

# Preliminary

## RT8H042C

\*This is tentative specification.

### DESCRIPTION

RT8H042C is composed by NPN transistors, PNP transistors and resistors. This product has the reset function, and controls the backup function of the memory of SRAM and the microcomputer (internal organs RAM)

The reset signal( $\overline{\text{RES}}$ ) is output to the microcomputer when the down of power and the power supply are abnormal. At the same time, RAM is switched from the main power supply to the backup power supply, the signal ( $\overline{\text{CS}}$ ) that becomes a stand-by state is output, and RAM is switched to the backup circuit.

### FEATURES

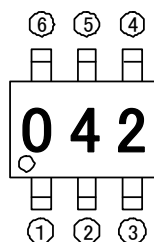
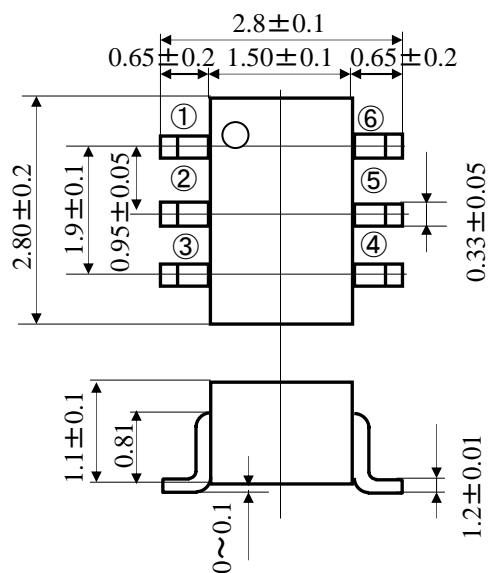
- Miniaturization of a set.
- Detecting voltage (Power supply watch voltage)  
Standard: 1.23V
- Chip selection signal output ( $\overline{\text{CS}}$ )
- Reset output ( $\overline{\text{RES}}$ )

### APPLICATION

- Backup of memories of 3V faction microcomputer systems such as electronic office equipment, industrial equipment, and home electrical appliances
- Control system of power supply where switch of external source and battery like SRAM board with built-in backup function is needed

### OUTLINE DRAWING

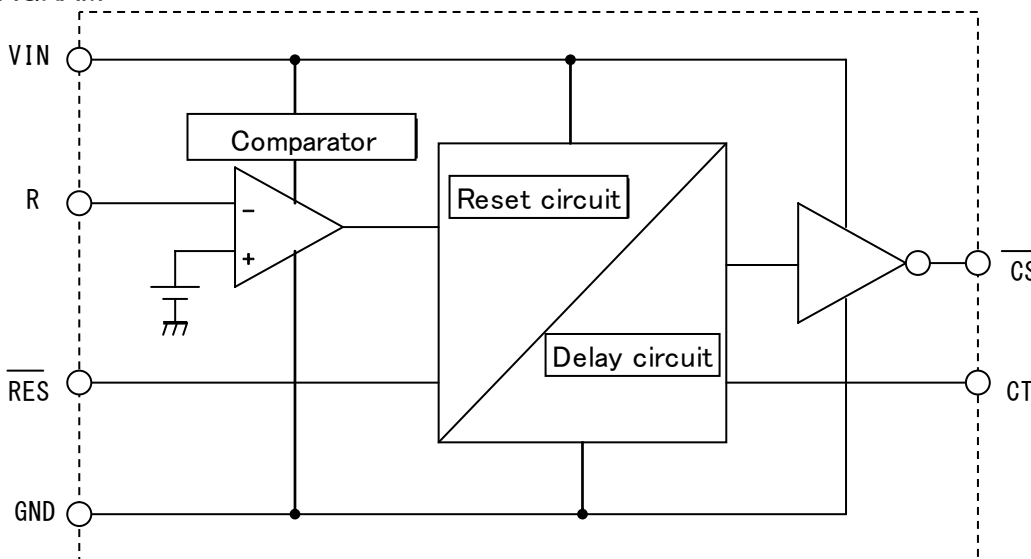
Unit: mm



Pin layout

- ①  $\overline{\text{CS}}$
- ② CT
- ③ R
- ④ VIN
- ⑤ GND
- ⑥  $\overline{\text{RES}}$

### BLOCK DIAGRAM



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### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Test conditions	Ratings	Unit
VIN	Operating supply voltage range		12	V
Pd	Internal power dissipation	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)	-20~75	°C

### ELECTRICAL CHARACTERISTIC (Ta=25°C, VCC=3V unless otherwise noted.)

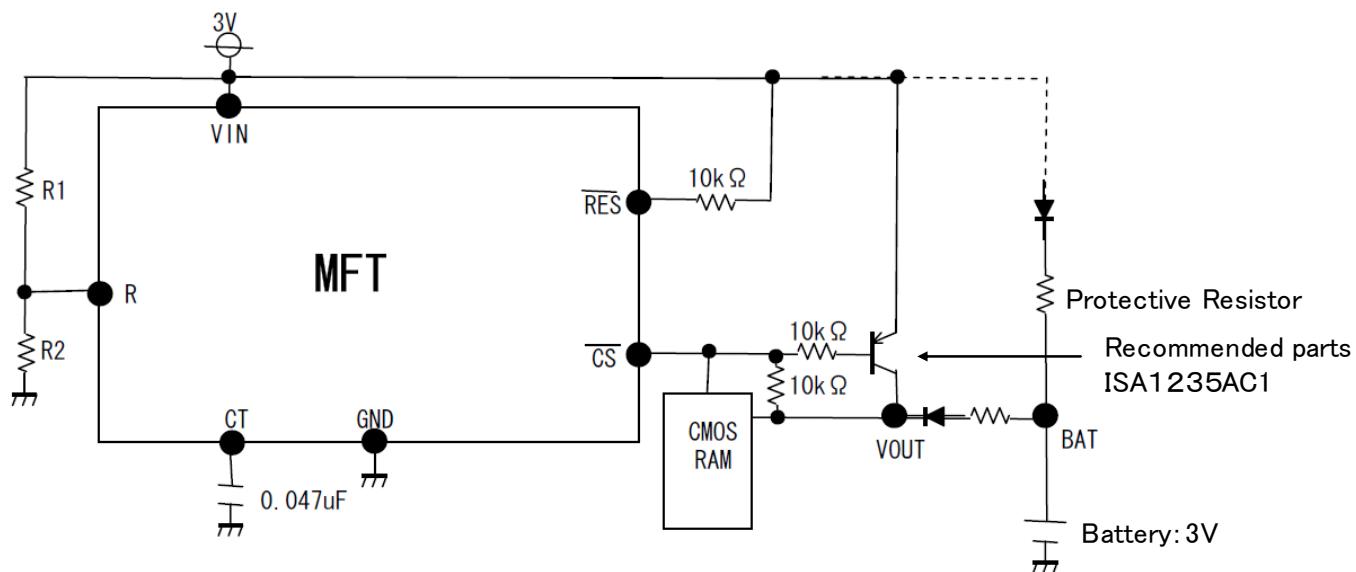
Symbol	Parameter	Test conditions	Designed value			Unit
			Min	Typ	Max	
VIN	Operating supply voltage range		2	-	10	V
IIN	Circuit current	RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup, R: 0V	-	700	1050	μA
VRTH	R threshold voltage	R: H⇒L, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup, CT: OPEN	1.18	1.23	1.28	V
ΔVRTH	Hysteresis	R: H⇒L, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup	50	104	200	mV
CTH	Output voltage (Terminal CT in level HI)	R: 2V, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup	0.65	1.32	2	V
CTL	Output voltage (Terminal CT in level Low)	R: 1V, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup	-	-	0.3	V
RRESL	Output voltage (RES in level Low)	R: 2V, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup	-	-	VIN	V
RRESH	Output voltage (RES in level HI)	RES: 1mA(SINK) R: 1V, CS: 10kΩ, 3Vpullup	-	-	0.5	V
CSH	Output voltage (CS in level HI)	R: 1V, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup	-	-	VIN	V
CSL	Output voltage (CS in level Low)	CS: 1mA(SINK) R: 2V, RES-VIN: 10kΩ pullup	-	-	0.5	V
TPD	Delay time	R: L⇒H, RES-VIN: 10kΩ pullup CS: 10kΩ, 3Vpullup, CT: 0.047μF	9.0	18.0	27.0	ms
CSLEAK	CS leak current (VIN in level Low)	RES-VIN: 10kΩ pullup R: LOW(1V), CS: 10kΩ, 3Vpullup	-	-	0.5	μA

Delay time =  $3.83 \times 10^5 \times Ct$

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## APPLICATION CIRCUIT EXAMPLES





**Keep safety first in your circuit designs!**

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