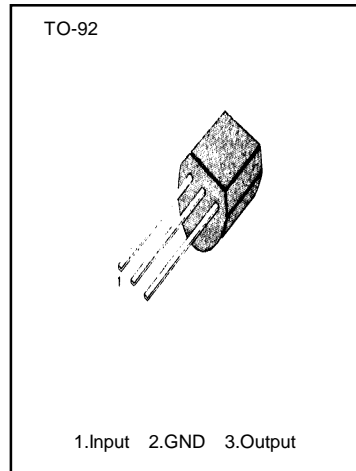


**VOLTAGE DETECTOR**

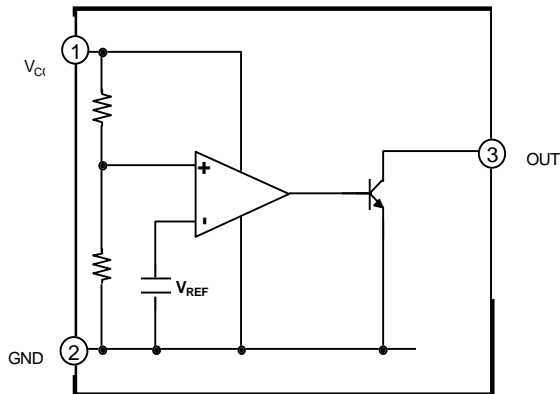
The KA75250/270/290/310/33/36/39/42/45 prevents error of system from supply voltage below normal voltage level at the time the power on and instantaneous power off in systems.

**FEATURES**

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



**BLOCK DIAGRAM**



**ORDERING INFORMATION**

Device	PKG	Operating Temp.
KA75250	TO-92	-30~ + 75℃
KA75270		
KA75290		
KA75310		
KA7533		
KA7536		
KA7539		
KA7542		
KA7545		

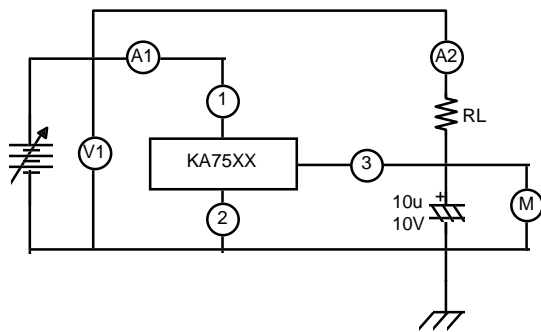
ABSOLUTE MAXIMUM RATING ( $T_A = 25^\circ\text{C}$ )

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	$T_{OPR}$	-30 ~ +75	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-50 ~ +150	$^\circ\text{C}$
Power Dissipation	$P_D$	200	Mw
Detecting Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta T$	$R_L = 200\Omega$ , $\pm 0.01$	%/ $^\circ\text{C}$

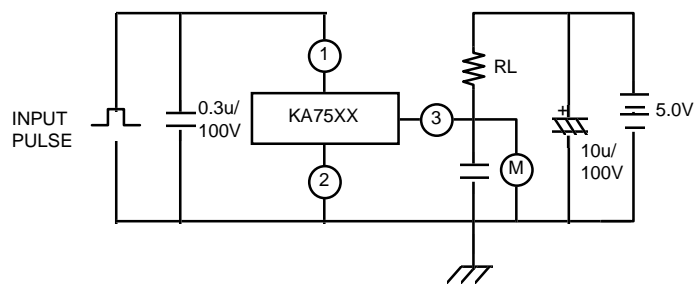
ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Detecting Voltage	$V_{DET}$	$R_L = 200\Omega$ KA75250	2.35	2.5	2.65	V
		$V_{OL} \leq 0.4V$ KA75270	2.55	2.7	2.85	
		KA75290	2.75	2.9	3.05	
		KA75310	2.95	3.1	3.25	
		KA7533	3.15	3.3	3.45	
		KA7536	3.45	3.6	3.75	
		KA7539	3.75	3.9	4.05	
		KA7542	4.05	4.2	4.35	
		KA7545	4.35	4.5	4.65	
Low Output Voltage	$V_{OL}$	$R_L = 200\Omega$	-	-	0.4	V
Output Leakage Current	$I_{LKG}$	$V_{CC} = 15V$	-	-	0.1	$\mu\text{A}$
Hysteresis Voltage	$V_{HYS}$	$R_L = 200\Omega$	30	50	100	mV
Detecting Voltage Temperature Coefficient	$\Delta V_{DET}/\Delta T$	$R_L = 200\Omega$		$\pm 0.01$		%/ $^\circ\text{C}$
Circuit Current (at on time)	$I_{CCL}$	$V_{CC} = V_{DET(MIN)} - 0.05V$	-	300	500	$\mu\text{A}$
Circuit Current (at off time)	$I_{CCH}$	$V_{CC} = 5.25V$	-	30	50	$\mu\text{A}$
Threshold Operating Voltage	$V_{TH(OPR)}$	$R_L = 200\Omega$ , $V_{OL} \leq 0.4V$	0.6	0.8	1.0	V
"L" Transmission Delay Time	$t_{OL}$	$R_L = 1.0K\Omega$ , $C_L = 100pF$	-	10	-	$\mu\text{S}$
"H" Transmission Delay Time	$t_{OH}$	$R_L = 1.0K\Omega$ , $C_L = 100pF$	-	15	20	$\mu\text{S}$
Output Current (at on time I)	$I_{OLI}$	$V_{CC} = V_{DET(MIN)} - 0.05V$ , $T_C = 25^\circ\text{C}$	7	17	27	mA
Output Current (at on time II)	$I_{OLII}$	$V_{CC} = V_{DET(MIN)} - 0.05V$ , $T_C = -30 \sim +75^\circ\text{C}$	8	16	30	mA

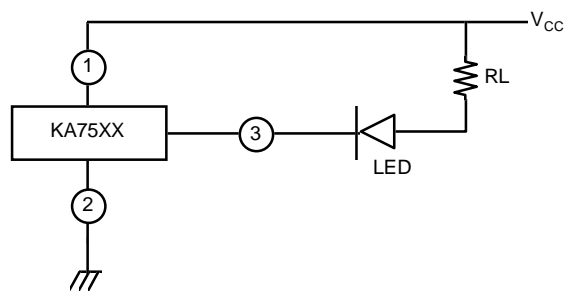
TEST CIRCUIT 1.



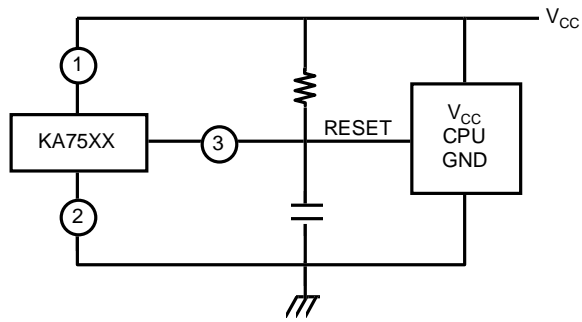
TEST CIRCUIT 2.



TEST CIRCUIT 3.



APPLICATION CIRCUIT



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E <sup>2</sup> CMOS™	PowerTrench™	
FACT™	QST™	
FACT Quiet Series™	Quiet Series™	
FAST®	SuperSOT™-3	
FASTr™	SuperSOT™-6	
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