

MITSUBISHI Dig./Ana.INTERFACE

M62781GP

VOLTAGE DETECTING, SYSTEM RESETTING IC SERIES

This product is on during the development, and there is a case rescheduling it future technical standard.

GENERAL DESCRIPTION

The M62781GP 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 RL=22k
- Wide supply voltage range 1.5to 7.0V
- Sudden change in power supply has minimal effect on the ICs
- Wide application range
- Extra small 3-pin package (3-pin SOP)
- Built-in long delay time

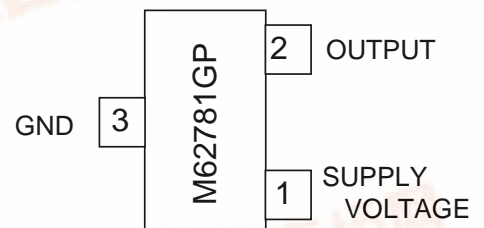
APPLICATION

- 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

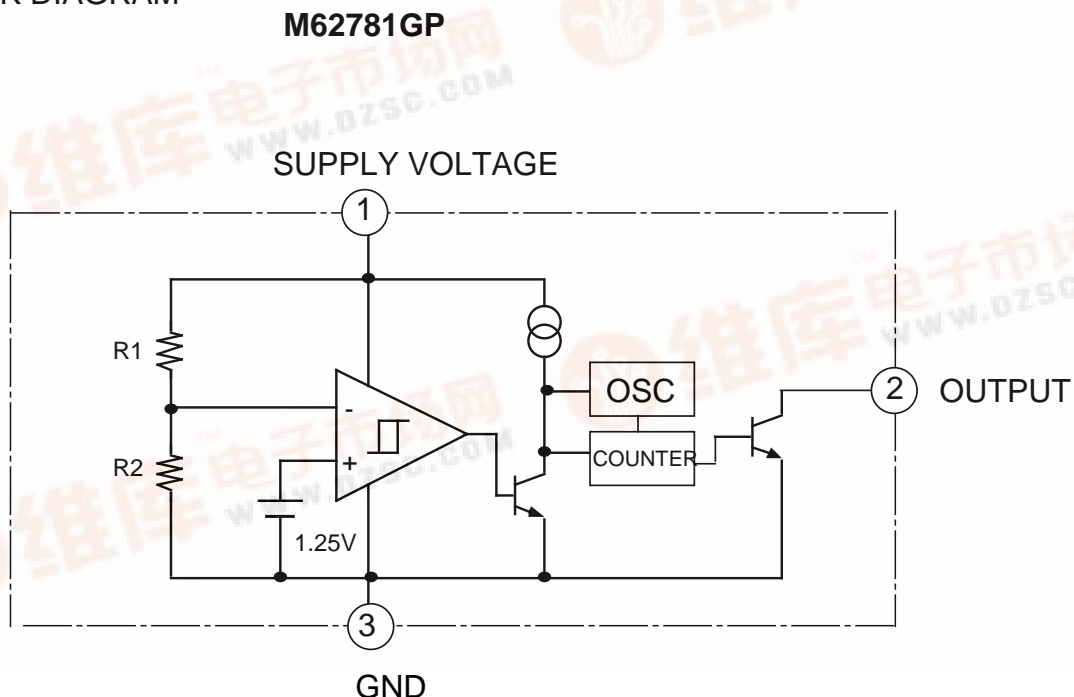
- Supply voltage range 1.5to 7.0V

PIN CONFIGURATION (TOP VIEW)



Outline SOT-23

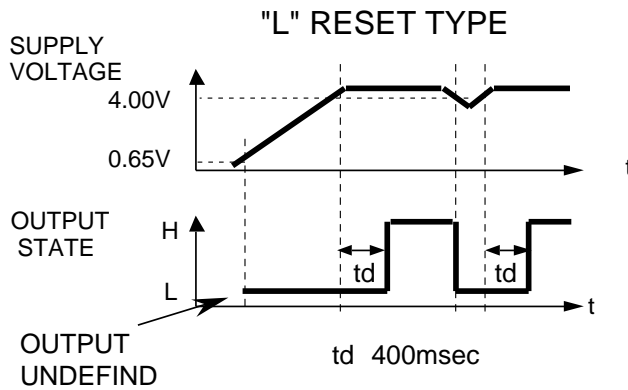
BLOCK DIAGRAM



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FUNCTION DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta=25°C Unless otherwise noted)

Symbol	Parameter	Test condition		Ratings	Unit
V _{CC}	Supply Voltage			8	V
I _{sink}	Output Sink Current			6	mA
V _o	Output Voltage	Output with open collector		8	V
P _d	Power Dissipation	3pin SOP(SOT-23)		200	mW
Kθ	Thermal Derating	T _a 25°C	3pin SOP	2	mW/°C
T _{opr}	Operating Temperature			-30 to +85	°C
T _{stg}	Storage Temperature			-40 to +125	°C

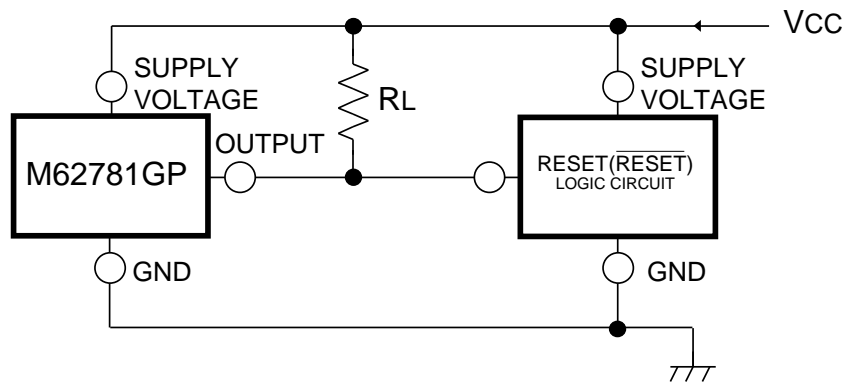
ELECTRICAL CHARACTERISTICS (Ta=25°C, Unless otherwise noted)

Symbol	Parameter	Test condition	Limits			Unit	
			MIN	TYP	MAX		
V _s	Detecting Voltage		3.84	4.00	4.16	V	
V _s	Hysteresis Voltage		50	80	110	mV	
V _s / T	Detecting Voltage Temperature Coefficient		—	0.01	—	%/°C	
I _{CC}	Circuit Current	V _{CC} =5V	—	400	600	μA	
V _{sat}	Output Saturation Voltage	V _{CC} =3.5V, I _{sink} =4mA	—	0.2	0.4	V	
V _{OPL}	Threshold Operating Voltage	Minimum supply voltage for IC operation	RL=2.2k, V _{sat} 0.4V	—	0.7	0.8	V
			RL=100k, V _{sat} 0.4V	—	0.6	0.7	
I _{OH}	Output Leak Current		—	—	30	nA	
		T _a = -30 to +85 °C	—	—	1	μA	
t _{PD}	Delay Time		200	400	800	ms	

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Example of application circuit Reset Circuit of M627XX Series



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.

⚠ Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit design, in order to prevent fires from spreading, redundancy, malfunction or other mishap.

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PACKAGE OUTLINE

SOT-23

Dimension : mm

