



81XX

LINEAR INTEGRATED CIRCUIT

POWER RESET IC

■ DESCRIPTION

The function of UTC **81XX** is to accurately reset system after detecting the supply voltage at the time of switching power on and instantaneous power off in various CPU and other logic systems. Further, this IC, with its super low consumption current and high precision voltage detection capacity, UTC **81XX** is the most suited as a voltage check circuit for a number of products which use batteries.

■ FEATURES

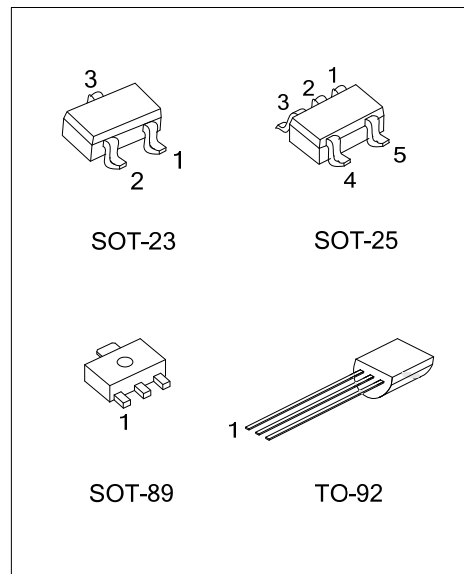
- *High precision voltage detection. ($V_{SS} \pm 3\%$ max)
- *low current consumption.
($I_{CCH} = 5\mu A$ max. $I_{CCL} = 5\mu A$ max.)
- *Low operating threshold voltage (0.65V typ.)
- *Hysteresis voltage is provided as a detect voltage.
(50mV typ.)
- *Large output current at the time ON (15mA typ.)
- *The detect voltage can be selected at your discretion at 0.1V step within the range of 1.9V to 4.6V by the following stipulation method.

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment					Packing
Lead Free	Halogen Free		1	2	3	4	5	
81XXL-AB3-D-R	81XXG-AB3-D-R	SOT-89	I	G	O	-	-	Tape Reel
81XXL-AB3-E-R	81XXG-AB3-E-R	SOT-89	O	I	G	-	-	Tape Reel
81XXL-AE3-2-R	81XXG-AE3-2-R	SOT-23	I	O	G	-	-	Tape Reel
81XXL-AE3-3-R	81XXG-AE3-3-R	SOT-23	O	G	I	-	-	Tape Reel
81XXL-AE3-5-R	81XXG-AE3-5-R	SOT-23	G	O	I	-	-	Tape Reel
81XXL-AF5-A-R	81XXG-AF5-A-R	SOT-25	N	N	G	O	I	Tape Reel
81XXL-AF5-B-R	81XXG-AF5-B-R	SOT-25	O	I	G	N	N	Tape Reel
81XXL-T92-D-B	81XXG-T92-D-B	TO-92	I	G	O	-	-	Tape Box
81XXL-T92-D-K	81XXG-T92-D-K	TO-92	I	G	O	-	-	Bulk
81XXL-T92-E-B	81XXG-T92-E-B	TO-92	O	I	G	-	-	Tape Box
81XXL-T92-E-K	81XXG-T92-E-K	TO-92	O	I	G	-	-	Bulk

Note: Pin Assignment: I: V_{IN} O: V_{OUT} G: GND NC:N
XX: Detected Voltage Value

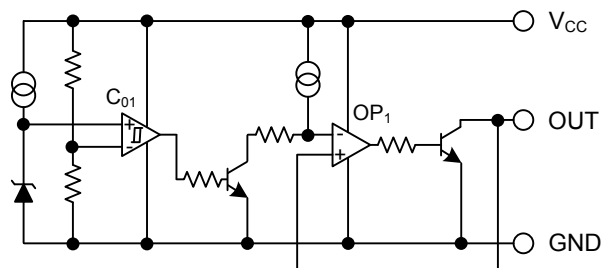
<p>81XXL-AB3-2-R</p> <p>(1)Packing Type (2)Pin Assignment (3)Package Type (4)Lead Free</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, AE3: SOT-23, AF5: SOT-25, T92: TO-92 (4) G: Halogen Free, L: Lead Free</p>
--	---



MARKING INFORMATION

PACKAGE	MARKING
SOT-23	<p> Date Code ← [] [] [] → L: Lead Free Voltage Code ← [] [] [] → L: Halogen Free Pin Code → [] [] [] → </p>
SOT-89	<p> Date Code ← [] [] → L: Lead Free Voltage Code ← [] [] [] [] → L: Halogen Free Pin Code → [] [] [] → </p>
SOT-25	<p> Date Code ← [] [] [] [] → L: Lead Free Voltage Code ← [] [] [] [] → L: Halogen Free Pin Code → [] [] [] [] → </p>
TO-92	<p> Voltage Code ← [] [] [] [] → L: Lead Free Pin Code ← [] [] [] [] → L: Halogen Free Date Code → [] [] [] [] → </p>

BLOCK DIAGRAM



The Pin2 this product is SUB, so connect the pin to Ground.

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT	
Power supply voltage	V_{CC}	-0.3~+10	V	
Operating temperature	T_{OPR}	-20~+75	°C	
Storage temperature	T_{STG}	-40~+125	°C	
Power Dissipation	TO-92	P_D	400	mW
	SOT-89		500	mW
	SOT-23		300	mW
	SOT-25		350	mW

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.
 Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS

($T_A=25^\circ\text{C}$, The unit of resistance is Ω unless otherwise indicated.)

PARAMETER	SYMBOL	(Note 1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Detection Voltage	V_{SS}	1	$R_L=470\Omega$ $V_{CC}=H->L$ $V_{OUT}=V_{CC}$	UTC 8150	4.850	5.000	5.150	V
				UTC 8146	4.462	4.600	4.738	
				UTC 8145	4.365	4.500	4.635	
				UTC 8144	4.268	4.400	4.532	
				UTC 8143	4.171	4.300	4.429	
				UTC 8142	4.074	4.200	4.326	
				UTC 8141	3.977	4.100	4.223	
				UTC 8140	3.880	4.000	4.120	
				UTC 8139	3.783	3.900	4.017	
				UTC 8138	3.686	3.800	3.914	
				UTC 8137	3.589	3.700	3.811	
				UTC 8136	3.492	3.600	3.708	
				UTC 8135	3.395	3.500	3.605	
				UTC 8134	3.298	3.400	3.502	
				UTC 8133	3.201	3.300	3.399	
				UTC 8132	3.104	3.200	3.296	
				UTC 8131	3.007	3.100	3.193	
				UTC 8130	2.910	3.000	3.090	
				UTC 8129	2.813	2.900	2.987	
				UTC 8128	2.716	2.800	2.884	
UTC 8127	2.619	2.700	2.781					
UTC 8126	2.522	2.600	2.678					
UTC 8125	2.425	2.500	2.575					
UTC 8124	2.328	2.400	2.472					
UTC 8123	2.231	2.300	2.369					
UTC 8122	2.134	2.200	2.266					
UTC 8121	2.037	2.100	2.163					
UTC 8120	1.940	2.000	2.060					
UTC 8119	1.843	1.900	1.957					
UTC 8118	1.746	1.800	1.854					
Hysteresis Voltage	ΔV_{SS}	1	$R_L=470\Omega, V_{CC}=L>H->L,$ $V_{OUT}=V_{CC}$	30	50	100	mV	
Detection Voltage Temperature Coefficient	$V_{SS}/\Delta T$	1	$R_L=470\Omega, T_A=-20\sim+75^\circ\text{C}$ $V_{OUT}=V_{CC}$		± 0.01		%/°C	
Low Level Output Voltage	V_{OL}	1	$V_{CC}=V_{SS} \text{ min. } -0.05\text{V},$ $R_L=470\Omega$		0.2	0.4	V	
Output Leakage Current	I_{OH}	2	$V_{CC}=10\text{V}, V_{OUT}=V_{CC}$			± 0.1	μA	

■ ELECTRICAL CHARACTERISTICS(Cont.)

PARAMETER	SYMBOL	(Note 1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Circuit Current at ON Time	I_{CCL}	3	$V_{CC}=V_{SS}$ min.-0.05V, $R_L=\infty$		3	5	μA
Circuit Current at OFF Time	I_{CCH}	3	$V_{CC}=V_{SS}$ typ./0.85, $R_L=\infty$		3	5	μA
"H" Transmission Delay Time	T_{pLH} (Note 2)	4	$C_L=100pF$, $R_L=4.7k\Omega$		20	60	μS
"L" Transmission Delay Time	T_{pHL} (Note 3)	4	$C_L=100pF$, $R_L=4.7k\Omega$		20	60	μS
Operating Threshold Voltage	V_{OPL}	1	$R_L=4.7k\Omega$, $V_{OL}\leq 0.4V$		0.65	0.85	V
Output current at ON Time 1	I_{OL1}	2	$R_L=0$, $V_{CC}=V_S$ min.-0.05V, $V_{OUT}=0.4V$	5			mA
Output current at ON Time 2	I_{OL2}	2	$T_A=-20\sim+75^\circ C$ $R_L=0$, $V_{CC}=V_{SS}$ min.-0.15V $V_{OUT}=0.4V$	3			mA

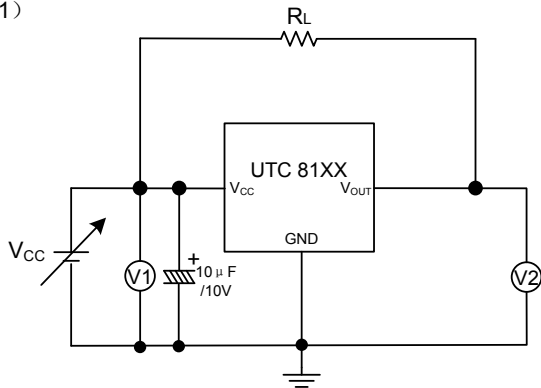
Note: 1. MEASUREMENT CIRCUIT

2. T_{pLH} : $V_{CC}=(V_{SS}$ Typ. -0.4V) \rightarrow (V_{SS} Typ. +0.4V)

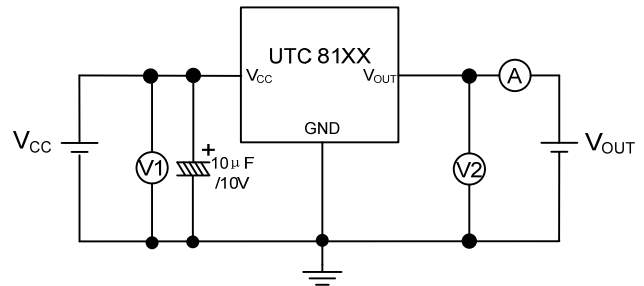
3. T_{pHL} : $V_{CC}=(V_{SS}$ Typ. +0.4V) \rightarrow (V_{SS} Typ. -0.4V)

MEASURING CIRCUITS

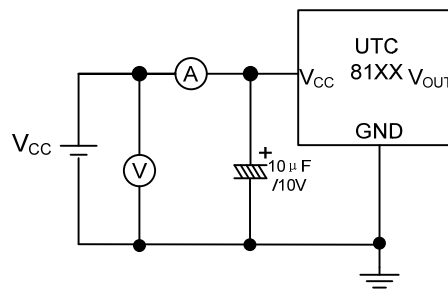
1)



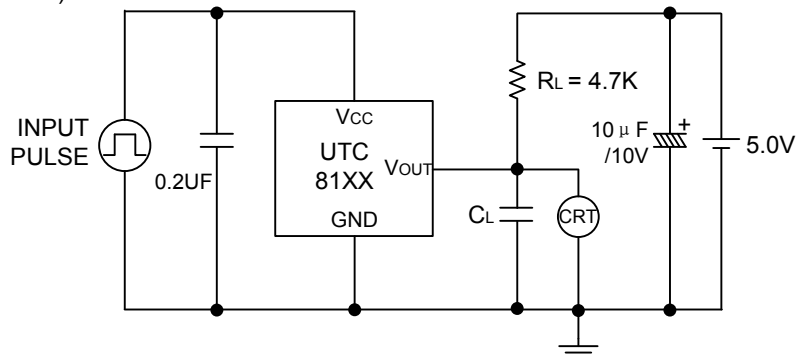
2)



3)

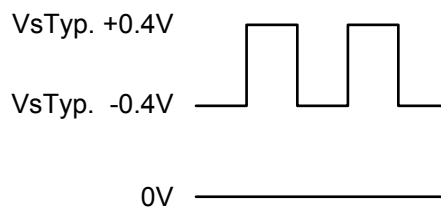


4)



NOTE:

- 1.) A: DC AMMETER V: DC VOLTMETER CRT: OSCILLOSCOPE
 2.) INPUT PULSE



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.