

# UTC 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.

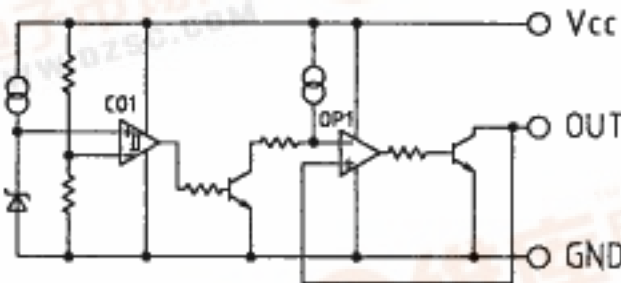
### FEATURES

- \*High precision voltage detection. ( $V_6 \pm 3\%$  max)
- \*Low current consumption.  
( $I_{OCH} = 15\mu A$  typ.  $I_{OCL} = 10\mu A$  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.  
UTC 81XX (XX: detected voltage value)

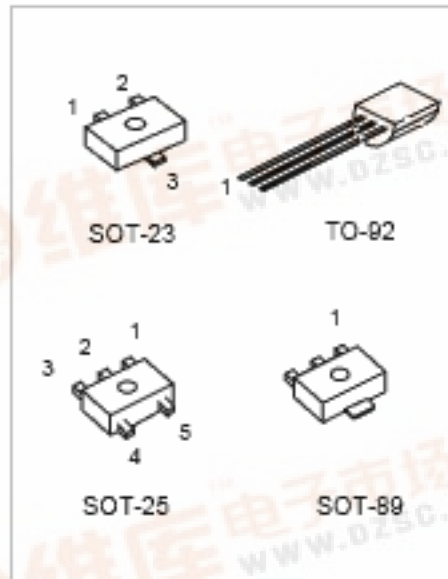
### APPLICATIONS

- \*Reset circuits for microcomputers, CPU and MPU.
- \*Reset circuit for logic circuitry.
- \*Battery voltage check circuit.
- \*Circuit for changing over to backup battery.
- \*Level detecting circuit.

### BLOCK DIAGRAM



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

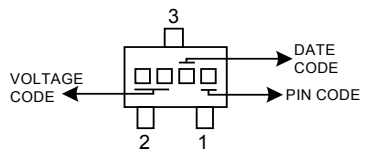
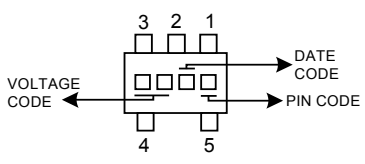
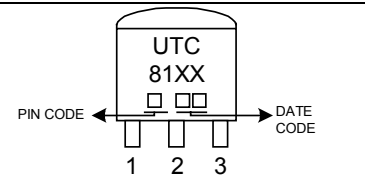


SOT-23 : SEE PAGE 2  
 SOT-25 : SEE PAGE 2  
 TO-92 1: Vout; 2: Vcc; 3: GND  
 SOT-89 1: Vcc 2: GND 3: Vout



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## MARKING INFORMATION

PACKAGE	PIN CODE	PIN 1	PIN 2	PIN 3	PIN4	PIN 5	MARKING
SOT-23	2	Vcc	Vout	GND	--	--	
	3	Vout	GND	Vcc	--	--	
	5	GND	Vout	Vcc	--	--	
SOT-25	A	NC	NC	GND	Vout	Vcc	
	B	Vout	Vcc	GND	NC	NC	
TO-92	D	Vcc	GND	Vout	--	--	
	E	Vout	Vin	GND			

## ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Storage temperature	TSTG	-40~+125	°C
Operating temperature	TOPR	-20~+75	°C
Power supply voltage	Vcc	-0.3~+10	V

## ELECTRICAL CHARACTERISTICS (Ta=25°C, The unit of resistance is Ω unless otherwise indicated.)

PARAMETER	SYMBOL	(*1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Detection Voltage	Vs	1	RL=470Ω, Vcc=H->L, Vo=Vcc	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** UNISONIC TECHNOLOGIES CO., LTD.

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PARAMETER	SYMBOL	(*1)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
				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	$\Delta V_s$	1	RL=470 $\Omega$ , Vcc=L->H->L, Vo=Vcc	30	50	100	mV
Detection Voltage Temperature Coefficient	Vs/ $\Delta T$	1	RL=470 $\Omega$ , Ta=-20~+75°C Vo=Vcc		$\pm 0.01$		%/°C
Low Level Output Voltage	VOL	1	Vcc=Vs min.-0.05V, RL=470 $\Omega$ , Vo=Vcc		0.2	0.4	V
Output Leakage Current	IOH	1	Vcc=10V, Vo=Vcc			$\pm 0.1$	$\mu A$
Circuit Current at ON Time	ICCL	1	Vcc=Vs min.-0.05V, RL= $\infty$ , Vo=Vcc		3	5	$\mu A$
Circuit Current at OFF Time	ICCH	1	Vcc=Vs typ./0.85, RL= $\infty$ , Vo=Vcc		3	5	$\mu A$
"H" Transmission Delay Time	TpLH (*2)	2	CL=100pF, RL=4.7K $\Omega$		20	60	$\mu S$
"L" Transmission Delay Time	TpHL (*3)	2	CL=100pF, RL=4.7k $\Omega$		20	60	$\mu S$
Operating Threshold Voltage	VOPL	1	RL=4.7k $\Omega$ , VOL $\leq$ 0.4V		0.65	0.85	V
Output current at ON Time 1	IOL1	1	RL=0, Vcc=Vs min.-0.05V, Vo=0.4V	5			mA
Output current at ON Time 2	IOL2	1	Ta=-20~+75°C RL=0, Vcc=Vs min.-0.15V Vo=0.4V	3			mA

Note:

(\*1) MEASUREMENT CIRCUIT

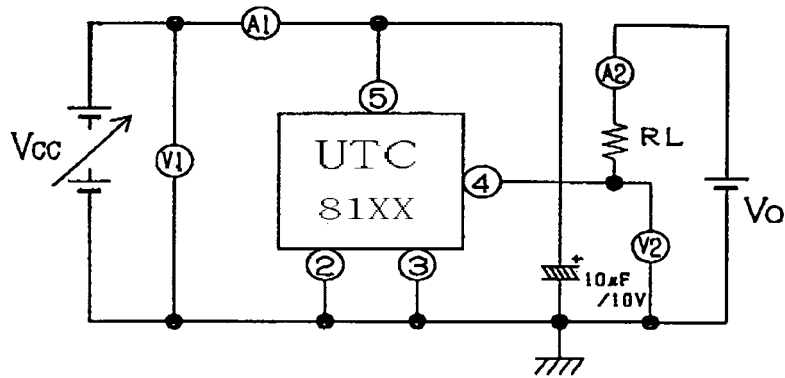
(\*2) TpLH: Vcc=(Vs Typ. -0.4V) -> (Vs Typ. +0.4V)

(\*3) TpHL: Vcc=(Vs Typ. +0.4V) -> (Vs Typ. -0.4V)

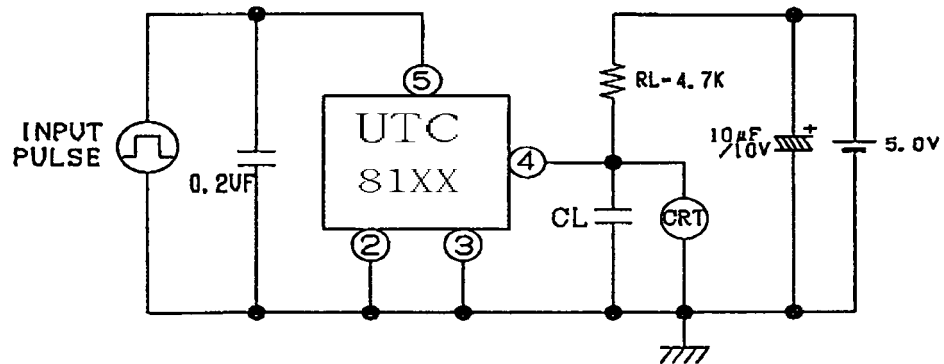
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## MEASURING CIRCUITS

1)

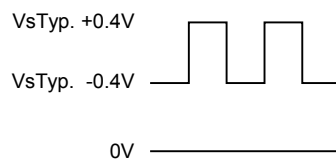


2)



NOTE:

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



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