

Specification of SF15M-001

Air Flow Sensor

Restricted

1. Security warning

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2. Publication history

Version	Date	Description	Author	Approved
1.0	2020.11.28	New design	Peter	Ted
1.1	2021.01.10	Add the Land Pattern Recommendation	Peter	Ted
1.2	2021.01.29	Add the Output Enable time Update the Application Circuit Recommendation	Peter	Ted
1.3	2021.03.10	Update the component orientation	Peter	Ted

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1. Introduction

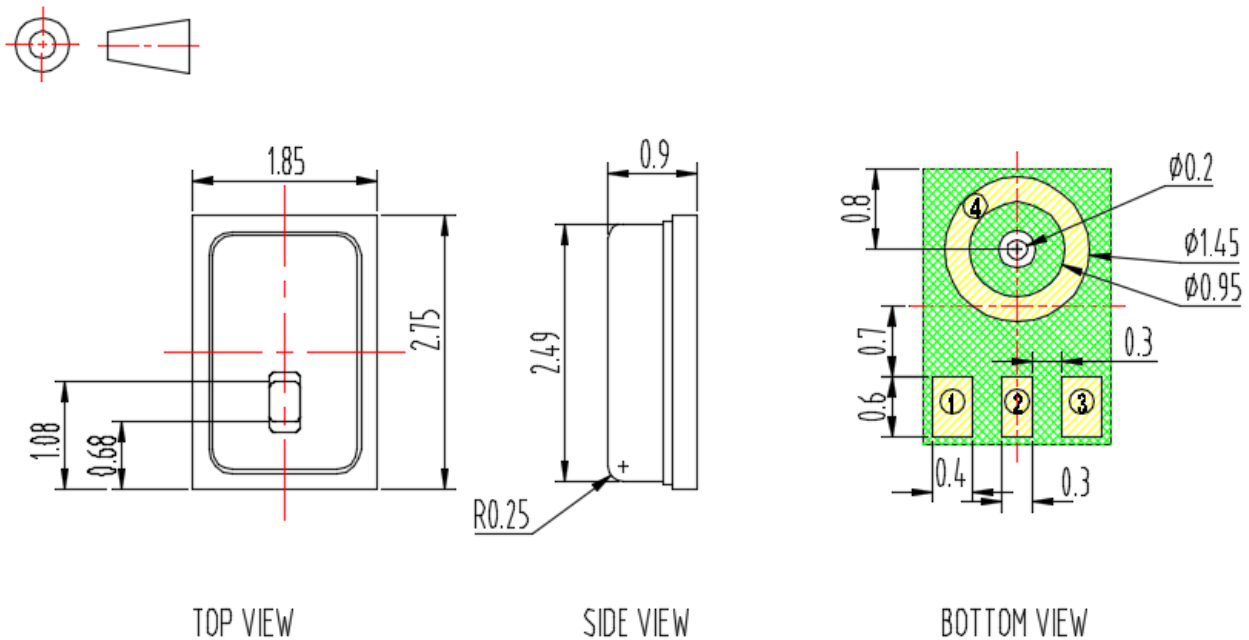
Exclusive ASIC design, the ASIC works stably as a switch in the e-cigarette.
Simple circuit with less passive components.

2. Function description

- Low standby current ($<5\mu\text{A}$)
- Standby mode, output is low level , output is high level when working
- When blowing, it does not work
- The maximum output time is 12 seconds
- Chip Air Flow Sensor, Automatic SMT

3. Product application

3.1 External dimension



Tolerance: $\pm 0.15\text{mm}$

3.2 Pin description

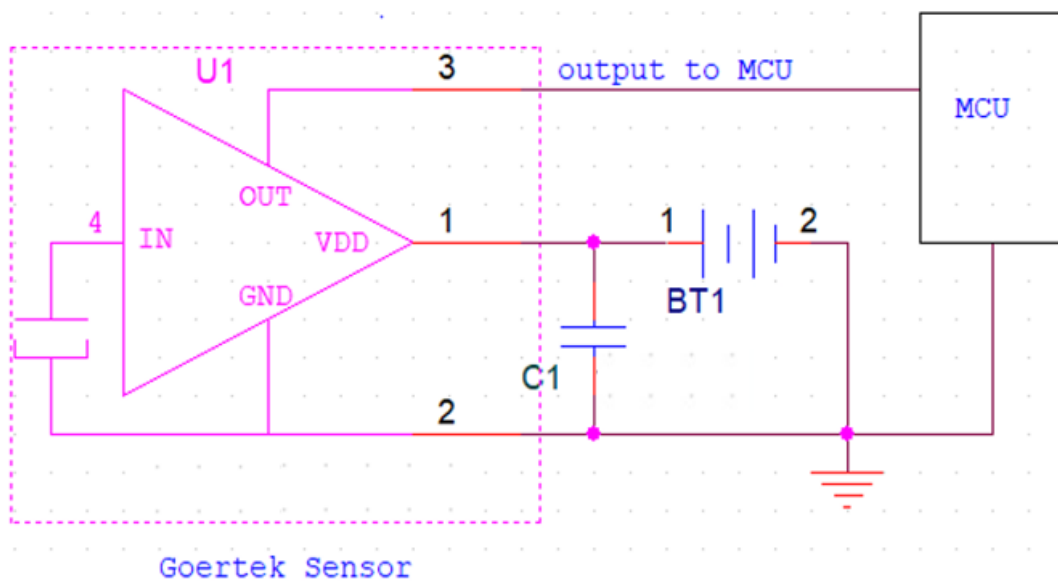
Serial No.	Symbol	Function
1	GND	Negative Terminal
2	OUT	Output Terminal
3	VDD	Positive Terminal
4	GND	Negative Terminal

3.3 Electrical characteristics

Conditions: $V_{DD}=3.7V$, $T=25^{\circ}C$ (unless otherwise specified)

Symbol	Parameter	Min	Typ	Max	Unit
V_{DD}	Supply voltage	2.5	3.7	5.5	V
T_t	Trigger threshold	-100	/	-300	Pa
V_{out}	Output voltage	/	=Vdd	/	V
I_Q	Quiescent current	/	2	5	μA
T-EN	Output Enable time	/	30	100	mS
T_{op-max}	Maximum output time protection	/	12	/	S
T_{opR}	Operating temperature	-20	/	85	$^{\circ}C$
F_{osc}	Frequency	/	33	/	KHz

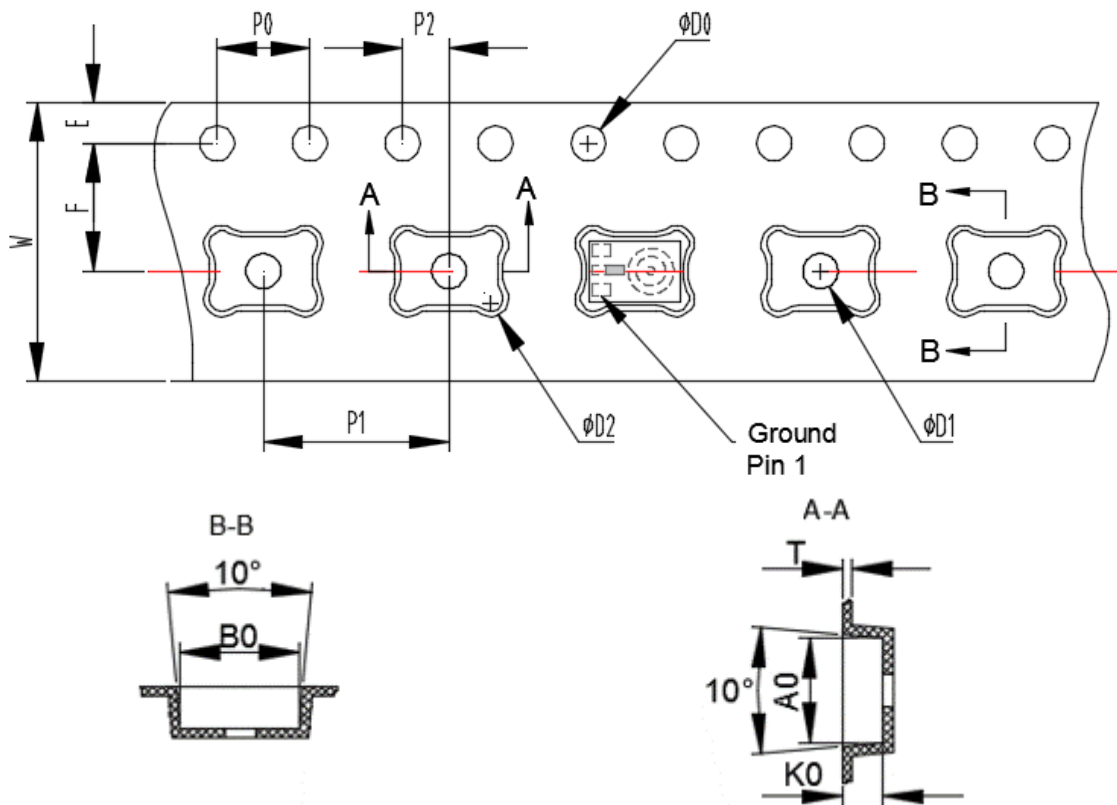
3.4 Application Circuit



Note: Recommend capacitance of C1 is 1 μF and put C1 as near sensor as possible.

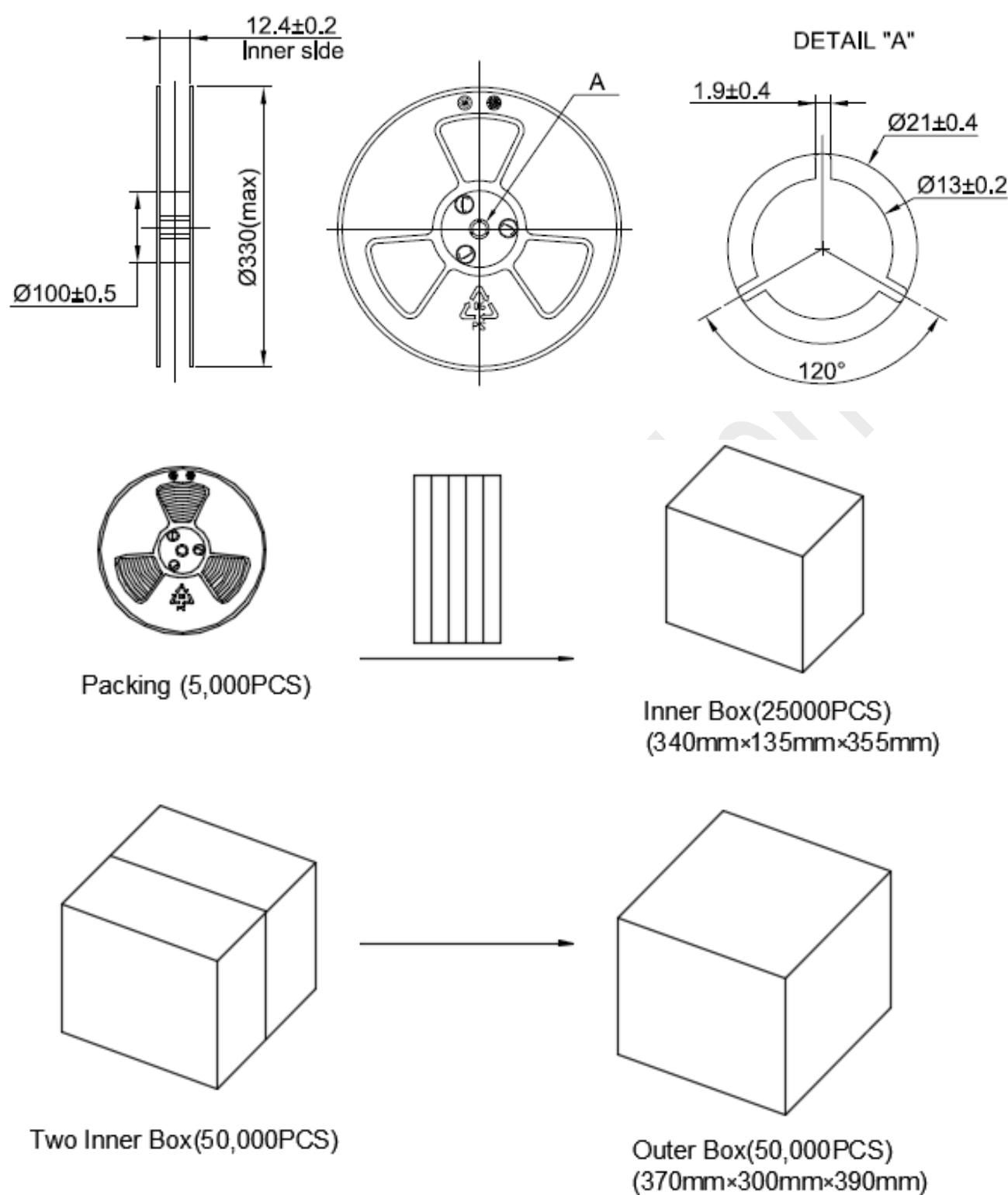
4. Packing

4.1 Tape Specification



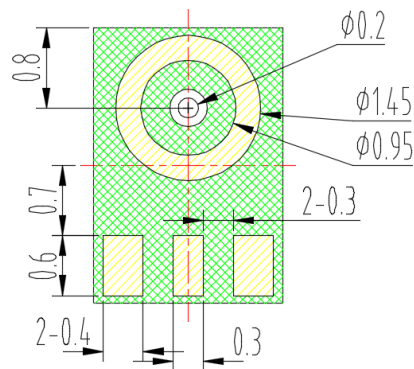
4.2 The Dimensions as Follows:

ITEM	W	E	F	ØD0	ØD1
DIM(mm)	12.0±0.30	1.75±0.10	5.5±0.05	1.50 ^{+0.10} ₀	1.00 ^{+0.10} ₀
ITEM	P0	10P0	P1	A0	B0
DIM(mm)	4.00±0.10	40.00±0.20	8.00±0.10	3.00±0.05	2.05±0.05
ITEM	K0	P2	T	ØD2	
DIM(mm)	1.10±0.10	2.00±0.05	0.30±0.05	0.50±0.10	

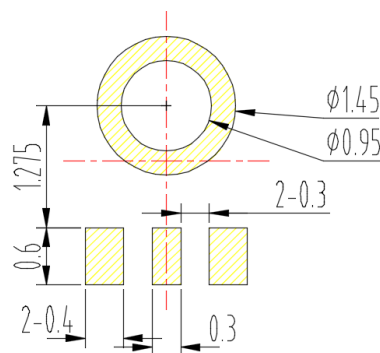


5 Land Pattern Recommendation

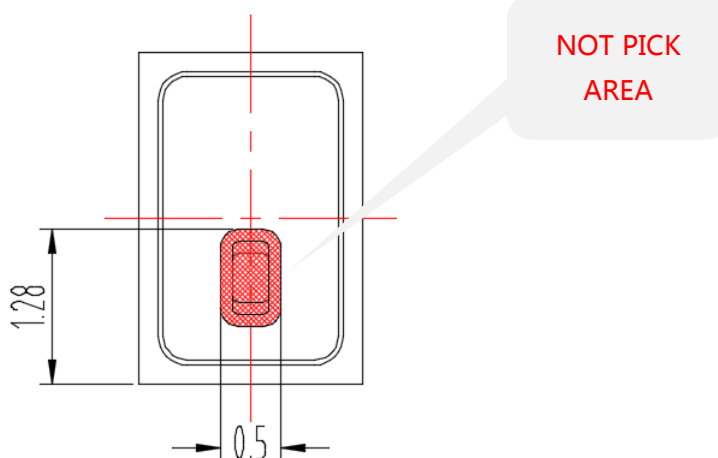
5.1 The Pattern of Sensor Pad (unit: mm)



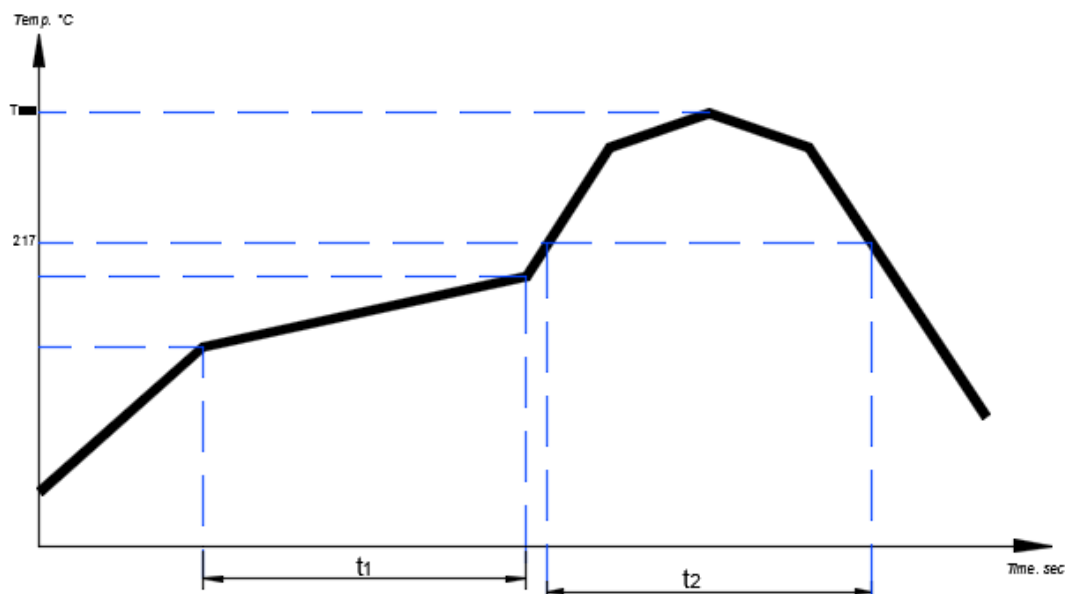
5.2 Recommended Soldering Surface Land Pattern (Unit: mm)



5.3 Not Pick Area



6. Reflow profile



Parameter	Reference	Specification
Soaking Zone (150~180°C)	t_1	60-120s
Time Above 217°C	t_2	60~120s
Peak Temperature	T_{peak}	255°C
Temperature Gradient In Riseing	---	Max 3°C/s
Temperature Gradient In Cooling	---	Max 5°C/s

7. Storage and Transportation

7.1 Keep the sensor in warehouse with less than 75% humidity and without sudden temperature change, acid air, any other harmful air or strong magnetic field. Recommend storage period no more than 1 year and floor life(out of bag) at factory no more than 4 weeks.

7.2 The sensor with normal pack can be transported by ordinary conveyances. Please protect products against moist, shock, sunburn and pressure during transportation.

7.3 Storage Temperature Range: -40°C~+70°C

7.4 Operating Temperature Range: -40°C~+100°C