



**THE DATASHEET OF
KA75250MTF**



KA75XXX

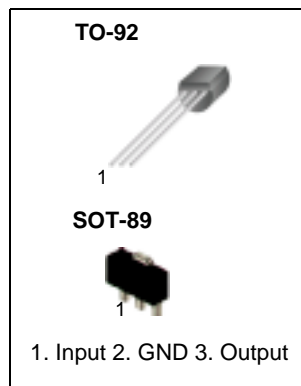
Voltage Detector

Features

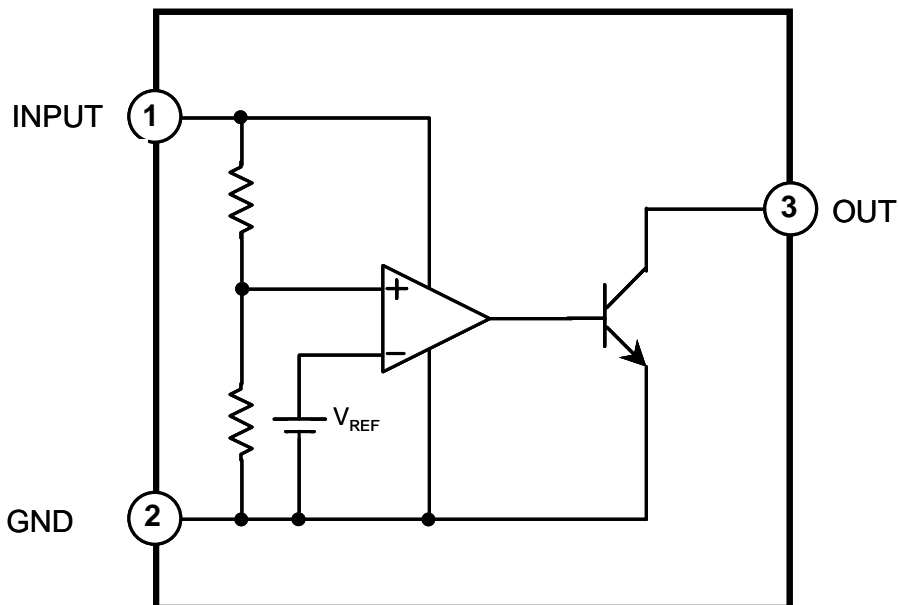
- Detecting Against Error Operations At The Power On/off.
- Resetting Function For The Low Voltage Microprocessor.
- Checking Low Battery

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

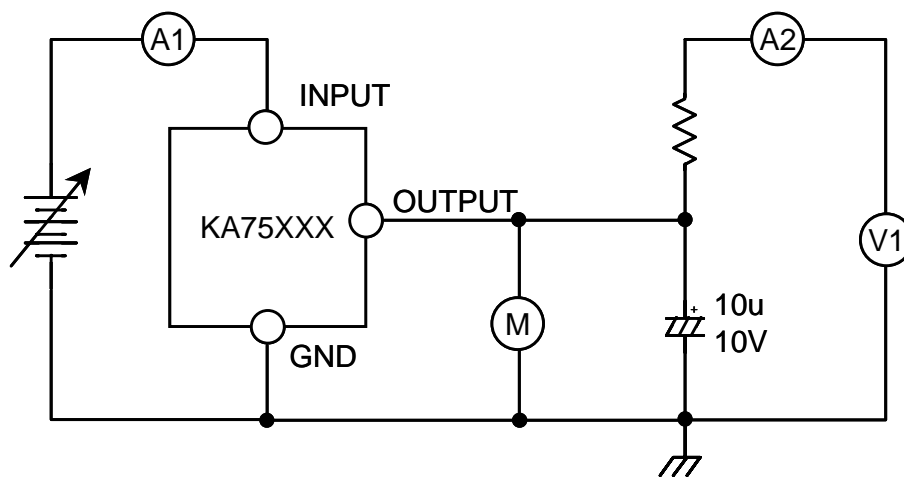
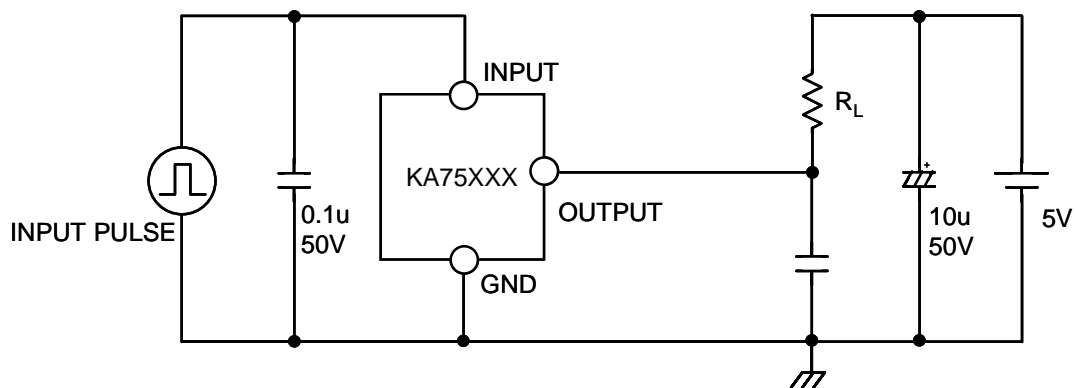
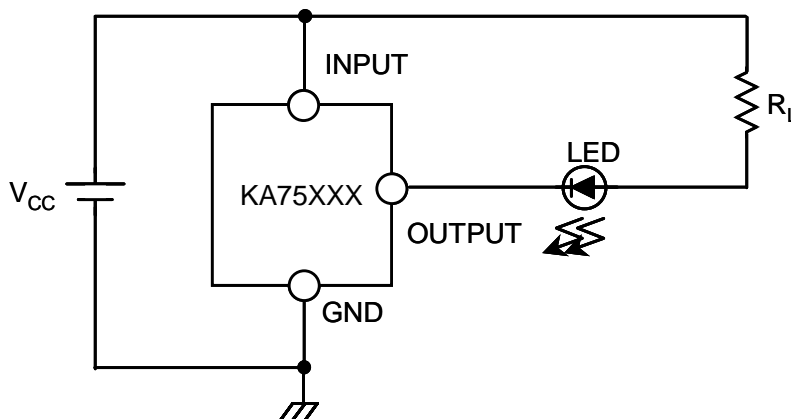


Absolute Maximum Rating (TA=25°C)

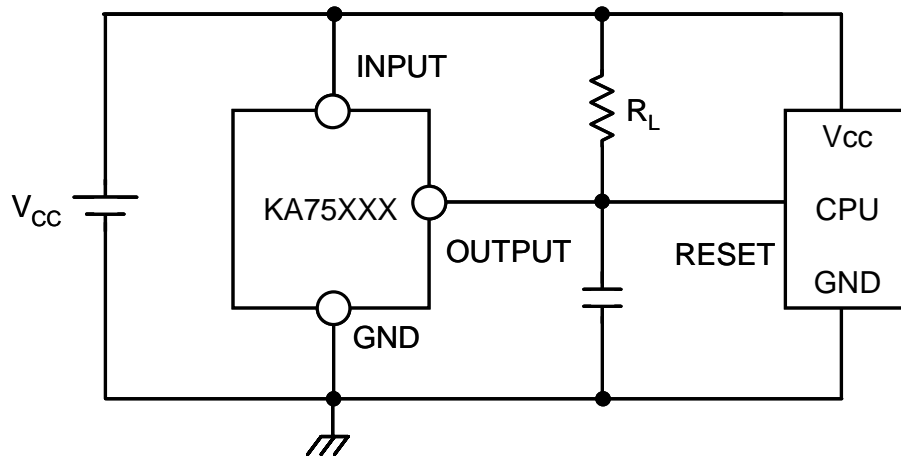
| Characteristic | Symbol | Value | Unit |
|---|---------------------------|--|------|
| Supply Voltage | V _{CC} | 0.3 ~ +15.0 | V |
| Detecting Voltage | V _{DET} | 2.5/2.7/2.9/3.1 3.3/3.6/3.9/4.2/4.5 | V |
| Hysteresis Voltage | V _{HYS} | 50 | mV |
| Operating Temperature | T _{OPR} | -25 ~ +85 | °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 (TA=25°C)

| Characteristic | Symbol | Test Conditions | Min | Typ | Max | Unit | |
|---|---------------------------|---|---------|-------|-----|------|---|
| Detecting Voltage | V _{DET} | R _L = 200Ω | KA75250 | 2.35 | 2.5 | 2.65 | V |
| | | V _{OL} ≤ 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 _{OL} | R _L = 200Ω | - | - | 0.4 | V | |
| Output Leakage Current | I _{LKG} | V _{CC} = 15V | - | - | 0.1 | μA | |
| 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 | μA | |
| Circuit Current(At Off Time) | I _{CCH} | V _{CC} = 5.25V | - | 30 | 50 | μA | |
| Threshold Operating Voltage | V _{TH(OPR)} | R _L = 200Ω, V _{OL} ≤ 0.4V | - | 0.8 | 1.0 | V | |
| " L"± Transmission Delay Time | T _{OL} | R _L = 1.0kΩ, C _L = 100pF | 0.6 | 10 | - | μs | |
| " H"± Transmission Delay Time | T _{OH} | R _L = 1.0kΩ, C _L = 100pF | - | 15 | 20 | μs | |
| 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

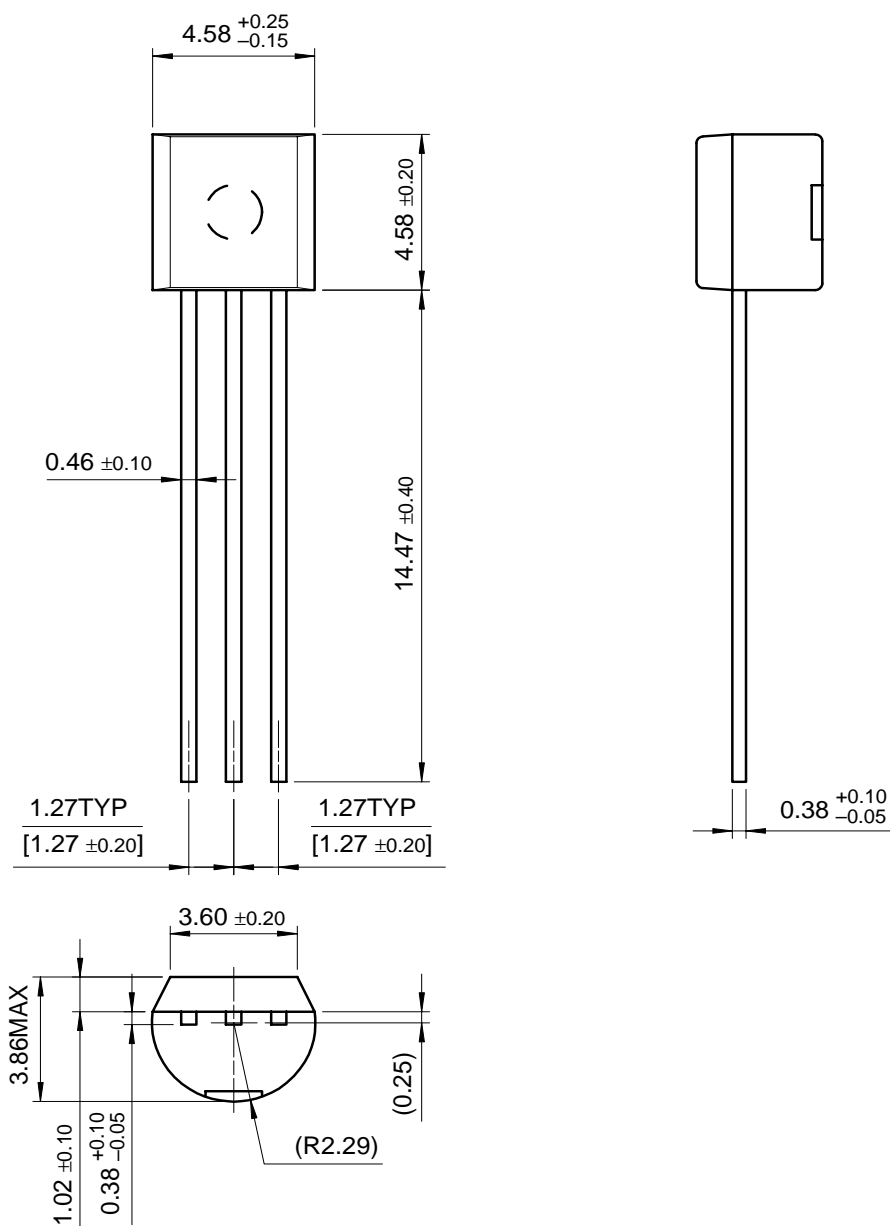


Mechanical Dimensions

Package

Dimensions in millimeters

TO-92

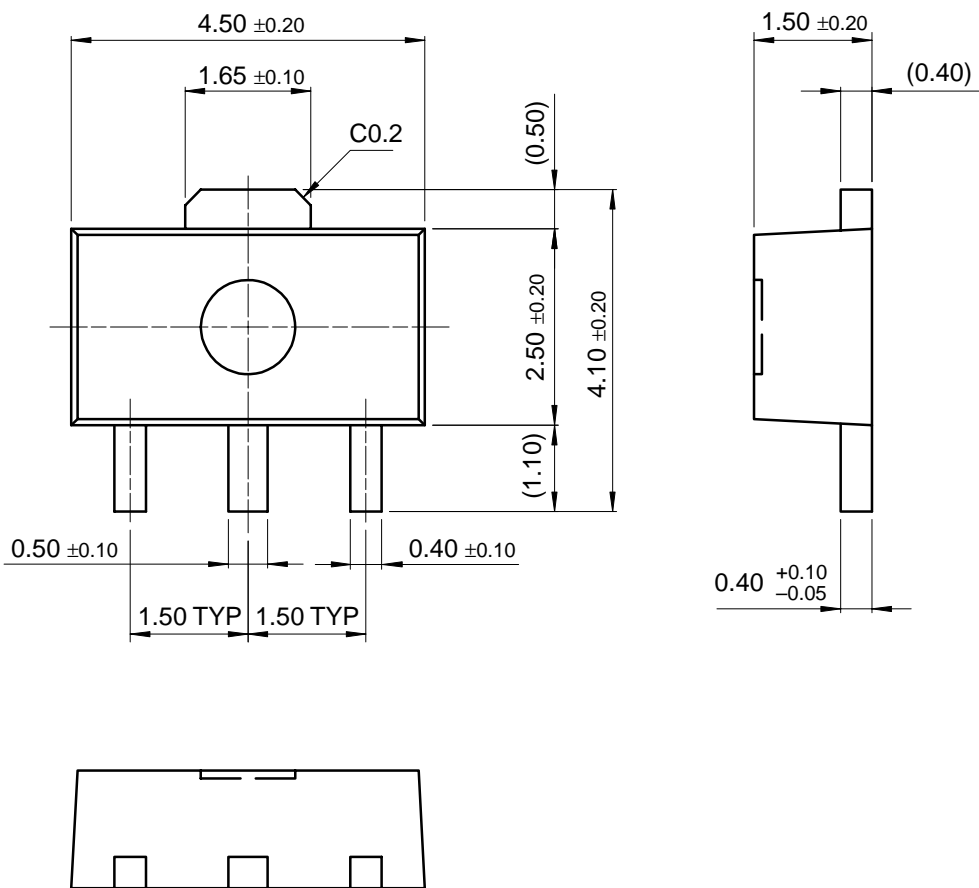


Mechanical Dimensions (Continued)

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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