



81XX

LINEAR INTEGRATED CIRCUIT

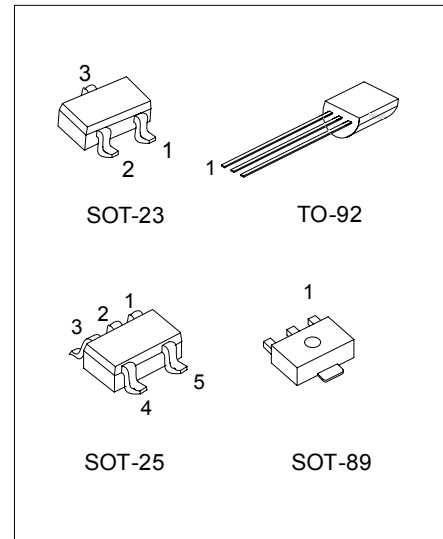
POWER RESET IC

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, is 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.
($I_{CCH} = 15\mu A$ typ. $I_{CCL} = 10\mu A$ typ.)
- *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.



*Pb-free plating product number: 81XX L

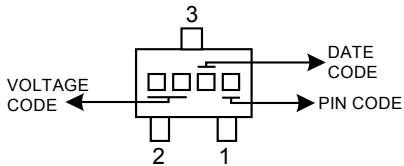
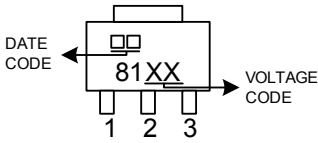
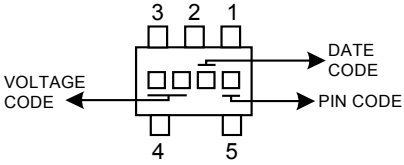
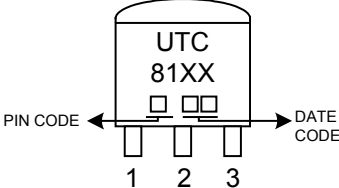
ORDERING INFORMATION

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

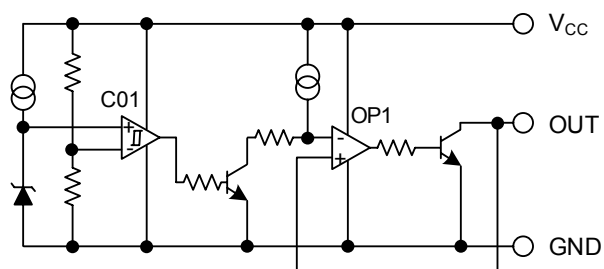
Note: Pin Assignment: I: V_{CC} O: V_{OUT} G: GND
XX: detected voltage value

81XXL-AB3-D-R	(1)Packing Type (2)Pin Assignment (3)Package Type (4)Lead Plating	(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, AF5: SOT-25, AE3: SOT-23, T92: TO-92 (4) L: Lead Free Plating, Blank: Pb/Sn
---------------	--	---

MARKING INFORMATION

PACKAGE	MARKING	PACKAGE	MARKING
SOT-23		SOT-89	
SOT-25		TO-92	

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

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	(*1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Detection Voltage	V_{SS}	1	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	$R_L=470\Omega$, $V_{CC}=L \rightarrow H \rightarrow L$, $V_{OUT}=V_{CC}$	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
Circuit Current at ON Time	I_{CCL}	3	$V_{CC}=V_{SS} \text{ min. } -0.05\text{V}$, $R_L=\infty$		3	5	μA
Circuit Current at OFF Time	I_{CCH}	3	$V_{CC}=V_{SS} \text{ typ. } /0.85$, $R_L=\infty$		3	5	μA

ELECTRICAL CHARACTERISTICS(Cont.)

PARAMETER	SYMBOL	(*1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
"H" Transmission Delay Time	TpLH (*2)	4	C _L =100pF, R _L =4.7KΩ		20	60	μS
"L" Transmission Delay Time	TpHL (*3)	4	C _L =100pF, R _L =4.7kΩ		20	60	μS
Operating Threshold Voltage	V _{OPL}	1	R _L =4.7kΩ, V _{OL} ≤ 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~+75°C R _L =0, V _{CC} =V _{SS} min.-0.15V V _{OUT} =0.4V	3			mA

Note:

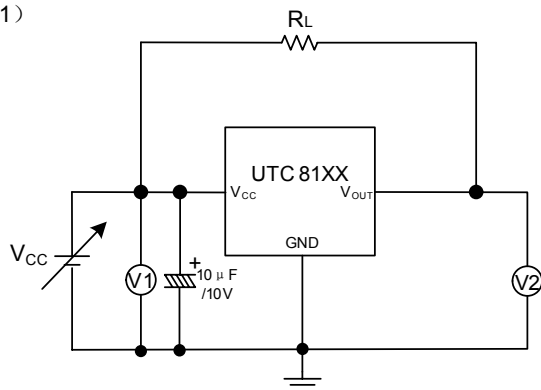
(*1) MEASUREMENT CIRCUIT

(*2) TpLH: V_{CC}=(V_{SS} Typ. -0.4V) -> (V_{SS} Typ. +0.4V)

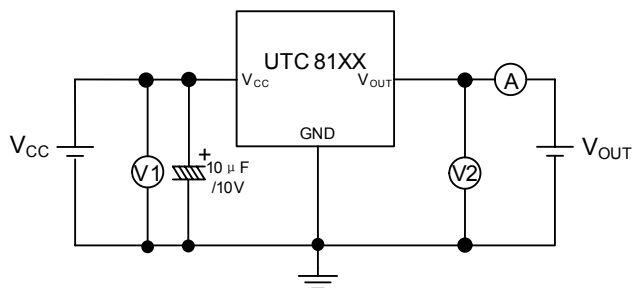
(*3) TpHL: V_{CC}=(V_{SS} Typ. +0.4V) -> (V_{SS} Typ. -0.4V)

■ MEASURING CIRCUITS

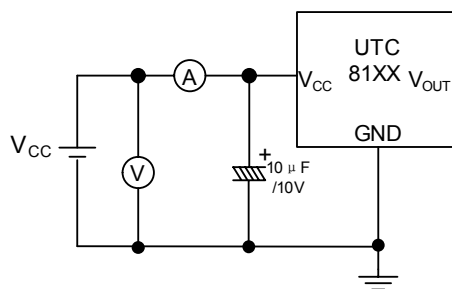
1)



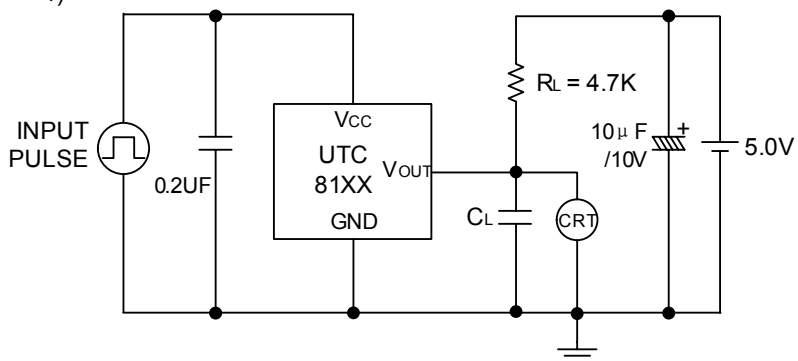
2)



3)



4)



NOTE:

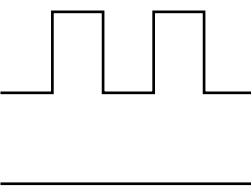
1.) A: DC AMMETER V: DC VOLTMETER CRT: OSCILLOSCOPE

2.) INPUT PULSE

VsTyp. +0.4V

VsTyp. -0.4V

0V



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.