



## General Description

The HL70XX series is a set of three -terminal low power voltage detectors implemented in CMOS technology. Each voltage detector in the series detects a particular fixed voltage ranging from 1.2V to 7V. The voltage detectors consist of a high-precision and low power consumption standard voltage source, a comparator, hysteresis circuit, and an output driver. CMOS technology ensures low power consumption. Although designed primarily as fixed voltage detectors, these devices can be used with external components to detect user specified threshold voltages

## Features

- Low power consumption
- Low temperature coefficient
- Built-in high-stability reference source
- Open drain types:
  - NMOS: HL70XX
  - CMOS: 70XXC
- Built-in hysteresis characteristic
- TO-92 package
- SOT-89 package
- SOT-23-3/5 package
- SSOT-24 package

## Applications

- Battery checkers
- Level selectors
- Power failure detectors
- Microcomputer reset
- Battery memory backup
- Non-volatile RAM signal storage protectors

## Absolute Maximum Ratings

Supply Voltage..... -0.3V to 18V  
Output Voltage ..... $V_{SS}-0.3V$  to  $V_{DD}+0.3V$   
Storage Temperature..... $-50^{\circ}C$  to  $125^{\circ}C$   
Operating Temperature..... $-40^{\circ}C$  to  $85^{\circ}C$   
Output Current..... 10mA

Power Consumption:  
SOT89-3      500mW  
TO-92        300mW  
SOT23-/5     250mW

Note: These are stress ratings only. Stresses exceeding the range specified under Absolute Maximum Ratings may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

Selection Table

Part No.	Detectable Voltage	Hysteresis Width	Tolerance	Marking		
				TO92/SOT89-3	SOT23-3/5	
HL7015	1.5V	0.075V	±3%	70XX	70XX	NMOS Drain output
HL7019	1.9V	0.095V	±3%			
HL7020	2.0V	0.100V	±3%			
HL7021	2.1V	0.105V	±3%			
HL7022	2.2V	0.110V	±3%			
HL7023	2.3V	0.115V	±3%			
HL7024	2.4V	0.120V	±3%			
HL7027	2.7V	0.135V	±3%			
HL7030	3.0V	0.150V	±3%			
HL7033	3.3V	0.165V	±3%			
HL7036	3.6V	0.180V	±3%			
HL7039	3.9V	0.195V	±3%			
HL7042	4.2V	0.210V	±3%			
HL7044	4.4V	0.220V	±3%			
HL7050	5.0V	0.250V	±3%			
HL7070	7.0V	0.350V	±3%			
HL7025C	2.5V	0.125V	±3%	70XXC	70XXC	CMOS output
HL7027C	2.7V	0.135V	±3%			
HL7030C	3.0V	0.150V	±3%			
HL7033C	3.3V	0.165V	±3%			

For example: The HL7044 is a 4.4V, NMOS open drain active low output

For semi-custom parts,selectable regulated voltage range is from 1.2V to 12V in 0.1V increment.

For semi-custom parts,selectable output type CMOS .