PRELIMINARY
Notice:This is not a final specification.
Some parametric limits are subject to change.

M62707ML,SL

VOLTAGE DETECTING, SYSTEM RESETTING IC SERIES

GENERAL DESCRIPTION

The M62703ML/SL 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 microcontroller.
It has extensive applications including battery checking, level detecting and waveform shaping circuits.

FEATURES

- Few external components
- Low operating threshold voltage (Supply voltage to keep a output low in a low supply operation)
  …0.65V(typ) at R_L = 22kΩ
- Wide supply voltage range …… 2V to 7V
- High immunity to a sudden supply voltage change
- Wide application range
- Extra small 3-pin package (3-pin FLAT)

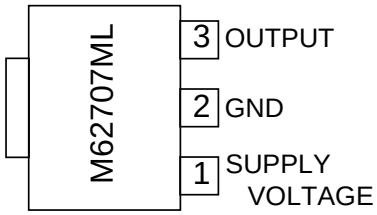
APPLICATION

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

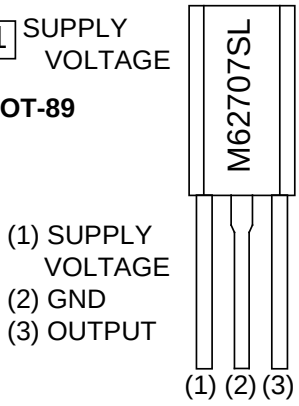
RECOMMENDED OPERATING CONDITION

- Supply voltage range …… 2V to 7V

PIN CONFIGURATION (TOP VIEW)

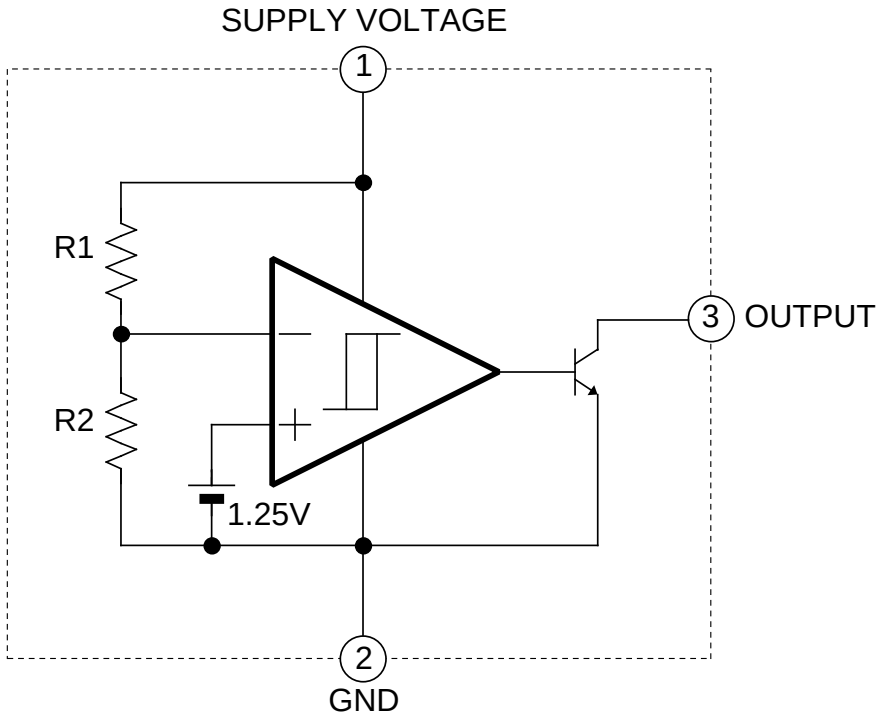


Outline SOT-89

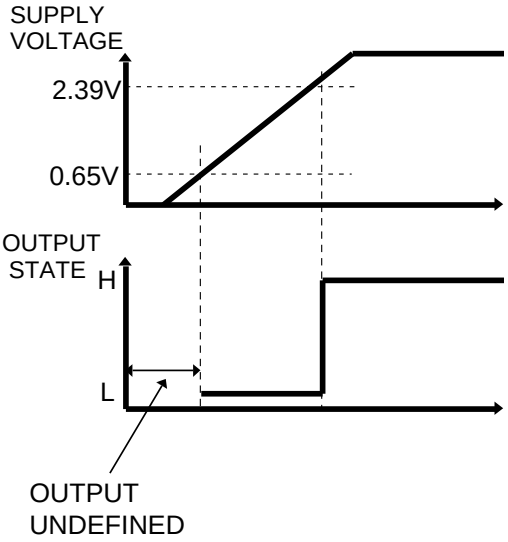


Outline TO-92L

BLOCK DIAGRAM



FUNCTION DIAGRAM



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

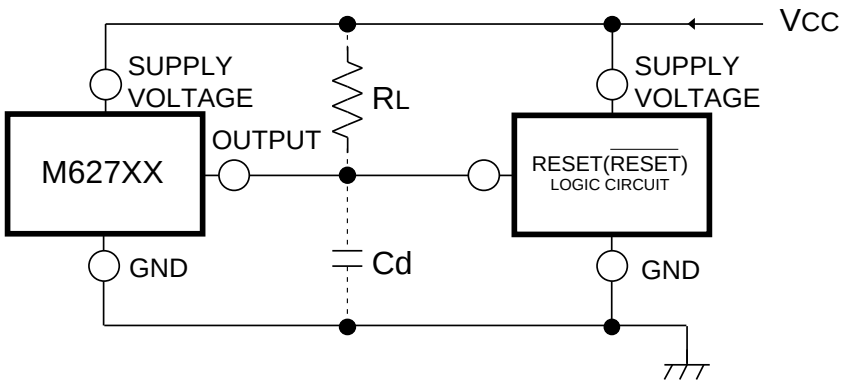
Symbol	Parameter	Test condition		Ratings	Unit
I_{CC}	Supply Voltage			7	V
Isink	Output Sink Current			6	mA
V_O	Output Voltage	Output with constant current load		V_{CC}	V
Pd	Power Dissipation	3pin SIL		700	mW
		3pin FLAT		500	
K_θ	Thermal Derating	Ta≥25°C	3PIN SIL	7	mW/°C
			3PIN FLAT	5	
Topr	Operating Temperature			-30 to +85	°C
Tstg	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			2.28	2.39	2.50	V
ΔV_S	Hysterisis Voltage			50	80	110	mV
$V_S/\Delta T$	Detecting Voltage Temperature Coefficient			——	0.01	——	%/°C
I_{CC}	Circut Current	V_{CC}=2.7V		——	200	320	µA
Vsat	Output Saturation Voltage	V_{CC}=2V,Isink=4mA		——	0.2	0.4	V
V_{OPL}	Threshold Operating Voltage	Minimum supply voltage for IC operation	R_L=2.2kΩ,Vsat≤0.4V	——	0.7	0.8	V
			R_L=100kΩ,Vsat≤0.4V	——	0.6	0.7	
I_{OC}	Output Load Current	V_{CC}=2V,V_O=1/2V_{CC}		-40	-25	-17	µA
V_{OH}	Output HIGH Voltage			V_{CC}-0.2	V_{CC}-0.06		V
t_{PHL}	Propagation Deray Time	Response time when Vcc changes H to L		——	6	——	µs
t_{PLH}		Response time when Vcc changes L to H		——	3	——	

Example of application circuit

Reset Circuit of M627XX Series



Note 1.

This IC can be used whether or not a pull-up resistor is included in the logic circuit.

Note 2.

The logic circuit preferably should not have a pull-down resistor.
However in the case it has the resistor, the load resistor RL must be much less than the pull-down resistor. (refer to the above application circuit)

⚠ 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.