

To all our customers

Regarding the change of names mentioned in the document, such as Mitsubishi Electric and Mitsubishi XX, to Renesas Technology Corp.

The semiconductor operations of Hitachi and Mitsubishi Electric were transferred to Renesas Technology Corporation on April 1st 2003. These operations include microcomputer, logic, analog and discrete devices, and memory chips other than DRAMs (flash memory, SRAMs etc.) Accordingly, although Mitsubishi Electric, Mitsubishi Electric Corporation, Mitsubishi Semiconductors, and other Mitsubishi brand names are mentioned in the document, these names have in fact all been changed to Renesas Technology Corp. Thank you for your understanding. Except for our corporate trademark, logo and corporate statement, no changes whatsoever have been made to the contents of the document, and these changes do not constitute any alteration to the contents of the document itself.

Note : Mitsubishi Electric will continue the business operations of high frequency & optical devices and power devices.

Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

M62720GP

VOLTAGE DETECTING, SYSTEM RESETTNG IC SERIES

GENERAL DESCRIPTION

The M62720GP 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 $R_L=22k\Omega$
- 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

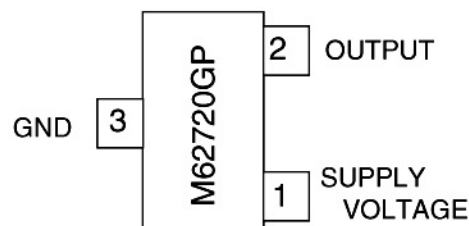
APPLICATION

- 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

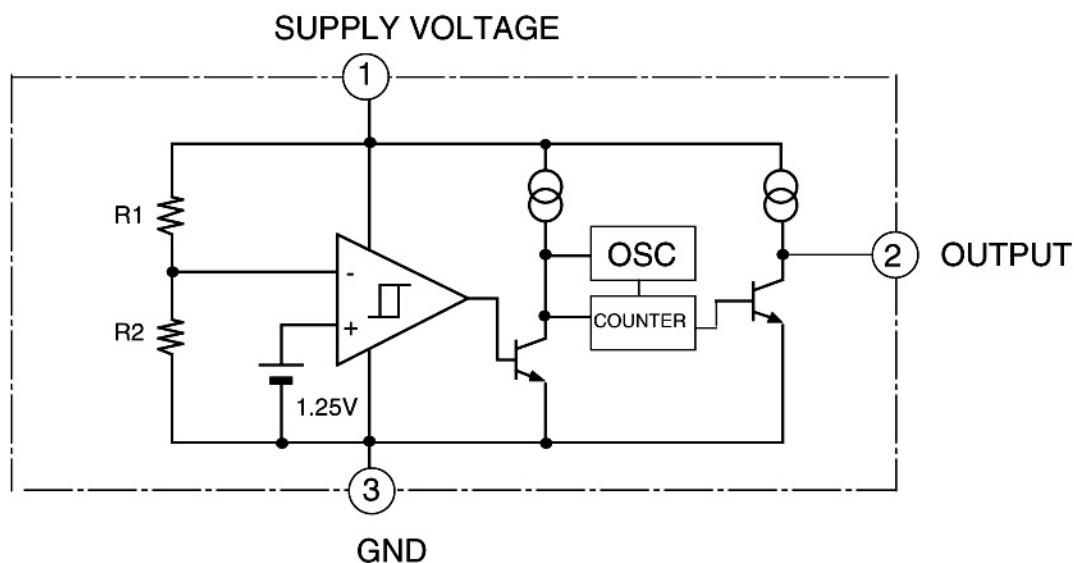
RECOMMENDED OPERATING CONDITION

- Supply voltage range 1.5to 7.0V

PIN CONFIGURATION (TOP VIEW)

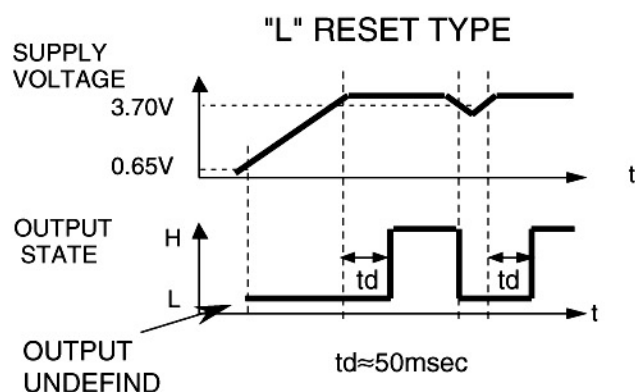


Outline SOT-23

BLOCK DIAGRAM**M62720GP**

M62720GP

VOLTAGE DETECTING, SYSTEM RESETTIC IC SERIES

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
K θ	Thermal Derating	Ta≥25°C	3pin SOP	2	mW/°C
T _{opr}	Operating Temperature			-30 to +85	°C
T _{stg}	Storage Temperature			-40 to +125	°C

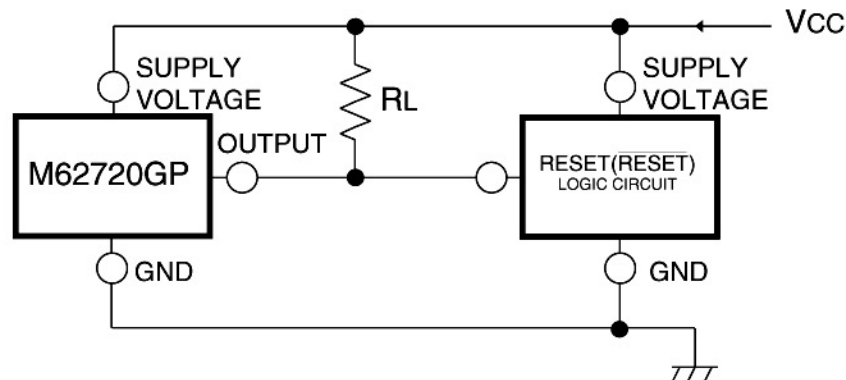
ELECTRICAL CHARACTERISTICS (Ta=25°C, Unless otherwise noted)

Symbol	Parameter	Test condition	Limits			Unit
			MIN	TYP	MAX	
V _S	Detecting Voltage		3.56	3.70	3.86	V
ΔV_S	Hysteresis Voltage		50	80	110	mV
V _S /ΔT	Detecting Voltage Temperature Coefficient		—	0.01	—	%/°C
I _{CC}	Circuit Current	V _{CC} =5.0V	—	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	R _L =2.2kΩ, V _{SAT} ≤0.4V	0.7	0.8	V
			R _L =100kΩ, V _{SAT} ≤0.4V	0.6	0.7	
I _{OC}	Output Load Current	V _{CC} =5V, V _O =1/2V _{CC}	-40	-25	-17	μA
V _{OH}	Output HIGH Voltage		V _{CC} -0.2	V _{CC} -0.06		V
t _{PD}	Propagation Delay Time		30	50	70	ms

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Example of application circuit Reset Circuit of M62720GP



Note 1.

The logic circuit preferably should not have a pull-down resistor, but if one is present, add load resistor R_L 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.

mitsubishi STD-LINEAR

M62720GP

VOLTAGE DETECTING, SYSTEM RESETTNG IC SERIES

PACKAGE OUTLINE

SOT-23

Dimension : mm

