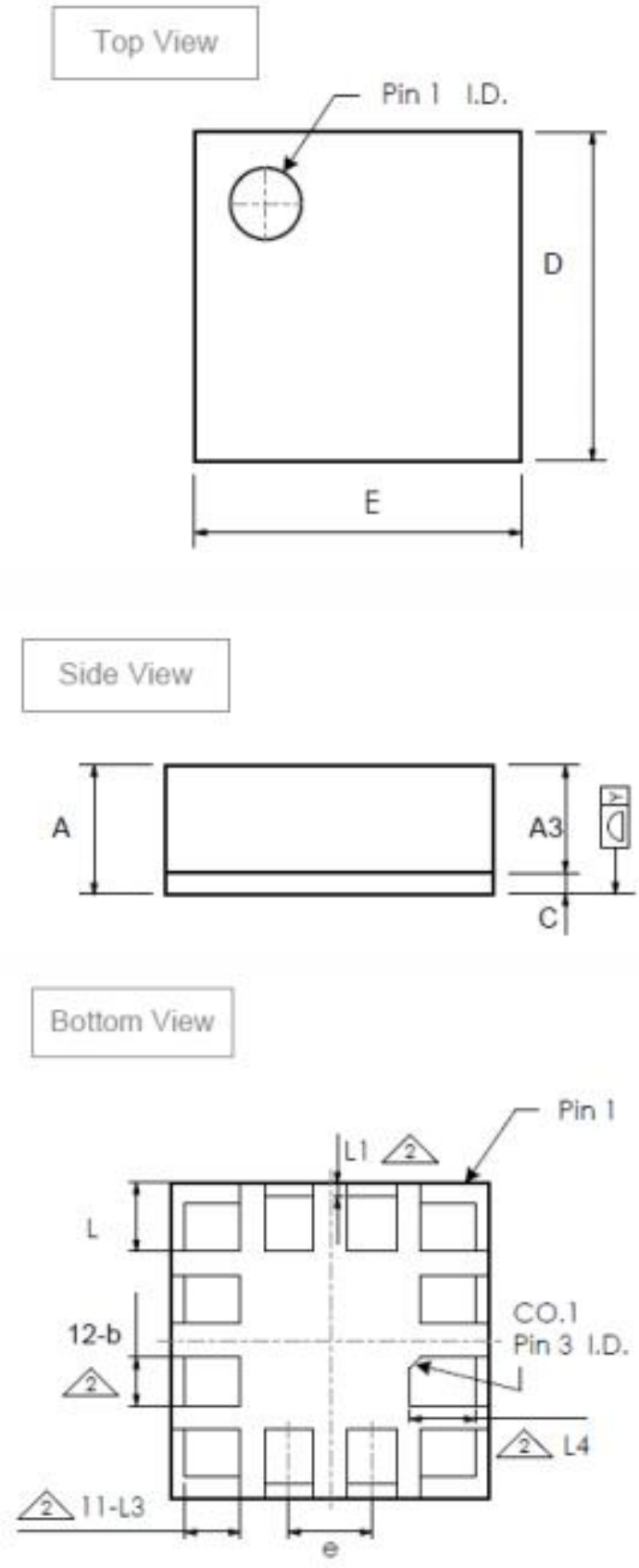
MCU：TSSOP8



Symbol	Dimensions in inch		
	Min.	Nom.	Max.
A	0.041		0.047
A1	0.002		0.006
A2	0.031		0.041
B		0.010	
C	0.004		0.006
D	0.114		0.122
E	0.244		0.260
E1	0.169		0.177
e		0.026	
L	0.020		0.028
L1	0.035		0.043
y			0.004
°	0°		8°

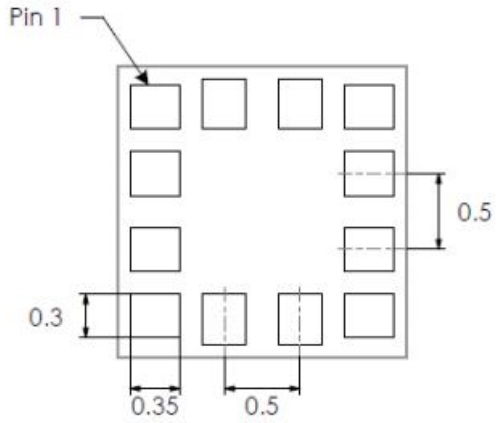
Symbol	Dimensions in mm		
	Min.	Nom.	Max.
A	1.05		1.20
A1	0.05		0.15
A2	0.80		1.05
B		0.25	
C	0.11		0.15
D	2.90		3.10
E	6.20		6.60
E1	4.30		4.50
e		0.65	
L	0.50		0.70
L1	0.90		1.10
y			0.10
°	0°		8°

G-Sensor：QFN12



SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN.	NOM.	MAX
A	0.95	1.00	1.05
A3	---	0.82 REF.	---
b	0.23	0.28	0.33
c	---	0.18 REF.	---
D	1.90	2.00	2.10
E	1.90	2.00	2.10
e	---	0.50	---
L	0.325	0.375	0.425
L1	---	0.05	---
L3	0.275	0.325	0.375
L4	0.375	0.425	0.475
y	0.00	---	0.10

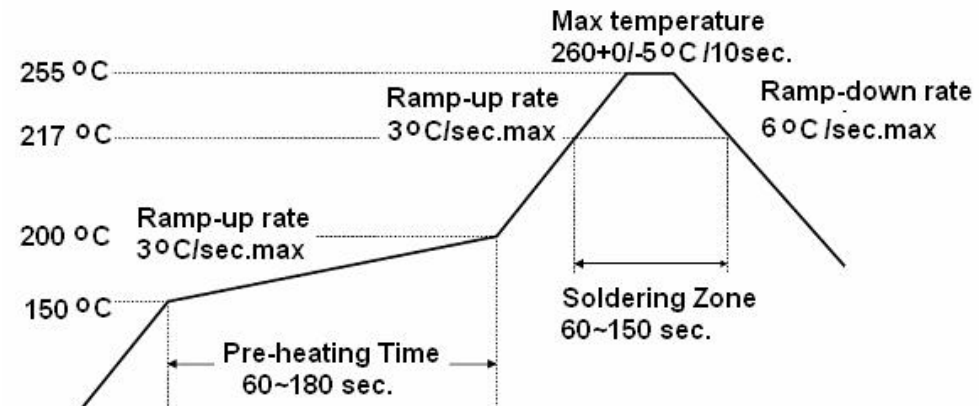
Recommended PCB Layout



All dimensions are in millimeters (mm)

8. Soldering condition:

1) Soldering temperature curve;



2) Don't reflow more than twice;

3) Don't press the chip when during the soldering;

4) Don't bent circuit board after the soldering;