To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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M62782GP

Voltage Detecting, System Resetting IC Series

REJ03D0524–0100
Rev.1.00
May 27, 2005

Description

The M62782GP is a voltage threshold detector designed for detection of a supply voltage and generation of a system reset pulse for almost all logic circuits such as microprocessor.

It also has extensive applications including battery checking, level detecting, and waveform shaping circuits.

Features

- Few external parts
- Low threshold operating voltage
  (Supply voltage to keep low-state at low supply voltage) 0.65V (Typ.) at R_L=22kΩ
- Wide supply voltage range 1.5V to 7.0V
- Wide application range
- Extra small 5-pin package (5-pin SOP) SOT-25
- Built-in long delay time 100ms

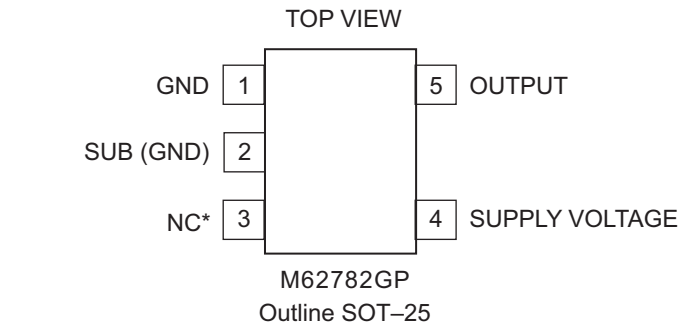
Application

- Reset pulse generation for almost all logic circuits
- Battery checking, level detecting, waveform shaping circuits
- Delayed waveform generator
- Switching circuit to a back-up power supply
- DC/DC converter
- Over voltage protection circuit

Recommended Operating Condition

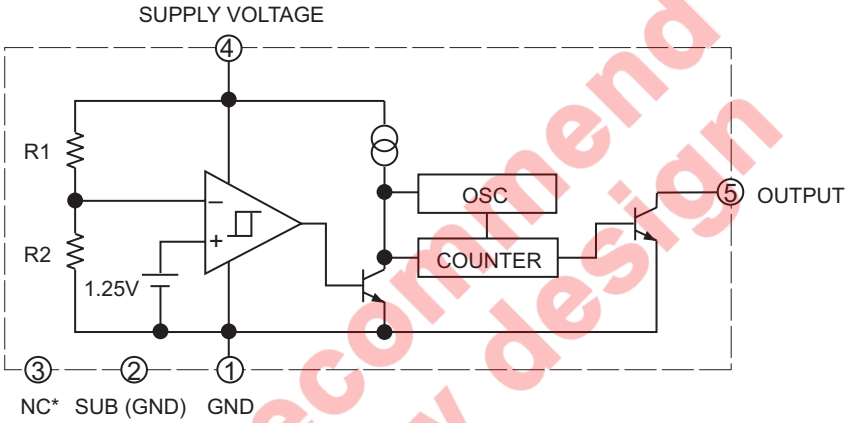
- Supply voltage range 1.5V to 7.0V

Pin Arrangement



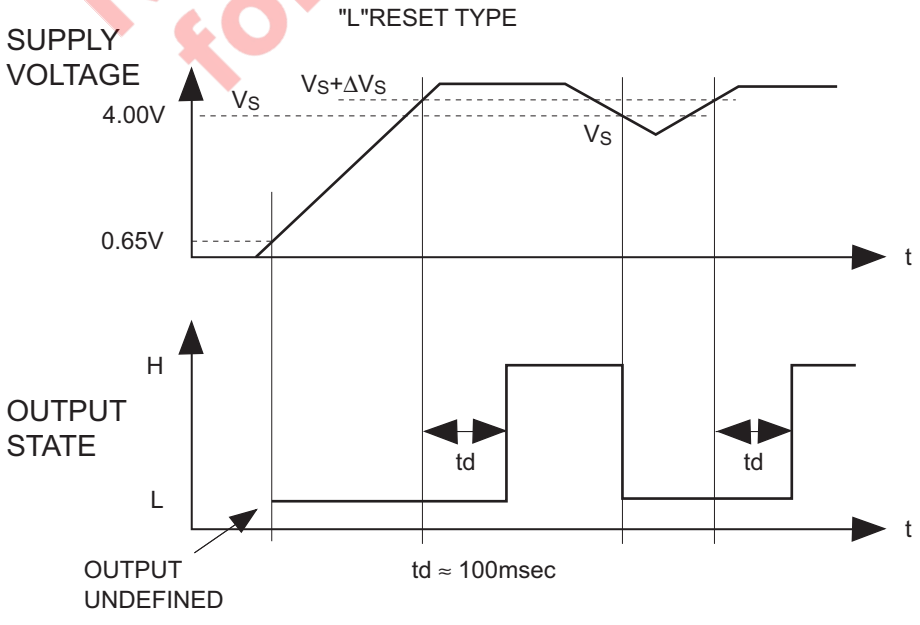
NC: No connection

Block Diagram



NC: No connection

Function Diagram



Absolute Maximum Ratings

(Ta = 25°C, unless otherwise noted)

Item	Symbol	Ratings	Unit	Test Conditions
Supply voltage	V_{CC}	7	V	
Output sink current	I_{sink}	6	mA	
Output voltage	V_O	7	V	Output with open collector
Power dissipation	Pd	200	mW	5pin SOP (SOT-25)
Thermal derating	K_θ	2	mW/°C	Ta ≥ 25°C
Operating temperature	T_{opr}	–30 to +85	°C	
Storage temperature	T_{stg}	–40 to +125	°C	

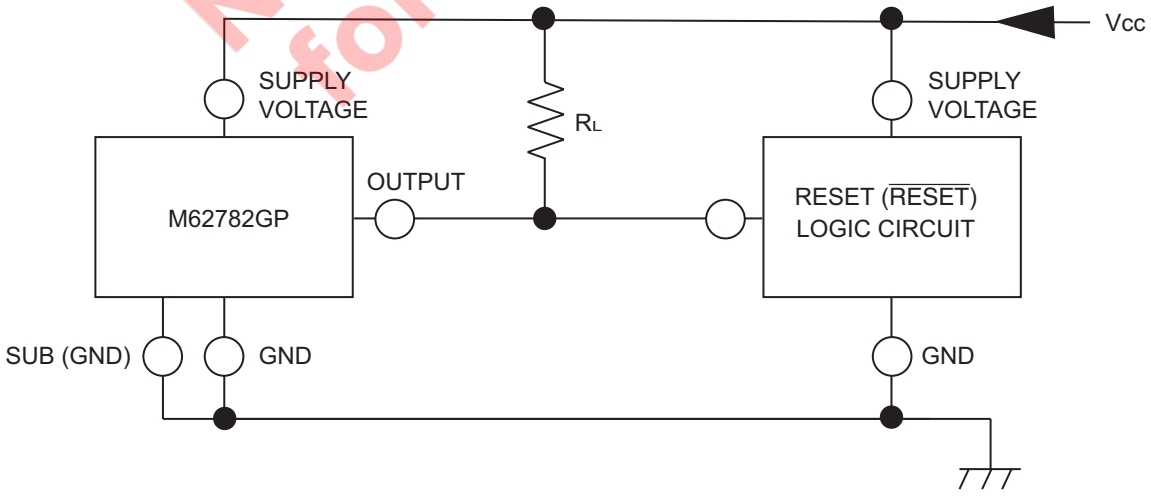
Electrical Characteristics

(Ta = 25°C, unless otherwise noted)

Item	Symbol	Min	Typ	Max	Unit	Test condition	
Detecting voltage	V_S	3.84	4.00	4.16	V		
Hysteresis voltage	ΔV_S	50	80	110	mV		
Detecting voltage temperature coefficient	$V_S/\Delta T$	—	0.01	—	%/°C		
Circuit current	I_{CC}	—	400	600	µA	V_{CC} = 5.0V	
Output saturation voltage	Vsat	—	0.2	0.4	V	V_{CC}=3.5V, I_{sink}=4mA,	
Threshold operating voltage	V_{OPL}	—	0.7	0.8	V	Minimum supply voltage for operation	R_L=2.2kΩ, Vsat≤0.4V
		—	0.6	0.7			R_L=100kΩ, Vsat≤0.4V
Output leak current	I_{OH}	—	—	30	nA		
		—	—	1	µA	Ta = –30 to +85°C	
delay time	tpd	60	100	140	ms		

Example of Application Circuit

Reset Circuit of M62782GP

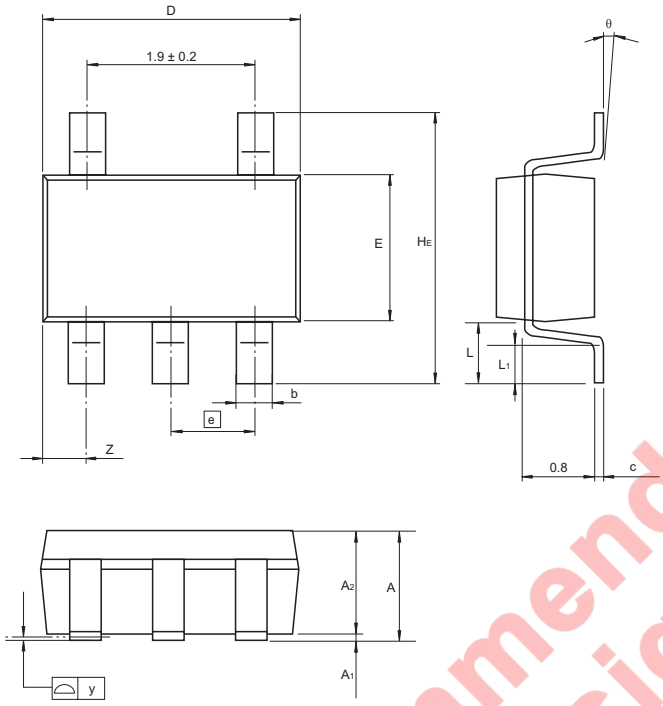


Note: 1. The logic circuit preferably should not have a pull-down resistor, but if one is present, add load resistor RL to overcome the pull-down resistor.

Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-74A	PLSP0005ZA-A	SOT-25	0.015 g

Unit: mm



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	——	——	1.3
A_1	0	——	0.1
A_2	1.0	1.1	1.2
b	0.3	0.4	0.5
c	0.07	0.1	0.2
D	2.7	2.9	3.1
E	1.5	1.6	1.8
e	——	0.95	——
H_E	2.6	2.8	3.0
L	——	0.6	——
L_1	0.2	——	——
y	——	——	0.1
Z	——	——	0.6
θ	0°	——	15°

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