Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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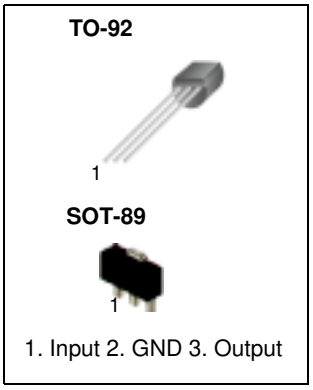
KA75XXX
Voltage Detector

Features

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

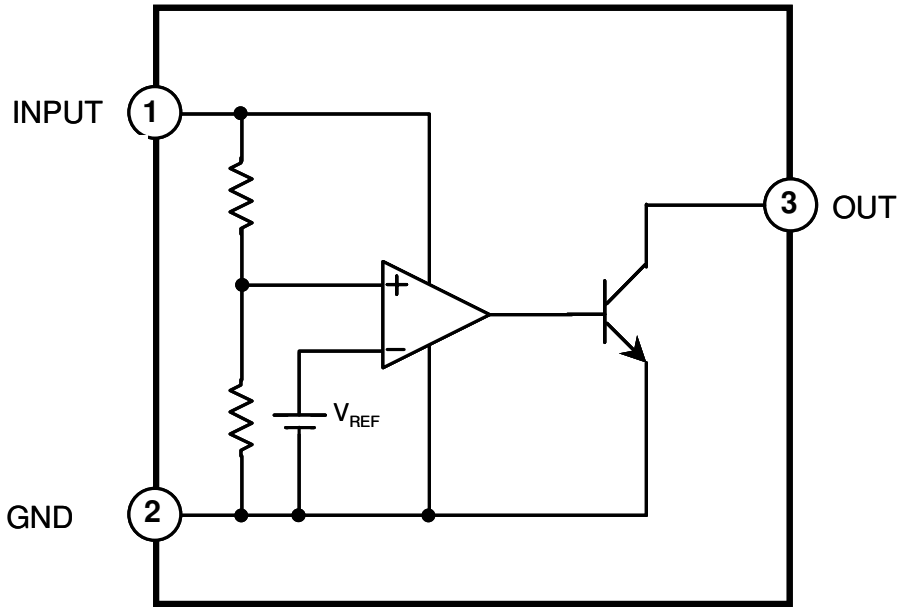
Description

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.



1. Input 2. GND 3. Output

Internal Block Diagram



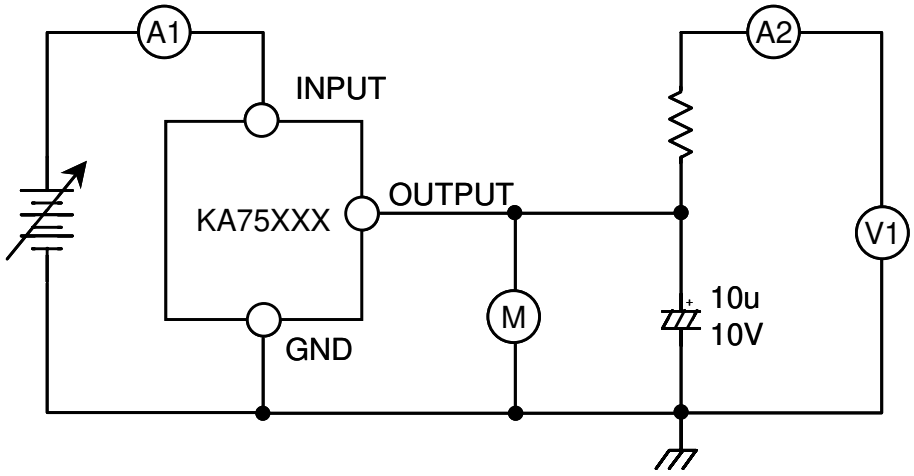
Absolute Maximum Rating (T_A=25°C)

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

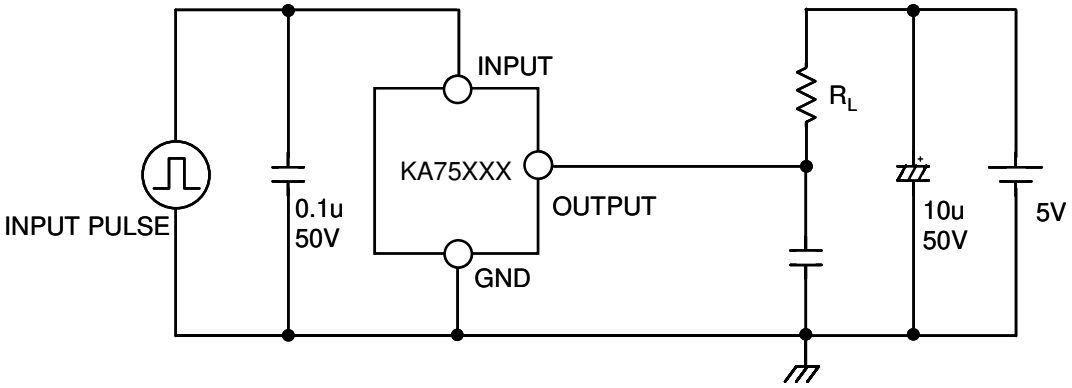
Electrical Characteristics (T_A=25°C)

Characteristic	Symbol	Test Conditions		Min	Typ	Max	Unit
Detecting Voltage	V_{DET}	R_L= 200Ω $V_{OL} \leq$ 0.4V	KA75250	2.35	2.5	2.65	V
			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_{OL}	R_L = 200Ω		-	-	0.4	V
Output Leakage Current	I_{LKG}	V_{CC} = 15V		-	-	0.1	uA
Hysteresis Voltage	V_{HYS}	R_L = 200Ω		30	50	100	mV
Detecting Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta T$	R_L = 200Ω		-	±0.01	-	%/°C
Circuit Current(At On Time)	I_{CCL}	$V_{CC} = V_{DET(MIN)}$ -0.05V		-	300	500	uA
Circuit Current(At Off Time)	I_{CCH}	V_{CC} = 5.25V		-	30	50	uA
Threshold Operating Voltage	$V_{TH(OPR)}$	R_L = 200Ω, $V_{OL} \leq$ 0.4V		-	0.8	1.0	V
" L"± Transmission Delay Time	T_{OL}	R_L = 1.0kΩ, C_L= 100pF		0.6	10	-	us
" H"± Transmission Delay Time	T_{OH}	R_L = 1.0kΩ, C_L = 100pF		-	15	20	us
Output Current (At On Time)	I_{OLI}	$V_{CC} = V_{DET(MIN)}$ -0.05V, T_A = 25°C		10	20	30	mA
Output Current (At On Time)	I_{OLII}	$V_{CC} = V_{DET(MIN)}$ - 0.05V T_A = -25 ~ +85°C		8	16	30	mA

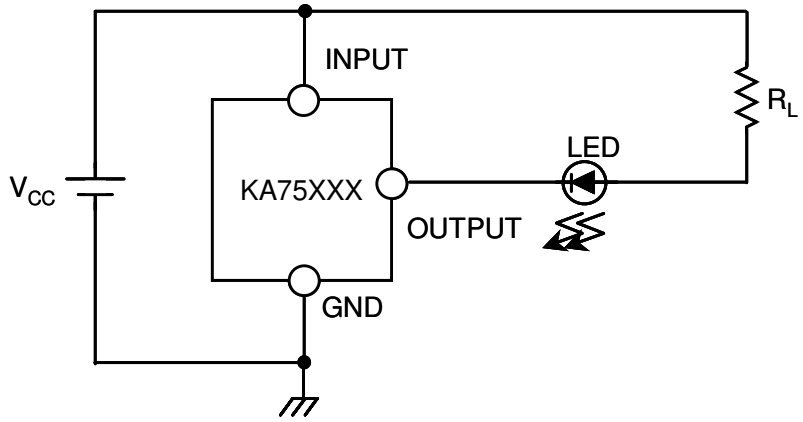
Test Circuit 1.



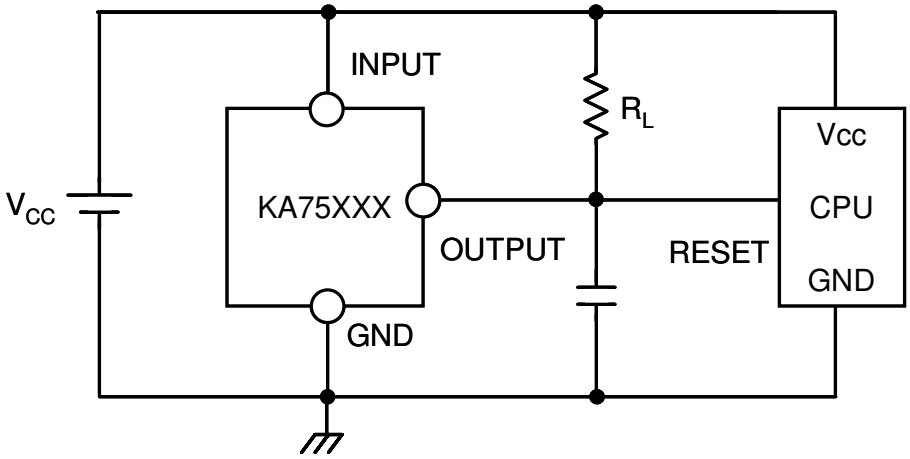
Test Circuit 2.



Test Circuit 3.



Application Circuit

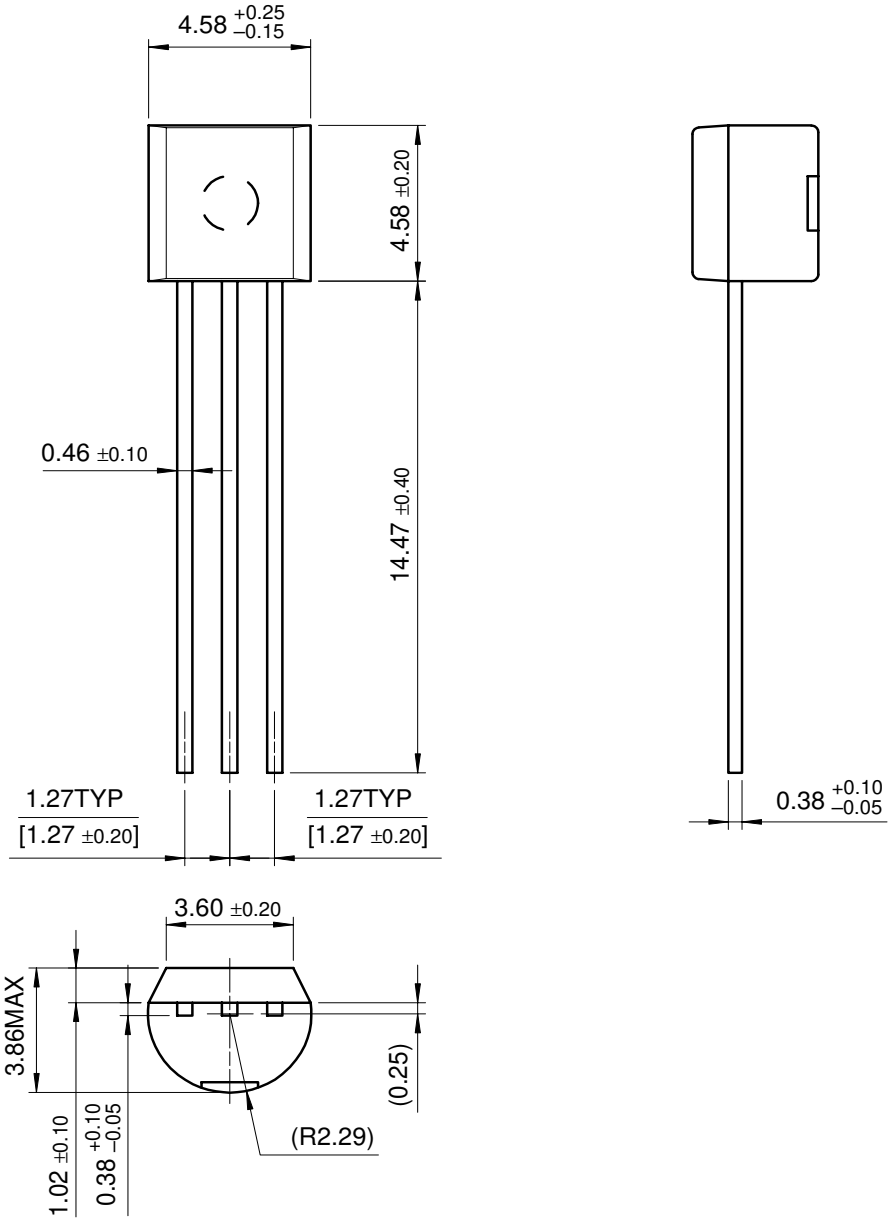


Mechanical Dimensions

Package

Dimensions in millimeters

TO-92

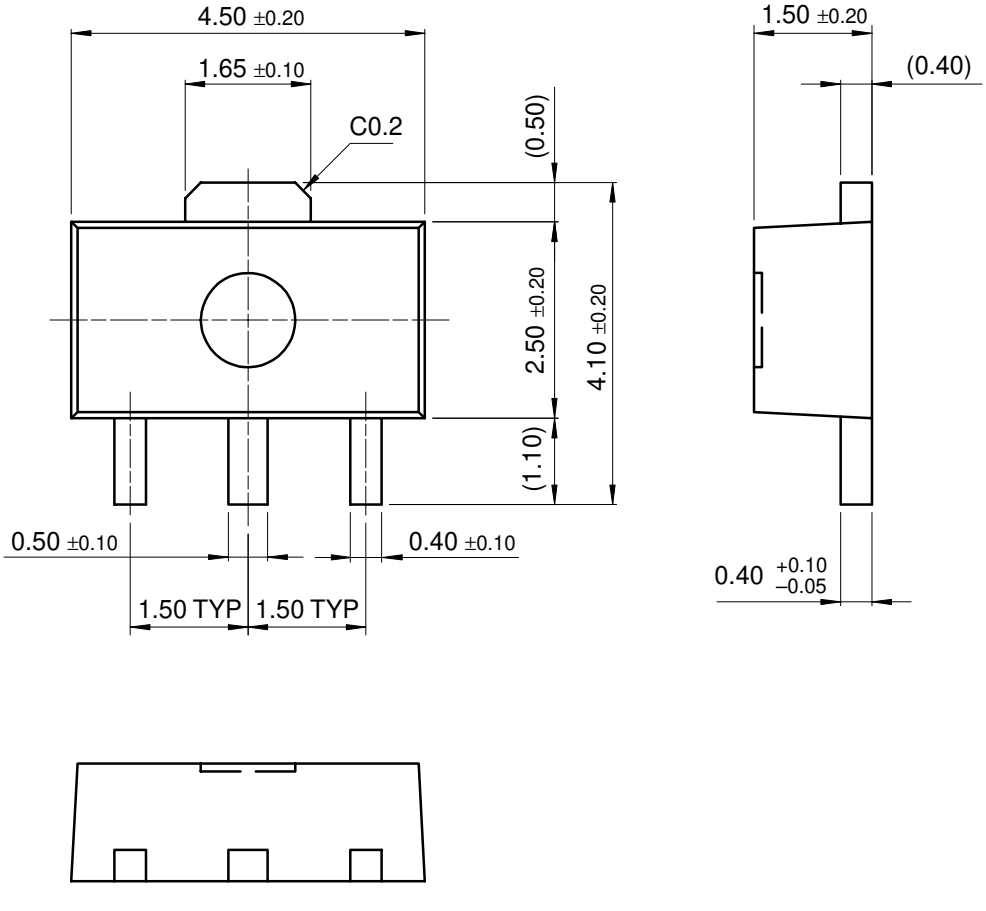


Mechanical Dimensions (Continued)

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		

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