

# KA75XXX

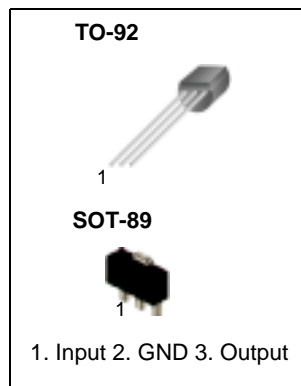
## Voltage Detector

### Features

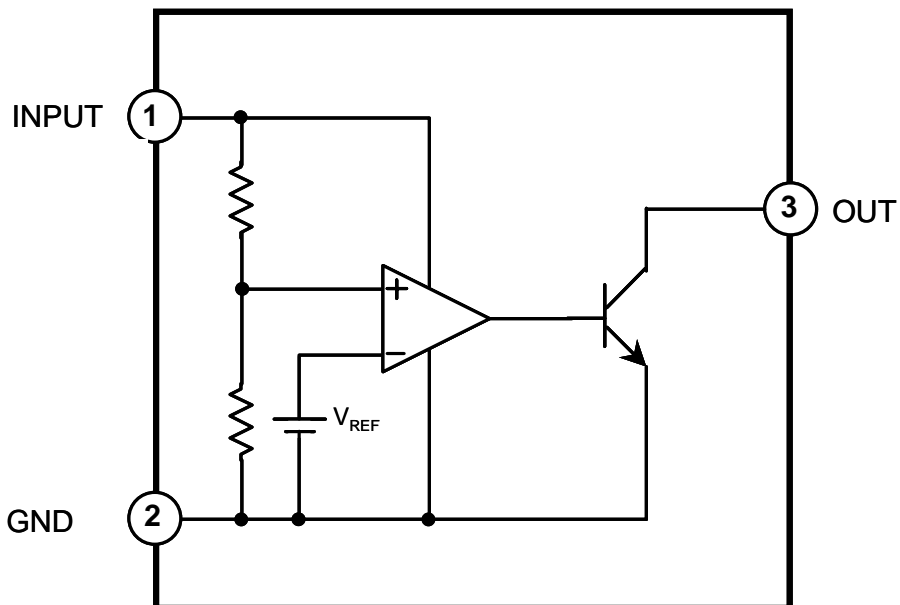
- Detecting Against Error Operations At The Power On/off.
- Resetting Function For The Low Voltage Microprocessor.
- Checking Low Battery

### Description

The KA75250/KA75270/KA75290/KA75310/KA75330/KA75360/KA75390/KA75420/KA75450 prevents the error of system from supply voltage below normal voltage level at the time the power on and instantaneous power off in systems.



### Internal Block Diagram



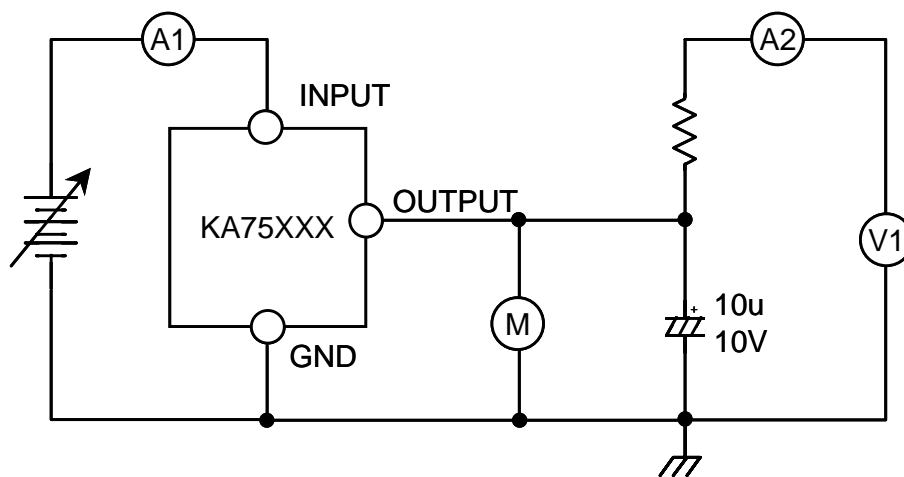
**Absolute Maximum Rating (TA=25°C)**

Characteristic	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	0.3 ~ +15.0	V
Detecting Voltage	V <sub>DET</sub>	2.5/2.7/2.9/3.1 3.3/3.6/3.9/4.2/4.5	V
Hysteresis Voltage	V <sub>HYS</sub>	50	mV
Operating Temperature	T <sub>OPR</sub>	-25 ~ +85	°C
Storage Temperature	T <sub>STG</sub>	-50 ~ +150	°C
Power Dissipation TO-92 SOT-89	P <sub>D</sub>	200 500	mW
Detecting Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta T$	R <sub>L</sub> = 200Ω, +0.01	%/°C

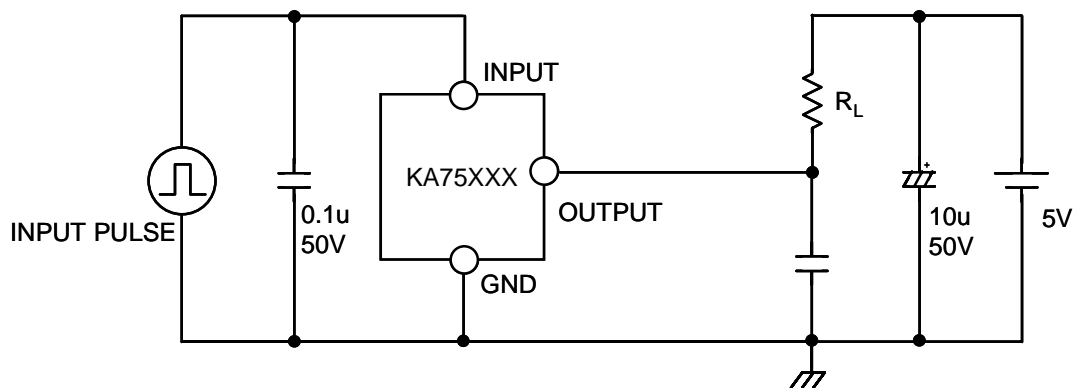
**Electrical Characteristics (TA=25°C)**

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit	
Detecting Voltage	V <sub>DET</sub>	R <sub>L</sub> = 200Ω	KA75250	2.35	2.5	2.65	V
		V <sub>OL</sub> ≤ 0.4V	KA75270	2.55	2.7	2.85	
			KA75290	2.75	2.9	3.05	
			KA75310	2.95	3.1	3.25	
			KA75330	3.15	3.3	3.45	
			KA75360	3.45	3.6	3.75	
			KA75390	3.75	3.9	4.05	
			KA75420	4.05	4.2	4.35	
			KA75450	4.35	4.5	4.65	
Low Output Voltage	V <sub>OL</sub>	R <sub>L</sub> = 200Ω	-	-	0.4	V	
Output Leakage Current	I <sub>LKG</sub>	V <sub>CC</sub> = 15V	-	-	0.1	μA	
Hysteresis Voltage	V <sub>HYS</sub>	R <sub>L</sub> = 200Ω	30	50	100	mV	
Detecting Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta T$	R <sub>L</sub> = 200Ω	-	±0.01	-	%/°C	
Circuit Current(At On Time)	I <sub>CCL</sub>	V <sub>CC</sub> = V <sub>DET(MIN)</sub> - 0.05V	-	300	500	μA	
Circuit Current(At Off Time)	I <sub>CCH</sub>	V <sub>CC</sub> = 5.25V	-	30	50	μA	
Threshold Operating Voltage	V <sub>TH(OPR)</sub>	R <sub>L</sub> = 200Ω, V <sub>OL</sub> ≤ 0.4V	-	0.8	1.0	V	
" L"± Transmission Delay Time	T <sub>OL</sub>	R <sub>L</sub> = 1.0kΩ, C <sub>L</sub> = 100pF	0.6	10	-	μs	
" H"± Transmission Delay Time	T <sub>OH</sub>	R <sub>L</sub> = 1.0kΩ, C <sub>L</sub> = 100pF	-	15	20	μs	
Output Current (At On Time)	I <sub>OLI</sub>	V <sub>CC</sub> = V <sub>DET(MIN)</sub> - 0.05V, T <sub>A</sub> = 25°C	10	20	30	mA	
Output Current (At On Time)	I <sub>OLII</sub>	V <sub>CC</sub> = V <sub>DET(MIN)</sub> - 0.05V T <sub>A</sub> = -25 ~ +85°C	8	16	30	mA	

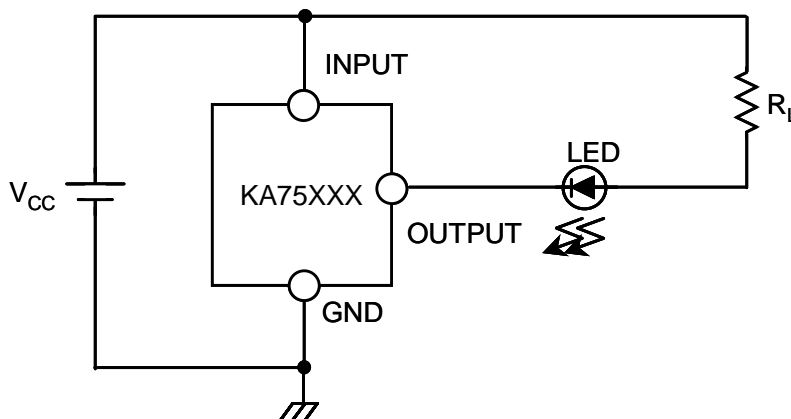
### Test Circuit 1.



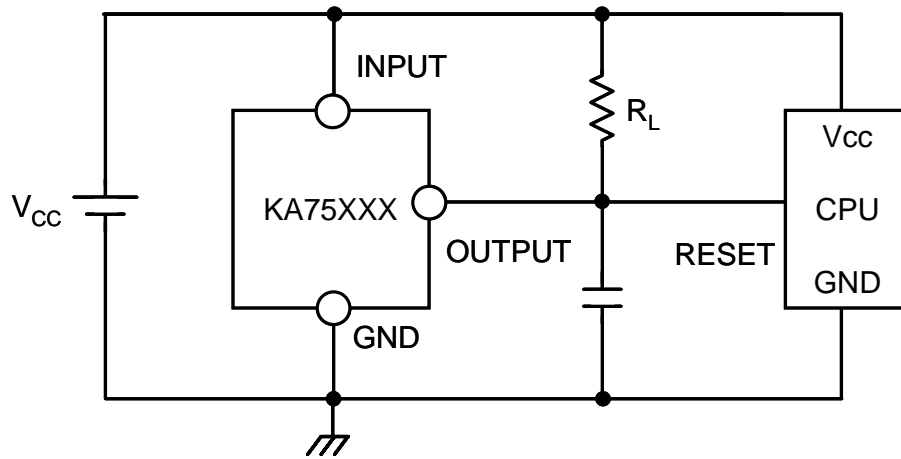
### Test Circuit 2.



### Test Circuit 3.



## Application Circuit

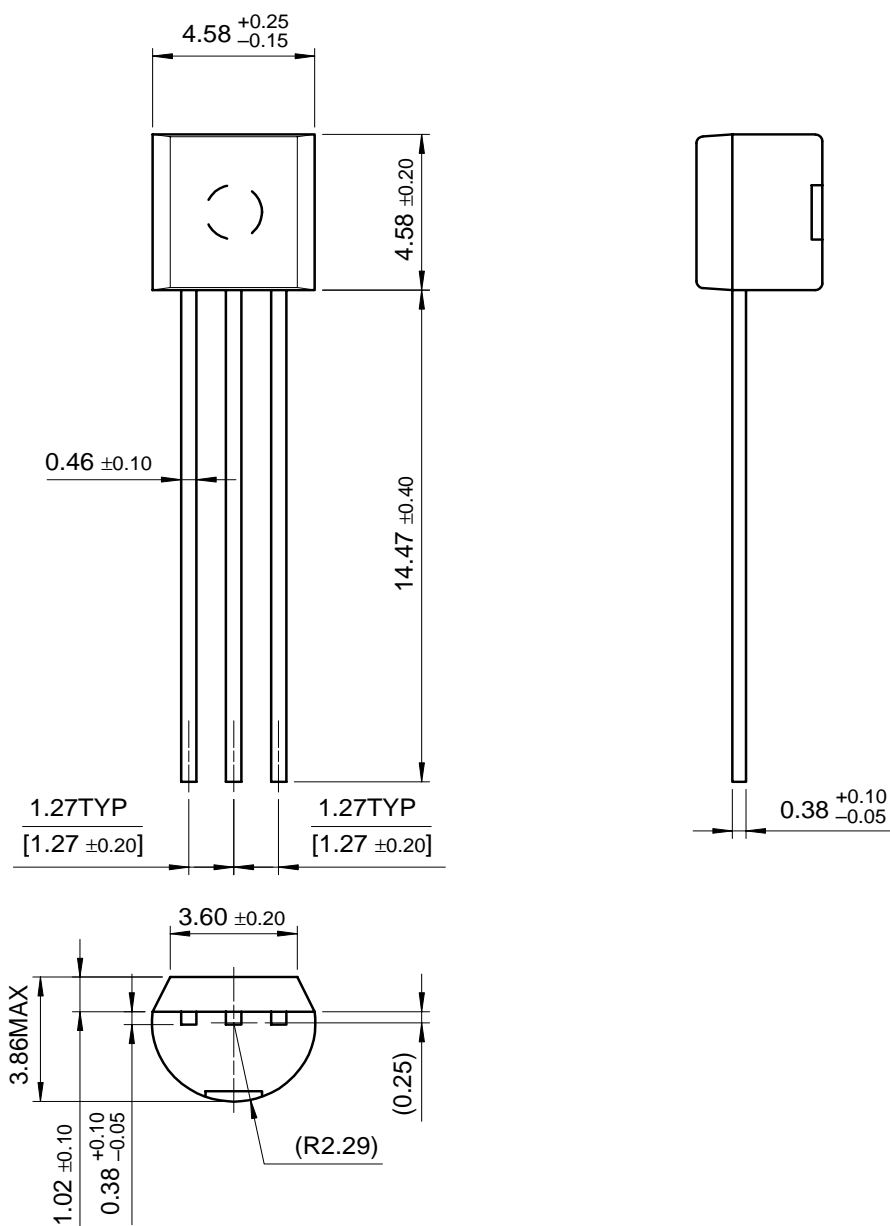


# Mechanical Dimensions

## Package

Dimensions in millimeters

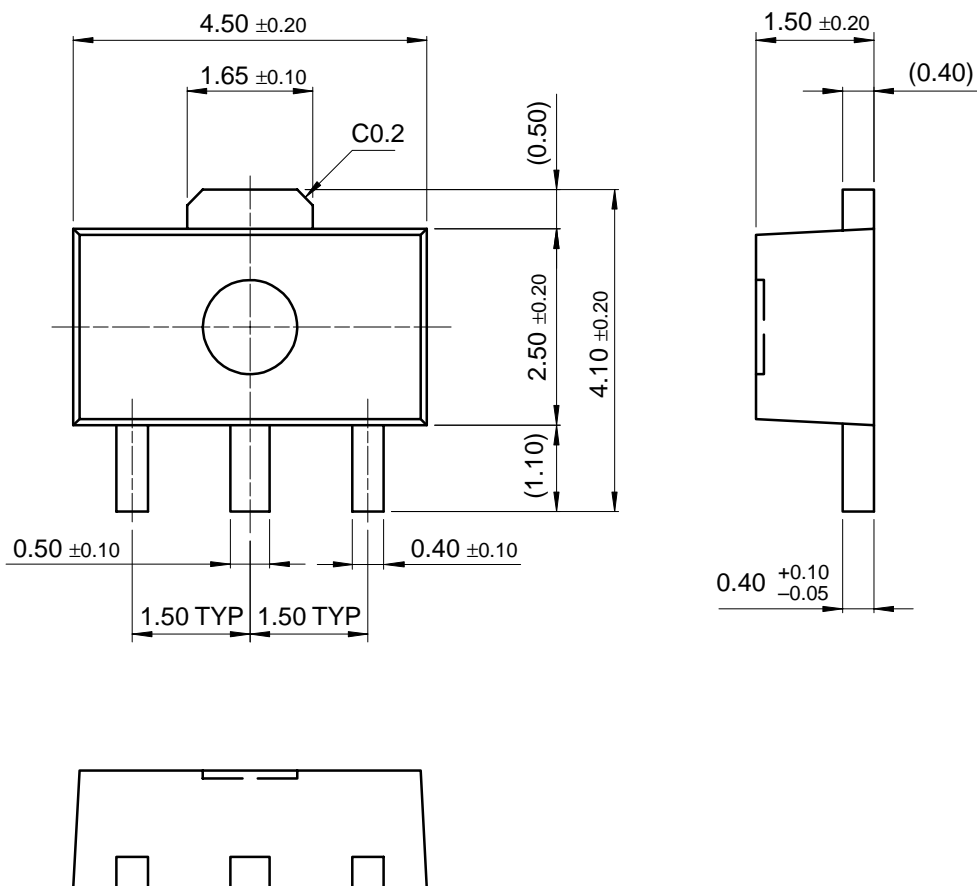
### TO-92



**Mechanical Dimensions** (Continued)

Package

Dimensions in millimeters

**SOT-89**

## Ordering Information

Product Number	Package	Operating Temperature
KA75250Z	TO-92	-25 ~ +85°C
KA75270Z		
KA75290Z		
KA75310Z		
KA75330Z		
KA75360Z		
KA75390Z		
KA75420Z		
KA75450Z		
KA75250M	SOT-89	
KA75270M		
KA75290M		
KA75310M		
KA75330M		
KA75360M		
KA75390M		
KA75420M		
KA75450M		

**DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

**LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.



Home >> Find products >>

## KA75310M

Voltage Detector (3.1V)

### Contents

- [General description](#)
- [Features](#)
- [Product status/pricing/packaging](#)
- [Order Samples](#)
- [Qualification Support](#)

### General description

The KA75250/KA75270/KA75290/KA75310/KA75330/KA75360/KA75390/KA75420/KA75450 prevents error of system from supply voltage below normal voltage level at the time the power on and instantaneous power off in systems.

[back to top](#)


### Features

- Detecting against error operations at the power ON/OFF.
- Resetting function for the low voltage microprocessor.
- Checking low battery

[back to top](#)

### Product status/pricing/packaging

**BUY**

Product	Product status	Pb-free Status	Package type	Leads	Packing method
KA75310MTF	Lifetime Buy		<a href="#">SOT-89</a>	3	TAPE REEL



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

[back to top](#)

### Related Links

[Request samples](#)

[How to order products](#)

[Product Change Notices \(PCNs\)](#)

[Support](#)

[Sales support](#)

[Quality and reliability](#)

[Design center](#)

**BUY**

### Datasheet

[Download this datasheet](#)



[e-mail this datasheet](#)



### This page

[Print version](#)

## Qualification Support

Click on a product for detailed qualification data

Product
<a href="#">KA75310MTE</a>

[back to top](#)

© 2007 Fairchild Semiconductor



[Products](#) | [Design Center](#) | [Support](#) | [Company News](#) | [Investors](#) | [My Fairchild](#) | [Contact Us](#) | [Site Index](#) | [Privacy Policy](#) | [Site Terms & Conditions](#) | [Standard Terms & Conditions](#) | [Contact Us](#)