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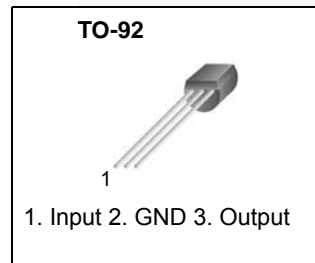
# KA75330 Voltage Detector

## Features

- Detects Against Error Operations at Power On/Off
- Resets Function for Low-Voltage Microprocessor
- Checks Low-Battery

## Description

The KA75330 prevents the system error where the supply voltage is below the normal level at the time when the power is on and instantaneous power off in systems.



## Ordering Information

Part Number	Operating Temperature Range	Top Mark	Package	Packing Method
KA75330ZTA	-25 ~ +85°C	KA75330	TO-92	Ammo

## Block Diagram

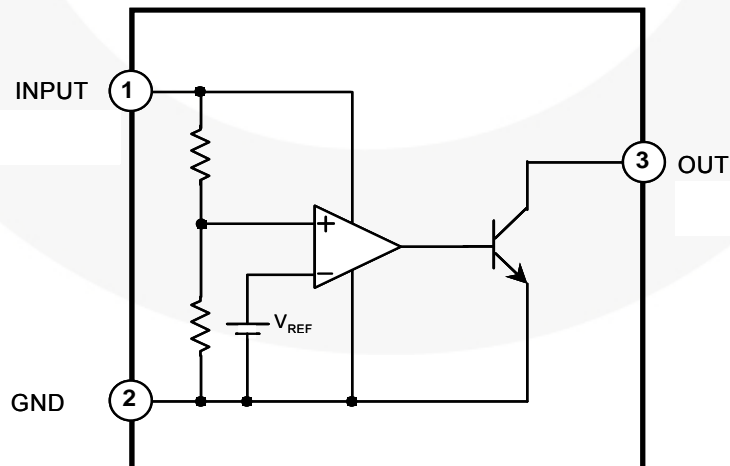


Figure 1. Block Diagram

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$V_{CC}$	Supply Voltage	0.3 ~ +15.0	V
$V_{DET}$	Detecting Voltage	3.3	V
$V_{HYS}$	Hysteresis Voltage	50	mV
$T_{OPR}$	Operating Temperature	-25 ~ +85	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-50 ~ +150	$^\circ\text{C}$
$P_D$	Power Dissipation (TO-92)	200	mW
$DV_{DET}/DT$	Detecting Voltage Temperature Coefficient	$R_L = 200 \Omega, +0.01$	$\%/^\circ\text{C}$

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{DET}$	Detecting Voltage	$R_L = 200 \Omega, V_{OL} \leq 0.4 \text{ V}$	3.15	3.30	3.45	V
$V_{OL}$	Low Output Voltage	$R_L = 200 \Omega$			0.4	V
$I_{LKG}$	Output Leakage Current	$V_{CC} = 15 \text{ V}$			0.1	$\mu\text{A}$
$V_{HYS}$	Hysteresis Voltage	$R_L = 200 \Omega$	30	50	100	mV
$DV_{DET}/DT$	Detecting Voltage Temperature Coefficient	$R_L = 200 \Omega$		$\pm 0.01$		$\%/^\circ\text{C}$
$I_{CCL}$	Circuit Current (At On Time)	$V_{CC} = V_{DET(MIN)} - 0.05 \text{ V}$		300	500	$\mu\text{A}$
$I_{CCH}$	Circuit Current (At Off Time)	$V_{CC} = 5.25 \text{ V}$		30	50	$\mu\text{A}$
$V_{TH(OPR)}$	Threshold Operating Voltage	$R_L = 200 \Omega, V_{OL} \leq 0.4 \text{ V}$		0.8	1.0	V
$t_{OL}$	"L" $\pm$ Transmission Delay	$R_L = 1.0 \text{ k}\Omega, C_L = 100 \text{ pF}$	0.6	10		$\mu\text{s}$
$t_{OH}$	"H" $\pm$ Transmission Delay	$R_L = 1.0 \text{ k}\Omega, C_L = 100 \text{ pF}$		15	20	$\mu\text{s}$
$I_{OLI}$	Output Current (At On Time)	$V_{CC} = V_{DET(MIN)} - 0.05 \text{ V}, T_A = 25^\circ\text{C}$	10	20	30	mA
$I_{OLII}$	Output Current (At On Time)	$V_{CC} = V_{DET(MIN)} - 0.05 \text{ V}, T_A = -25 \sim +85^\circ\text{C}$	8	16	30	mA

Test Circuit 1.

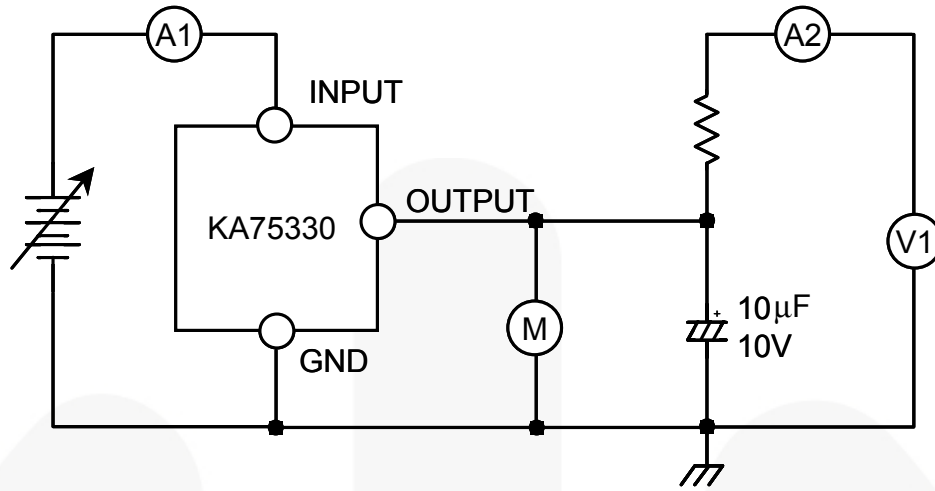


Figure 2. Test Circuit

Test Circuit 2.

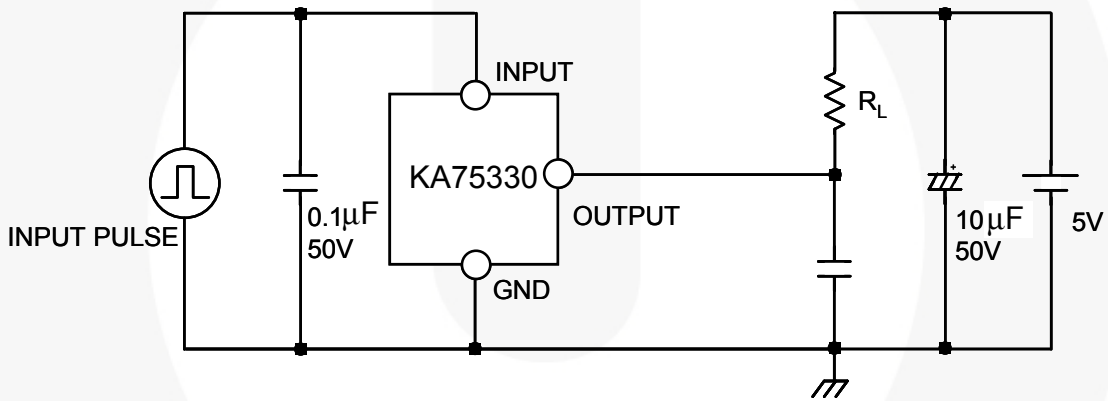


Figure 3. Test Circuit

Test Circuit 3.

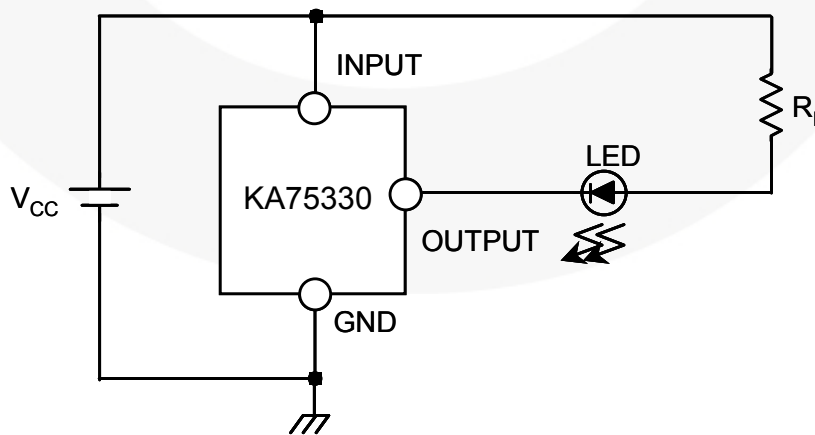


Figure 4. Test Circuit

### Application Circuit

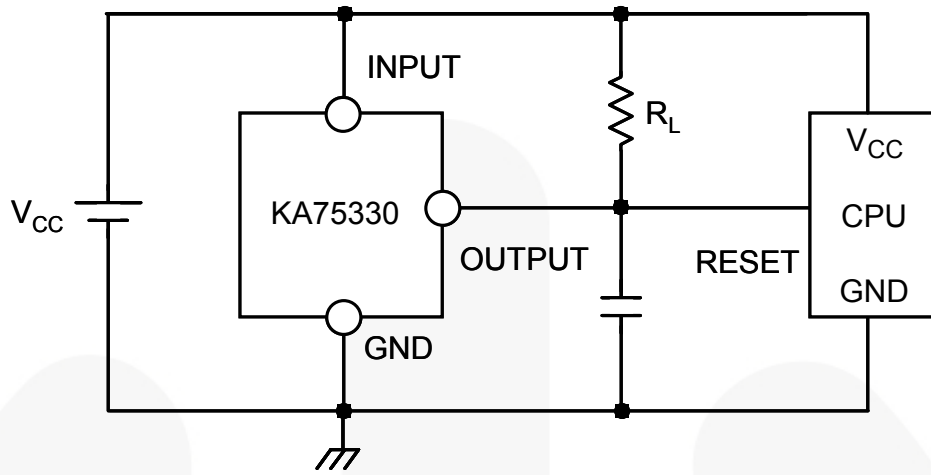


Figure 5. Application Circuit



Physical Dimensions

TO-92 Ammo Type

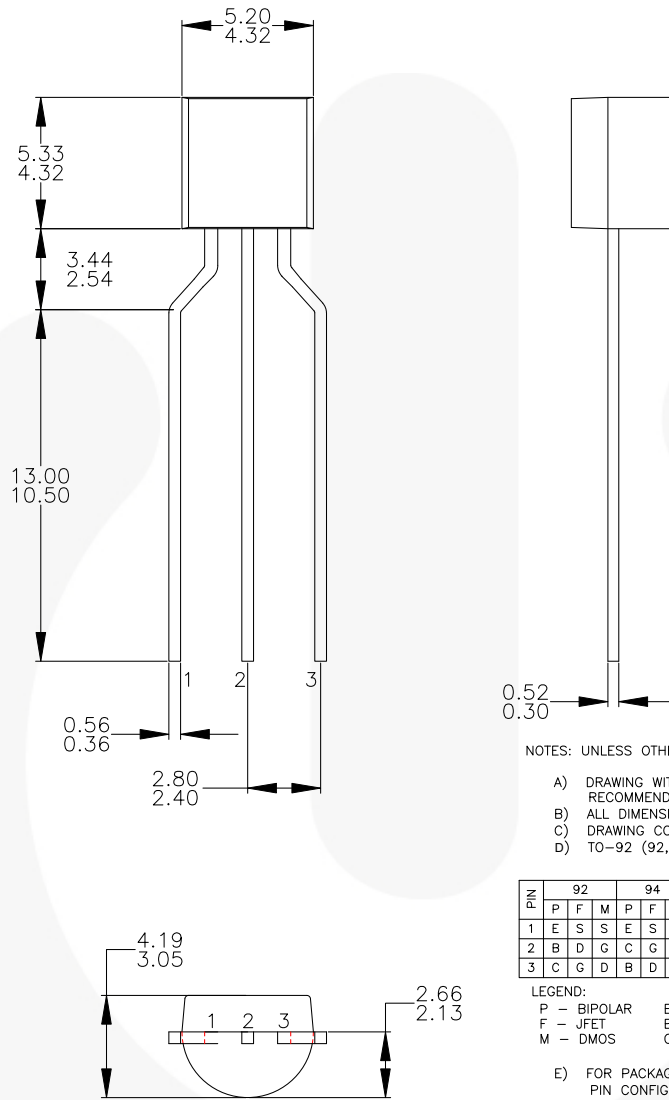


Figure 6. 3-Lead, TO-92, Molded, 0.200 in Line Spacing Lead Form

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