



ELECTRONIC HEAT DETECTORS

GENERAL DESCRIPTION

The M75001/M75002/M75003 is thermistor based electronic Heat Detectors IC both with an 114.8°F (46°C) /135°F (57°C) /158°F (70°C) fixed temperature set point or adjustable temperature set point . In addition and has a Rate-Of-Rise of temperature detection feature rated at 15.6°F (8.7°C) per minute. It is designed for use in low power, net work operated, consumer applications with minimum of external components.

FEATURES

- 5V operating voltage range.
- 103NT thermistor based Heat Detection
- Measurement accuracy : $\pm 1^{\circ}\text{C}$, Resolution : 0.1°C
- Nominal Sensitivity

M75001 : 114.8°F (46°C) Fixed Temperature / 15.6°F (8.7°C) per minute Rate-Of-Rise (@RA=0Ω).

M75002 : 135°F (57°C) Fixed Temperature / 15.6°F (8.7°C) per minute Rate-Of-Rise (@RA=0Ω).

M75003 : 158°F (70°C) Fixed Temperature / 15.6°F (8.7°C) per minute Rate-Of-Rise (@RA=0Ω).

Adjustable Temperature/15.6°F (8.7°C) per minute Rate-Of-Rise (@RA=xxxxΩ), detail please see table 1.

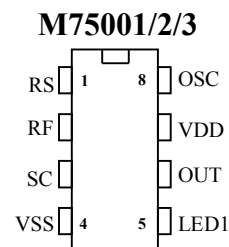
- Low Current design.
- Interchangeable 2-Wire and 4-Wire Bases relay functions.
- Dual Response LEDs (LED1, LED2).
During standby, the LED1 flash once every 7 seconds.
During alarm, the LED2 light steady at full brilliance.
A double flash every 7 seconds indicates a detector with a thermistor trouble.
- Ideal for low powered net work applications.

APPLICATIONS

- Heat detector.

PIN ASSIGNMENT

Pin No	Pin Name	Description
1	RS	Connect thermistor resistor
2	RF	Connect reference resistor
3	SC	Common point
4	VSS	Power supply GND
5	LED1	During Standby indicator
6	OUT	At smoke condition occurs, this pin is driven high.
7	VDD	Positive power supply.
8	OSC	For system oscillator in.





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ABSOLUTE MAXIMUM RATING

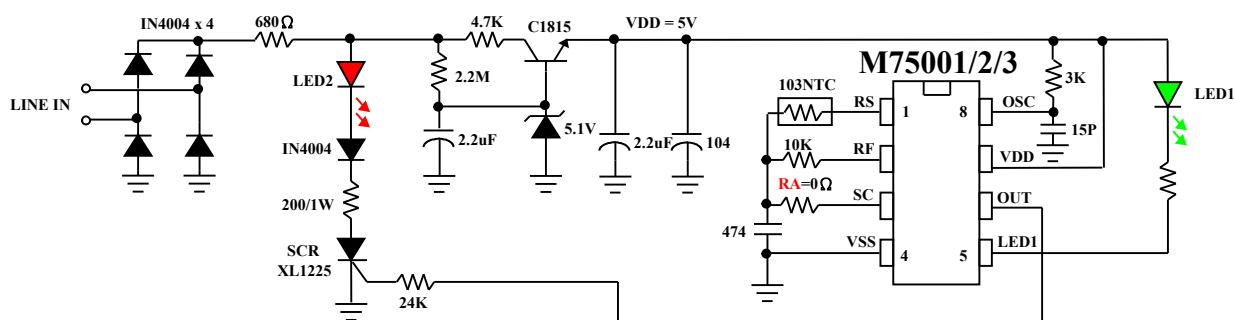
Parameter	Sym.	Rating	Unit
Supply Voltage Range	V _{DD}	-0.5 ~ 5	V
Input Voltage Range	V _{IN}	-0.3 to V _{DD} + 0.3	V
Input Current	I _{IN}	10	mA
Operating Temperature Range	T _A	-25 ~ 75	°C
Storage Temperature Range	T _S	-55 to 125	°C

ELECTRICAL CHARACTERISTICS

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V _{DD}	2.4	5	6	V	
Operating Current	I _{OP}	—	0.5	1	mA	No load
Quiescent Current	I _{SB}	—	—	20	μA	
Output Drive Current	I _O	—	2	—	mA	@V _{DS} =1.2V
Input Voltage	V _{IH}	V _{DD} -0.2	V _{DD}	V _{DD}	V	
	V _{IL}	V _{SS}	V _{SS}	V _{SS} +0.2		
Oscillator Frequency	F _{OSC}	—	8	—	MHz	External±10%

APPLICATION DIAGRAM

(A) Fixed Temperature (@RA=0Ω)

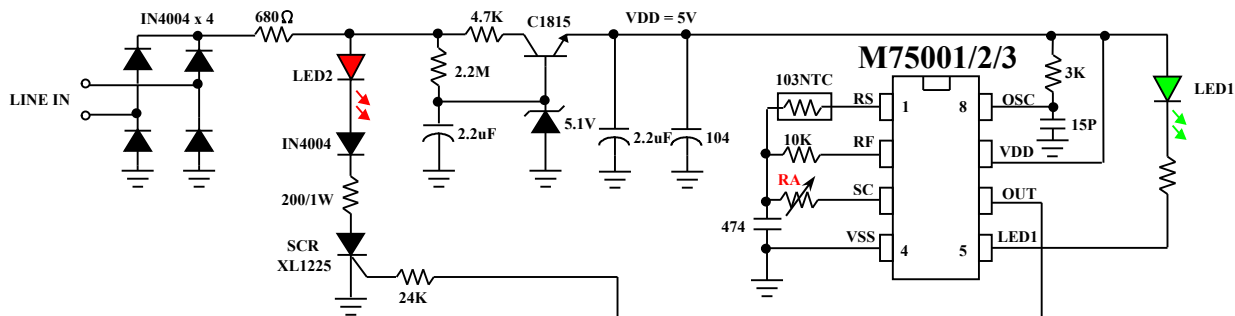


* All specs and applications shown above subject to change without prior notice.
(以上電路及規格僅供參考,本公司得逕行修正)



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(B) Adjustable Temperature Set Point



RA	Temperature set point (°F)	Temperature Set point (°C)
17.96KΩ	50	10
12.09KΩ	68	20
8.313KΩ	86	30
5.827KΩ	104	40
4.160KΩ	122	50
3.020KΩ	140	60
2.228KΩ	158	70
1.668KΩ	176	80

* Table 1

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