MITSUBISHI STANDARD LINEAER IC

M6270X,M6271X, M6272X,M6273X,M6274XML/SL

VOLTAGE DETECTING, SYSTEM RESETTING IC SERIES

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

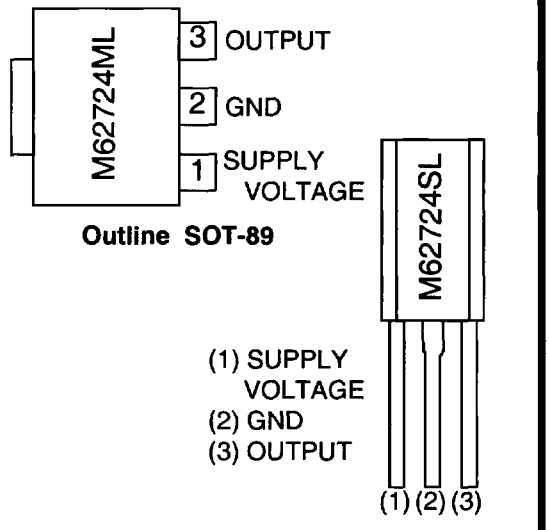
GENERAL DESCRIPTION

The M627XXML/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 microprocessor.
It also has extensive applications including battery checking, level detecting and waveform shaping circuits.

FEATURES

- Detecting Voltage M627X2,M627X3 ..... 2.87V
  M627X4,M627X5 ..... 2.58V
  M627X6,M627X7 ..... 2.39V
  M627X8,M627X9 ..... 1.72V
- Hysterisis Voltage 80mV
- Delay Time M6270X 0sec
  M6271X ..... 200 μsec
  M6272X 50msec
  M6273X 100msec
  M6274X 200msec
- Few external parts
- Low threshold operating voltage (Supply voltage to keep low-state at low supply voltage) ...0.65V(TYP.) at RL=22kΩ
- Wide supply voltage range ..... 1.5V to 7.0V
- Sudden change in power supply has minimal effect on the ICs
- Extra small 3-pin package (3-pin FLAT)
- Built-in long delay time

PIN CONFIGURATION (TOP VIEW) ex. M62724



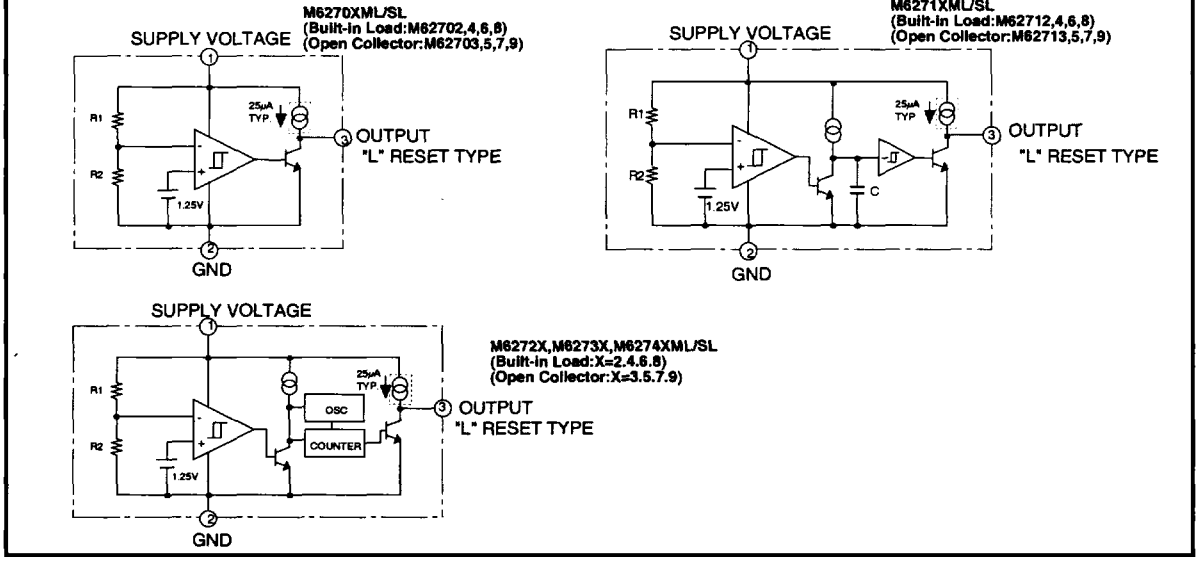
APPLICATION

- 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

BLOCK DIAGRAM



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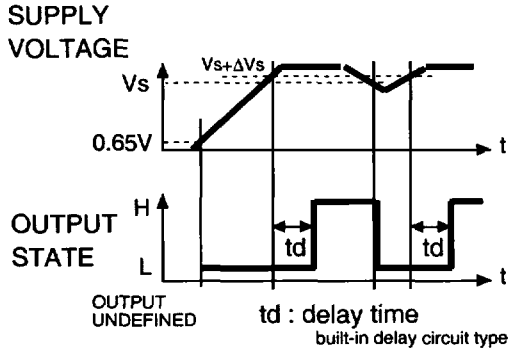
FUNCTION DIAGRAM



OUTPUT FORM

Built-in Load	Open Collector
M627X2	M627X3
M627X4	M627X5
M627X6	M627X7
M627X8	M627X9

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

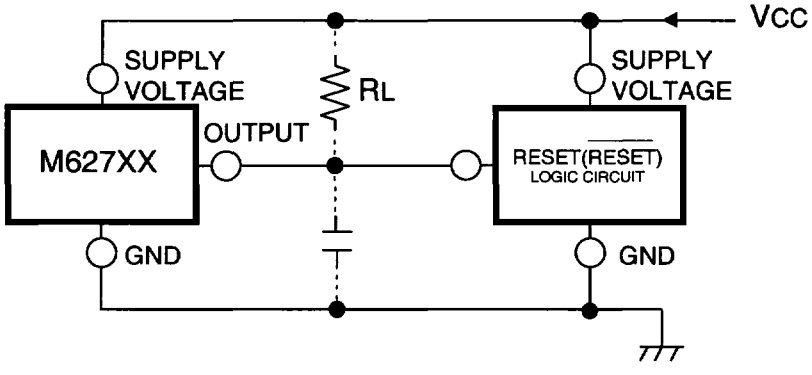
Symbol	Parameter	Test condition		Ratings	Unit
Icc	Supply Voltage			7	V
Isink	Output Sink Current			6	mA
Vo	Output Voltage	Output with constant current load		Vcc	V
Pd	Power Dissipation	3pin SIP		700	mW
		3pin FLAT		500	
Kθ	Thermal Derating	Ta≥25°C	3PIN SIP	7	mW/°C
			3PIN FLAT	5	
Topr	Operating Temperature			-30 to +85	°C
Tstg	Storage Temperature			-40 to +125	°C

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

Symbol	Parameter	Test condition			Limits MIN	Limits TYP	Limits MAX	Unit
Vs	Detecting Voltage			M627X2,3	2.74	2.87	3.00	V
				M627X4,5	2.46	2.58	2.70	
				M627X6,7	2.28	2.39	2.50	
				M627X8,9	1.64	1.72	1.80	
ΔVs	Hysterisis Voltage				50	80	110	mV
Vs/ΔT	Detecting Voltage Temperature Coefficient					0.01		%/°C
Icc	Circuit Current	NO OSC &COUNTER		M6270X	100	200	340	μA
				M6271X	120	220	400	
		Built-in OSC & COUNTER X=2,3,4	Vcc=3.3V	M627X2	250	395	560	
				M627X3	225	370	535	
			Vcc=3.0V	M627X4	230	375	540	
				M627X5	205	350	515	
			Vcc=2.7V	M627X6	200	345	510	
				M627X7	175	320	485	
			Vcc=2.0V	M627X8	130	275	440	
				M627X9	105	250	415	
tPd	Delay Time	Response Time		M6270X		3		μs
				M6271X	80	200	500	
		Ta=-30~+85°C		M6272X	30	50	70	ms
				M6273X	60	100	140	
				M6274X	120	200	280	
Vsat	Output Saturetion Voltage	Vcc=2V,Isink=4mA / M627X8,9:Vcc=1.6V				0.2	0.4	V
VOPL	Threshold Operating Voltage	Minimum supply voltage for operation	RL=2.2kΩ,Vsat≤0.4V			0.7	0.8	V
			RL=100kΩVsat≤0.4V			0.6	0.7	
Ioc	Output Load Current	Built-in Load type	Vo=1/2*Vcc		-40	-25	-17	μA
VOH	Output HIGH Voltage	Built-in Load type			Vcc-0.2	Vcc-0.06		V
IOH	Output Leak Current	Open Collector type					30	nA
			Ta=-30~+85°C				1	μA

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.