

# M62015L/FP, M62016L/FP

## Low Power 2 Output System Reset IC

REJ03D0783-0100

Rev.1.00

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### Description

The M62015 and M62016 are semiconductor integrated circuits whose optimum use is for the detection of the rise and fall in the power supply to a microcomputer system in order to reset or release the microcomputer system.

The M62015 and M62016 carry out voltage detection in two steps and have two output pins. As Bi-CMOS process and low power dissipating circuits are employed, they output optimum signals through each output pin to a system that requires RAM backup.

These ICs also support the backup mode of Renesas microcomputer the M16C.

### Features

- Bi-CMOS process realizes a configuration of low current dissipating circuits.

Circuit current

$I_{CC} = 3 \mu A$  (Typ, normal mode,  $V_{CC} = 3.0 V$ )

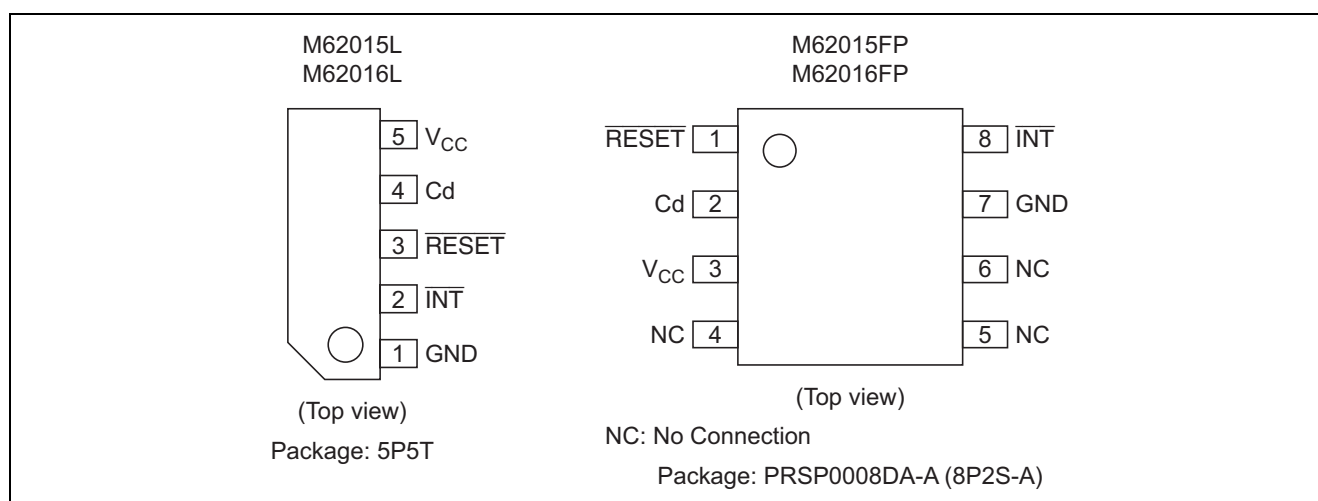
$I_{CC} = 1 \mu A$  (Typ, backup mode,  $V_{CC} = 2.5 V$ )

- Two-step detection of supply voltage  
Detection voltage in normal mode:  $V_S = 2.7 V$  (Typ)  
Detection voltage in backup mode:  $V_{BATT} = 2.0 V$  (Typ)
- Two outputs  
Reset output ( $\overline{RESET}$ ): output of compulsive reset signal  
Interruption output ( $\overline{INT}$ ): output of interruption signal
- Two types of output forms  
CMOS output: M62015L/FP  
open drain output: M62016L/FP

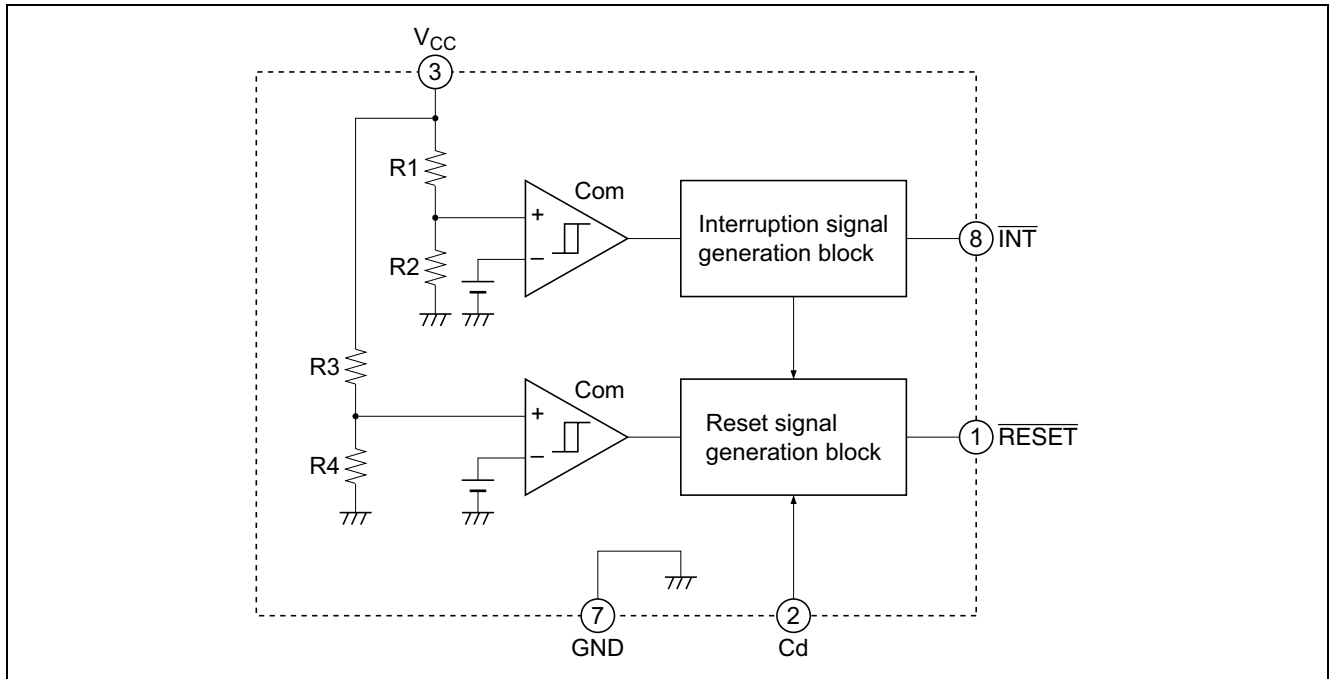
### Application

- Prevention of errors in microcomputer system in electronic equipment that requires RAM backup, such as office, industrial, and home-use equipment.

### Pin Arrangement



## Block Diagram



## Absolute Maximum Ratings

(Ta = 25°C, unless otherwise noted)

Item	Symbol	Ratings	Unit	Conditions
Supply voltage	V <sub>CC</sub>	8	V	
Output sink current	I <sub>sink</sub>	4	mA	
Power dissipation	P <sub>d</sub>	440	mW	
Thermal derating	K <sub>θ</sub>	4.4	mW/°C	Ta ≥ 25°C
Operating temperature	T <sub>opr</sub>	−20 to +75	°C	
Storage temperature	T <sub>stg</sub>	−40 to +125	°C	

## Electrical Characteristics

(Ta = 25°C, unless otherwise noted)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Supply voltage	V <sub>S</sub>	2.55	2.70	2.85	V	Interruption level during V <sub>CC</sub> drop
Battery voltage	V <sub>BATT</sub>	1.85	2.00	2.15	V	Reset level at backup
Hysteresis voltage	ΔV <sub>S</sub>	—	60	—	mV	ΔV <sub>S</sub> = V <sub>SH</sub> − V <sub>SL</sub>
Circuit current	I <sub>CC</sub>	—	3.0	12	μA	V <sub>CC</sub> = 3.0V: in normal mode
		—	1.0	4.0		V <sub>CC</sub> = 2.5V: in backup mode
Sink ability	V <sub>sat</sub>	—	0.4	0.6	V	V <sub>CC</sub> = 2.5V, I <sub>sink</sub> = 2mA
Delay time	t <sub>d</sub>	—	50	—	ms	External capacitance Cd = 0.33μF
Reset output response time	t <sub>RESET</sub>	—	50	—	μs	When V <sub>CC</sub> falling
Interruption output reset time	t <sub>INT</sub>	—	40	—	μs	When V <sub>CC</sub> falling

## Application Example

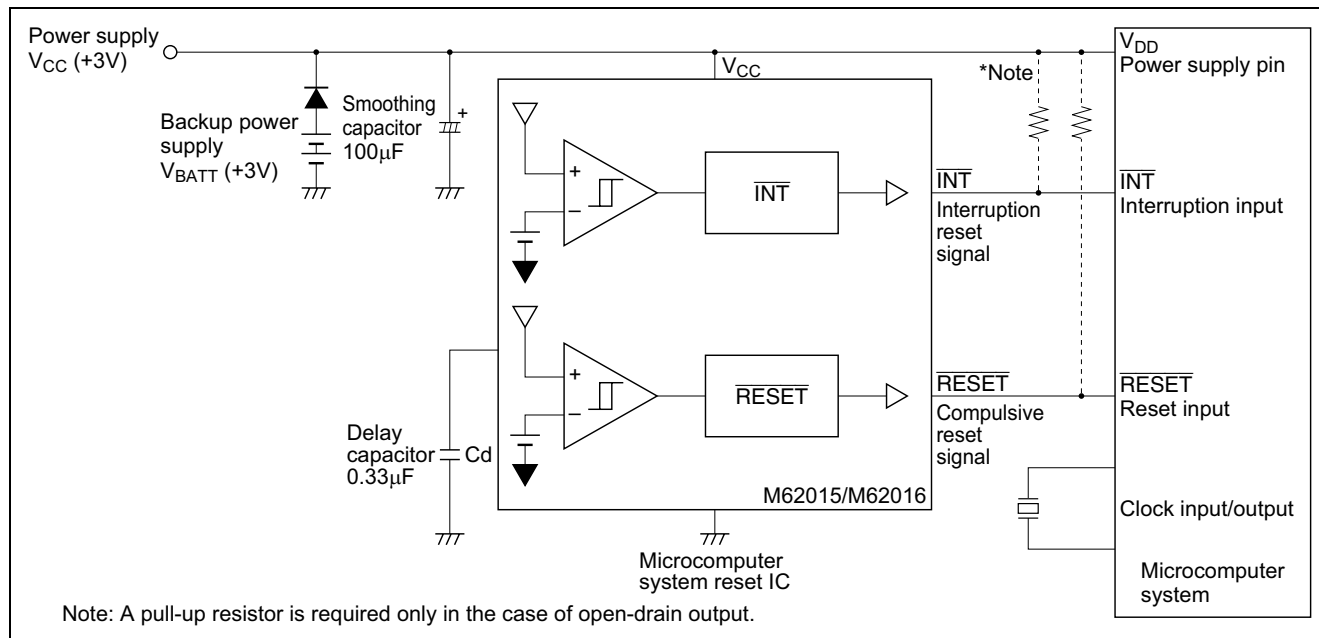


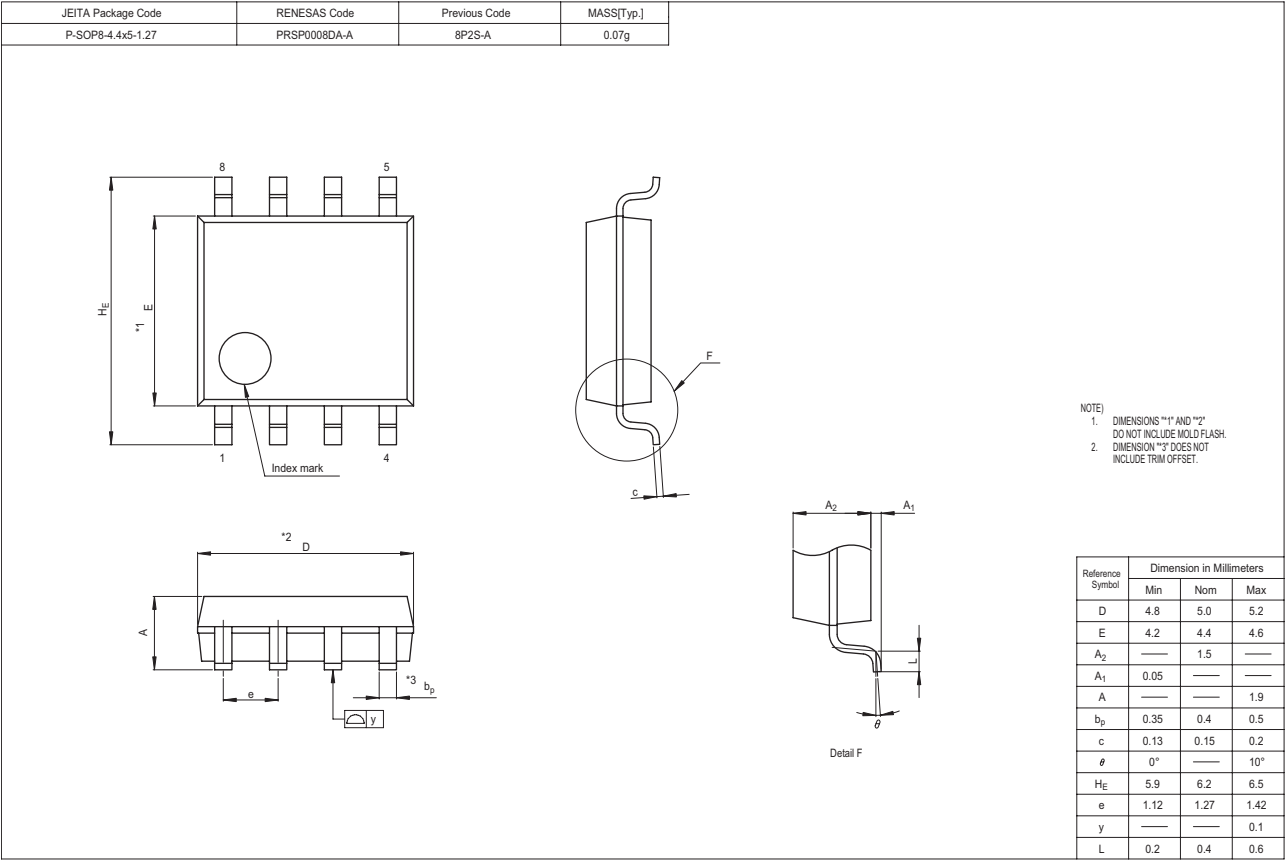
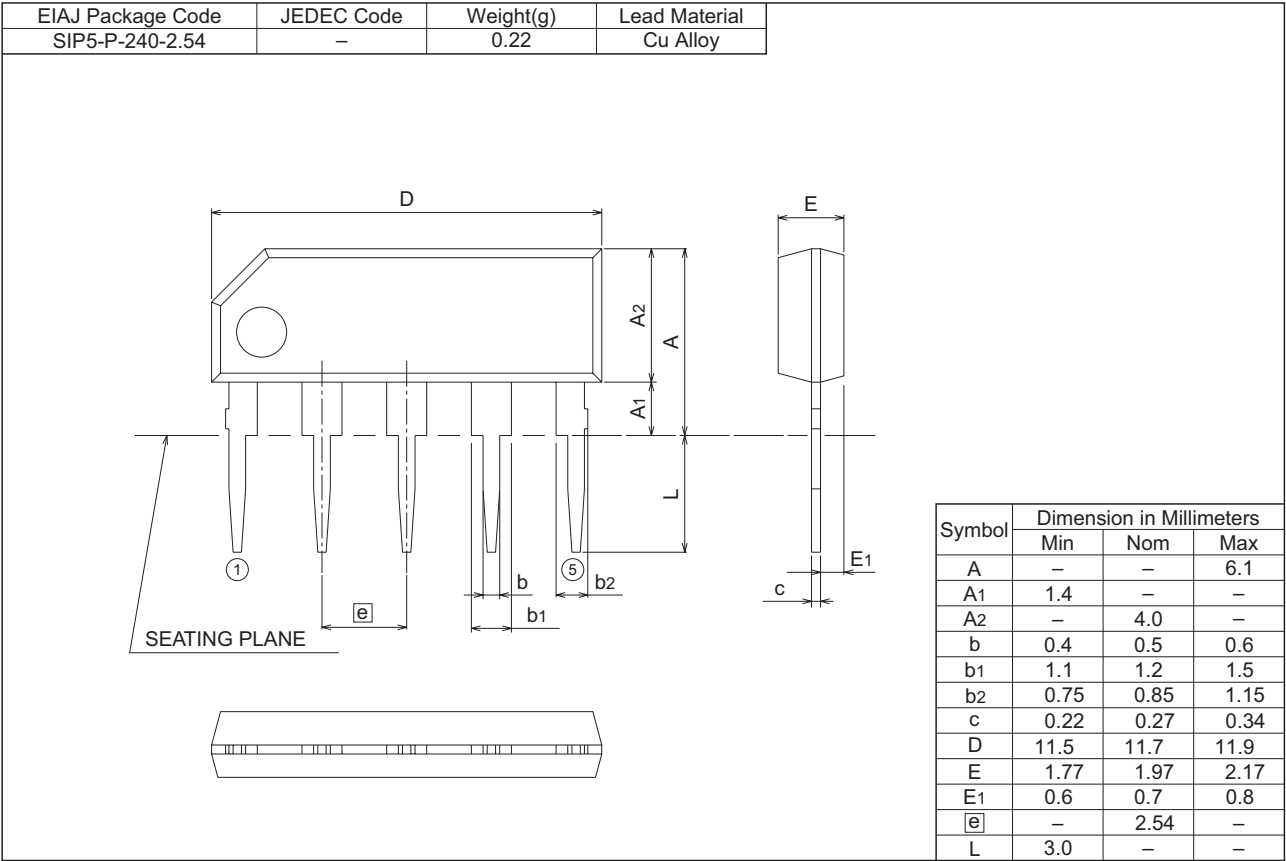
Figure 1 Application Example



Package Dimensions

5P5T

Plastic 5pin 240mil SIP



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