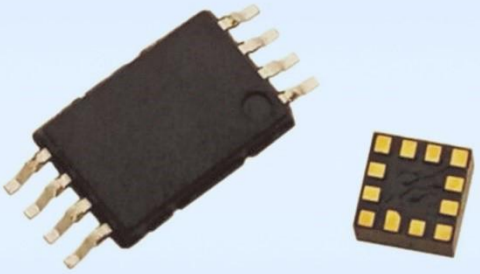
3D pedometer chipset
Pulse output for Non-Wrist application

Product Specification



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Note: Revision History

Revision	Date	Comment
V1.0	2014-6-9	First release
V2.0	2016-8-9	Format updated

1. Description:

STP100 is a 3D pedometer functional chipset which include a G-sensor and MCU.. 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 size, low power and etc. The simple digital interface ensures it can be easily used in 3D pedometer,USB Multi function Pedometer, and embedded in various kinds of pedometer functional system.

★Note: The algorithm of our pedometer is adjustable according to customer' requirement. We can provide the pedometer for shoes, table class pedometer and bracelet pedometer, pedometer wearing on waist, pedometer putting inside the pocket and the cow pedometer . Pls indicate clearly when purchasing.

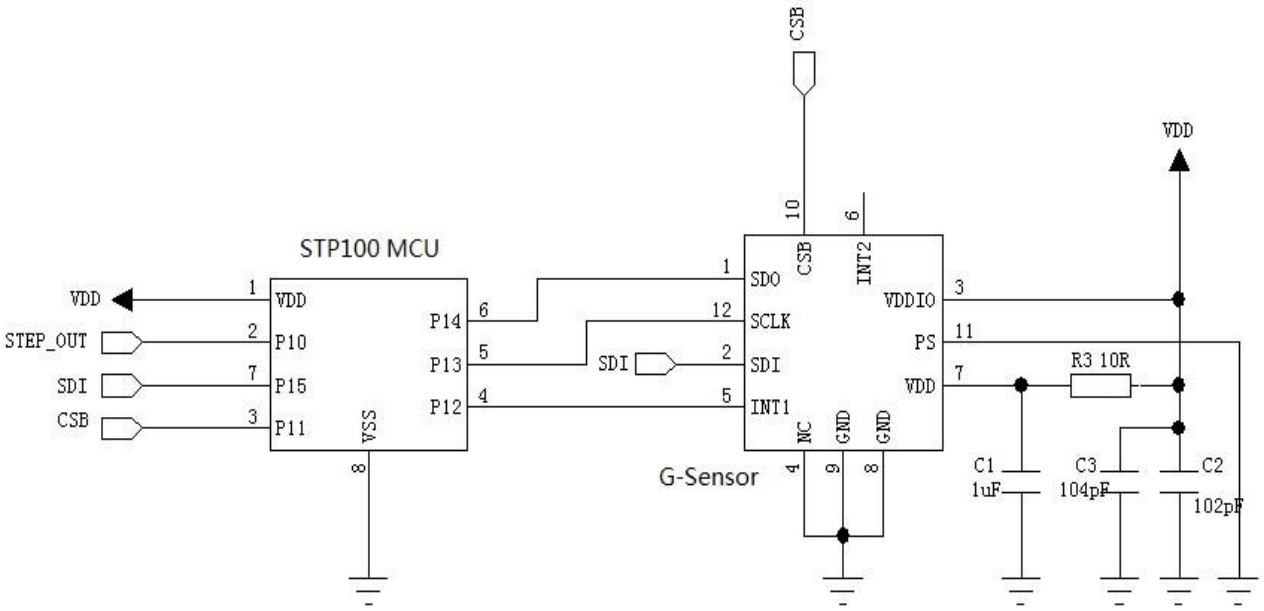
2. Features:

- Pulse output interface
- High precision 3D pedometer algorithm
- Non-wrist application
- Ultra-low power/Ultra-small size

3. Application:

- Pocket pedometer
- Outdoor handheld
- MP3 pedometer
- Healthcare products

4. Typical application circuit:



5. Performance parametric:

Parametric	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:

Normal work mode

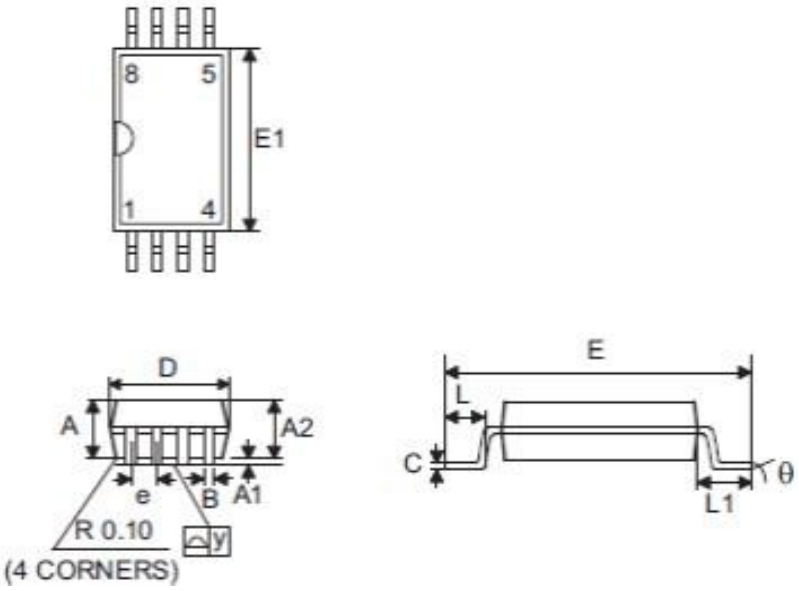
The chip set goes into normal working mode when step motion is detected. The Step-out pin is in low level usually, it will output one high pulse with one step motion, and the high level of the pulse is around 50ms.

Sleep mode

If the Chip will automatically come to sleep status if it can not any detect walking motion within 20 seconds, the G sensor doesn't work as well. the entire pedometer chip set in low power consumption mode, then the current is less than 4uA.

7. IC encapsulation

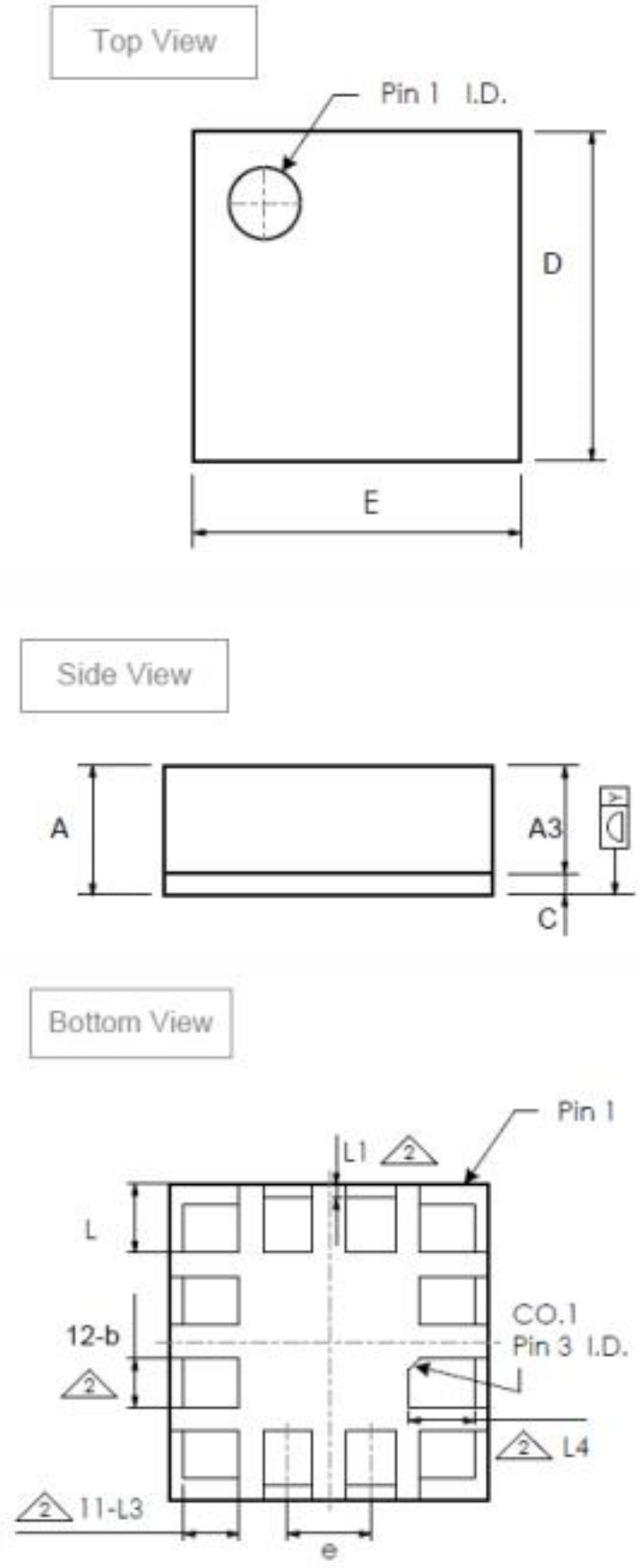
MCU：TSSOP8



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°

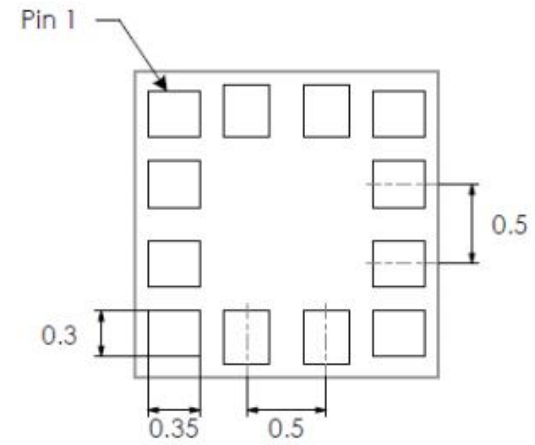
Symbol	Dimensions in mm		
	Min.	Nom.	Max.
A	1.05		1.20
A1	0.05		0.15
A2	0.80		1.05
B		0.25	
C	0.11		0.15
D	2.90		3.10
E	6.20		6.60
E1	4.30		4.50
e		0.65	
L	0.50		0.70
L1	0.90		1.10
y			0.10
°	0°		8°

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

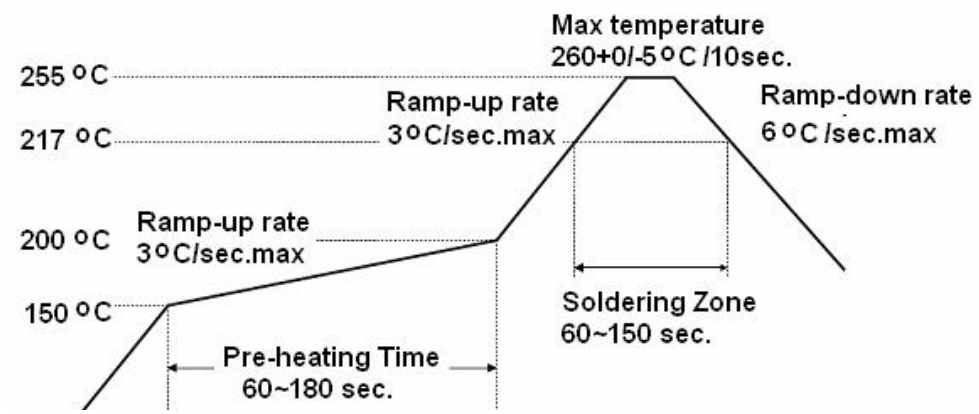
Recommended PCB Layout



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.