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

M62714ML,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)

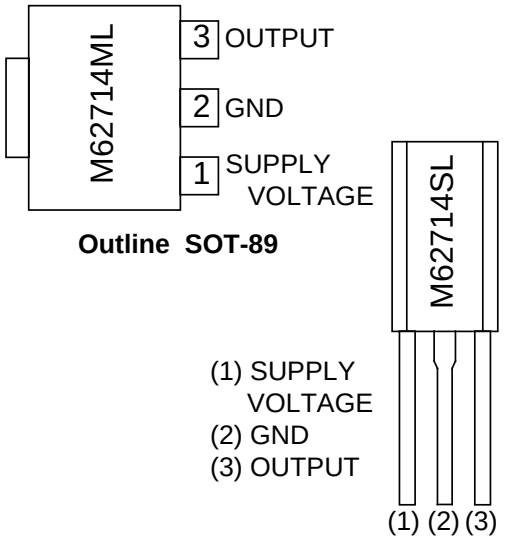
APPLICATION

- 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

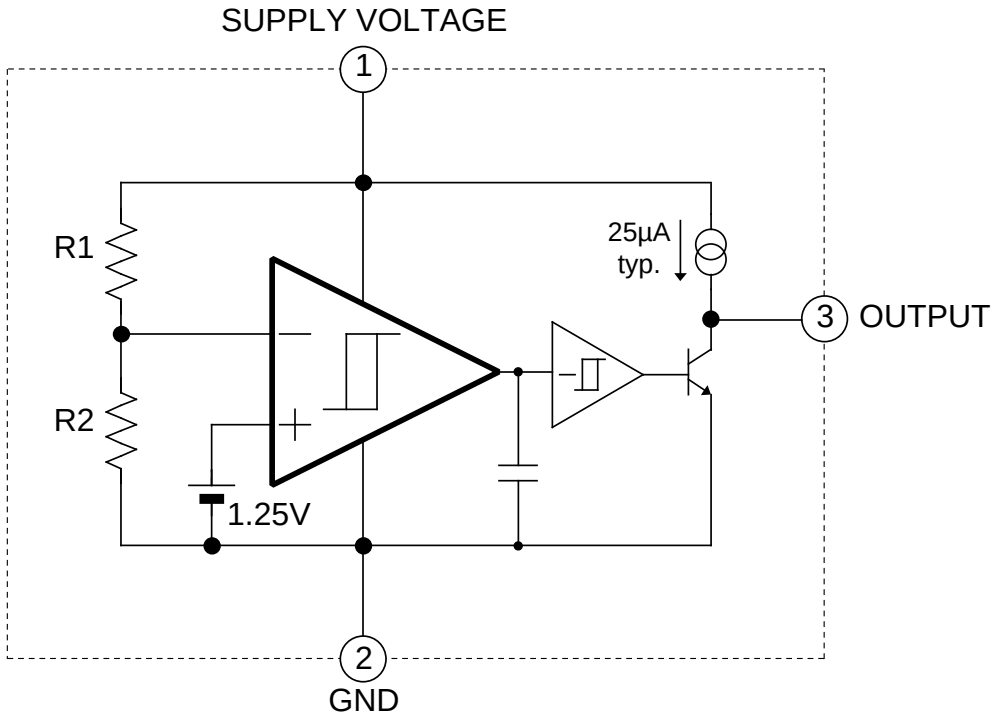
RECOMMENDED OPERATING CONDITION

- Supply voltage range …… 2V to 7V

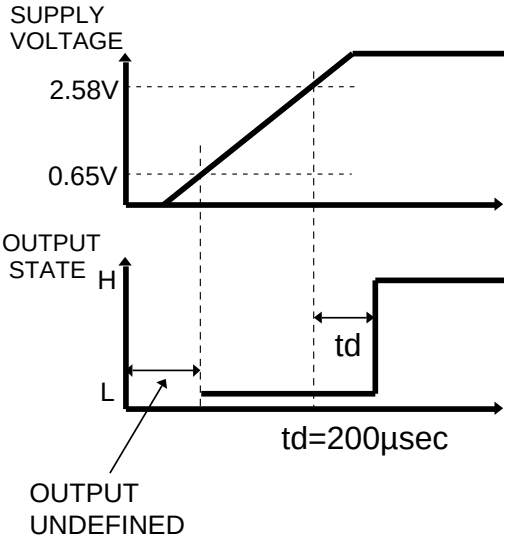
PIN CONFIGURATION (TOP VIEW)



BLOCK DIAGRAM



FUNCTION DIAGRAM



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

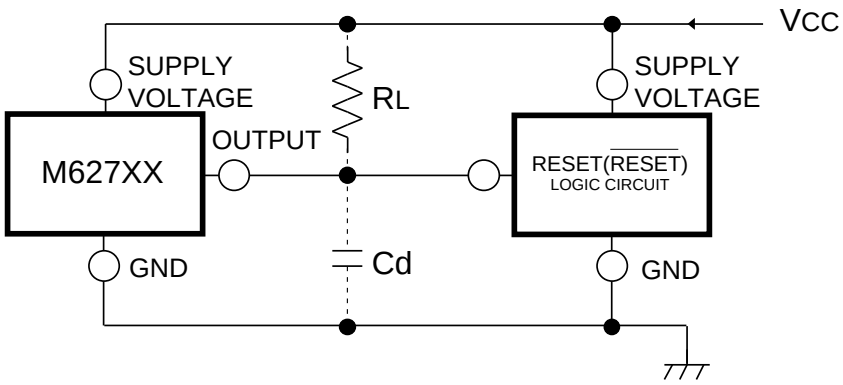
Symbol	Parameter	Test condition		Ratings	Unit
I_{CC}	Supply Voltage			7	V
Isink	Output Sink Current			6	mA
V_O	Output Voltage	Output with constant current load		V_{CC}	V
Pd	Power Dissipation	3pin SIL		700	mW
		3pin FLAT		500	
K_θ	Thermal Derating	Ta≥25°C	3PIN SIL	7	mW/°C
			3PIN FLAT	5	
Topr	Operating 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			2.46	2.58	2.70	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}=3V		——	230	400	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	——	
t_{pd}	Delay Time	Ta=-30 to +85ºC		80	200	500	µs

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)