

<Analog IC>
RT8H162C

2-channel comparator with built-in reference voltage

DESCRIPTION

RT8H162C is equipped with two comparators and an internal power supply, and can detect two voltages.

It is possible to detect temperature, overvoltage, etc. with two systems at the same time.

Two comparators with an internal power supply of 1.27V as the reference voltage are built-in, and when the input voltage (IN1 and IN2) exceeds the reference voltage, the output (OUT1 and OUT2, respectively) is low.

The comparator has a hysteresis of approximately 570 mV to prevent chatter. A power supply voltage clamp circuit is also built-in, and it can be used by applying a current, such as when a voltage exceeding the absolute maximum rating is used.

FEATURE

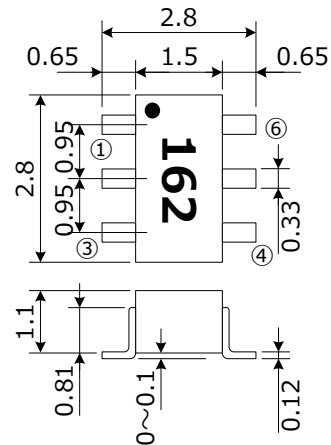
- Smaller sets and higher density mounting are possible.
- With hysteresis.
- Built-in reference voltage (1.27V) with low temperature fluctuations.
- Open collector output (40V rating).

APPLICATION

- Overvoltage Detection.
- Temperature Detection.
- Signal Detection, etc.

OUTLINE DRAWING

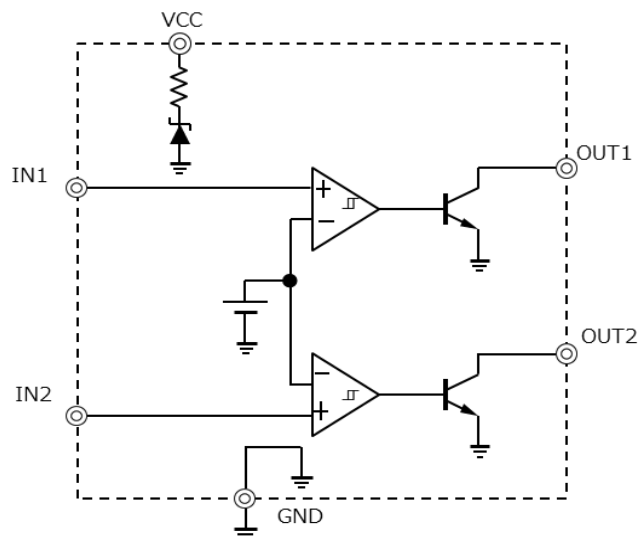
Unit : mm



PIN LAYOUT

- | | |
|--------|--------|
| ① OUT1 | ⑥ OUT2 |
| ② IN2 | ⑤ GND |
| ③ IN1 | ④ VCC |

BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise noted.)

Symbol	Parameter	Test condition	Rating	Unit
ICCM	Maximum power supply current		4	mA
VOUT1,2	Output voltage		40	V
VIN1,2	Input voltage		VCC+0.3	V
IOUT1,2	Output current		10	mA
Pd	Internal power consumption	Ta≥25°C	200	mW
Kθ	Thermal derating		1.6	mW/°C
Tj	Junction temperature		150	°C
Tstg	storage temperature	(keep dry)	-40~150	°C
Topr	Operating temperature	(keep dry)	-40~150	°C

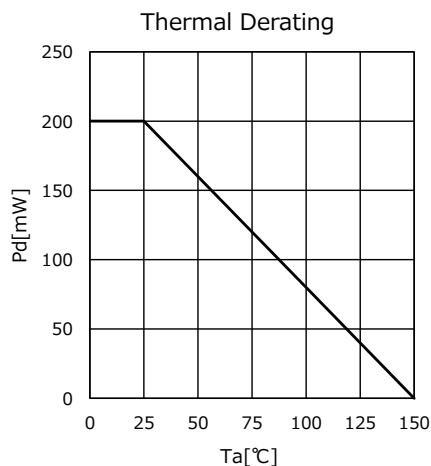
RECOMMENDED OPERATING VOLTAGE RANGE(Ta=25°C, unless otherwise noted.)

Symbol	Parameter	Rating	Unit
VCC	Supply voltage range	3~28	V

ELECTRICAL CHARACTERISTIC (VCC=12V,Ta=25°C, unless otherwise noted.)

Symbol	Parameter	Test condition	Limit			Unit
			Min	Typ	Max	
ICC1	Circuit current	IN1=IN2=0V	85	170	255	uA
ICC2	Detection ircuit current	IN1=IN2=2V	250	500	750	uA
VIN1TH1	IN1 pin threshold volage 1	OUT:H⇒L	1.21	1.27	1.33	V
VIN1TH2	IN1 pin threshold volage 2	OUT:L⇒H	0.65	0.70	0.75	V
VIN1TH3	IN1 pin hysterisis voltage	※参考値 計算式 : VIN1TH1-VIN1TH2	-	0.57	-	V
VIN2TH1	IN2 pin threshold volage 1	OUT:H⇒L	1.21	1.27	1.33	V
VIN2TH2	IN2 pin threshold volage 2	OUT:L⇒H	0.65	0.70	0.75	V
VIN2TH3	IN2 pin hysterisis voltage	※参考値 計算式 : VIN2TH1-VIN2TH2	-	0.57	-	V
IBIN1	IN1 pin bias current	IN1=0.3V	-	0.02	1.0	uA
IBIN2	IN2 pin bias current	IN2=0.3V	-	0.02	1.0	uA
Vsat1	Output 1 saturation voltage	IN1=2V,OUT1=5mA	-	0.25	0.5	V
Vsat2	Output 2 saturation voltage	IN2=2V,OUT2=5mA	-	0.25	0.5	V
ILEAK1	Output 1 leakage current	IN1=0V,OUT1=40V	-	-	1.0	uA
ILEAK2	Output 2 leakage current	IN2=0V,OUT2=40V	-	-	1.0	uA
VCM	Maximum current power supply	ICC=2mA	28	32	39	V

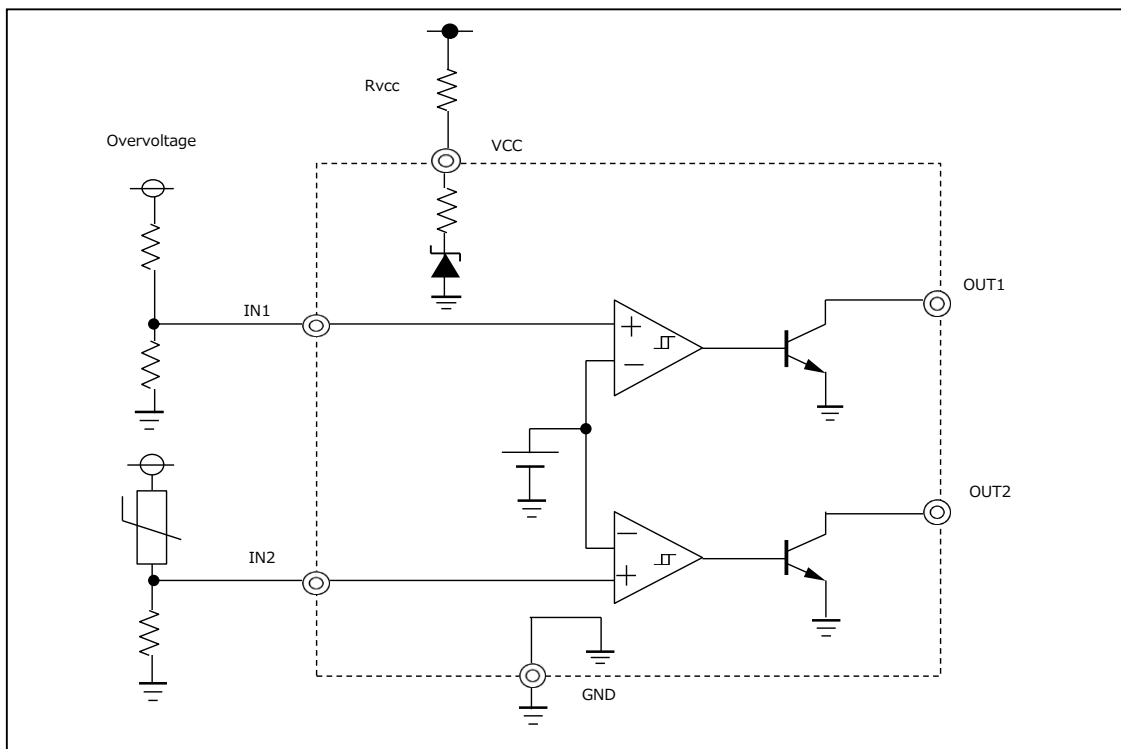
Typical Characteristic



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EXAMPLES OF APPLIED CIRCUITS



<When using a power supply with 28V or higher as VCC.>

Connecting a resistor Rvcc between the VCC pin of this product and the external power supply is necessary, as in the application circuit example above.

(The clamp circuit inside this product makes this usage possible.)

Keep safety first in your circuit designs!

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