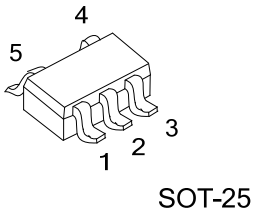
MONOLITHIC IC 82XX SERIES



SOT-25

■ DESCRIPTION

The normal operation of the UTC **82XX** is that while the power is turned on or interrupted, detect power supply voltage and then reset the system accurately.

The internal circuits of the UTC **82XX** include a built-in fixed delay time generating circuit. With a counter timer using an analog/digital hybrid circuit, the UTC **82XX** as new low reset type system reset ICs expands the delay time series.

These ICs can be used in a variety of CPU systems and other logic systems.

■ FEATURES

* Internal Fixed Delay Time Setting by Counter Timer
* Grate Delay Time Temperature Characteristics:±800ppm/°C
* Operating Limit Voltage as 0.65V(Typ.)
* Hysteresis Voltage Provided: 50mV(Typ.)
* Circuit Current While On I_{CCL}=300μA(Typ.)
* Circuit Current While Off I_{CCH}=200μA(Typ.)

■ ORDERING INFORMATION

Ordering Number	Package	Packing
82XXG-x-AF5-R	SOT-25	Tape Reel

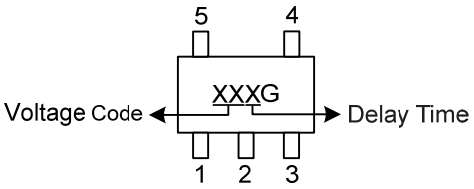
Notes: xx: Output Voltage, refer to Marking Information.
x : Delay Time, refer to Electrical Characteristics of "H" Transport Delay Time

82XX G-x-AF5-R

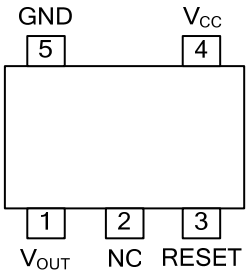
(1) Packing Type
(2) Package Type
(3) Delay Time
(4) Green Package
(5) Output Voltage Code

(1) R: Tape Reel
(2) AF5: SOT-25
(3) x: Refer to Electrical Charactreistics of "H" Transport Delay Time
(4) G: Halogen Free and Lead Free
(5) xx: Refer to Marking Information

■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-25	25:2.5V 27:2.7V 2K:2.93V	

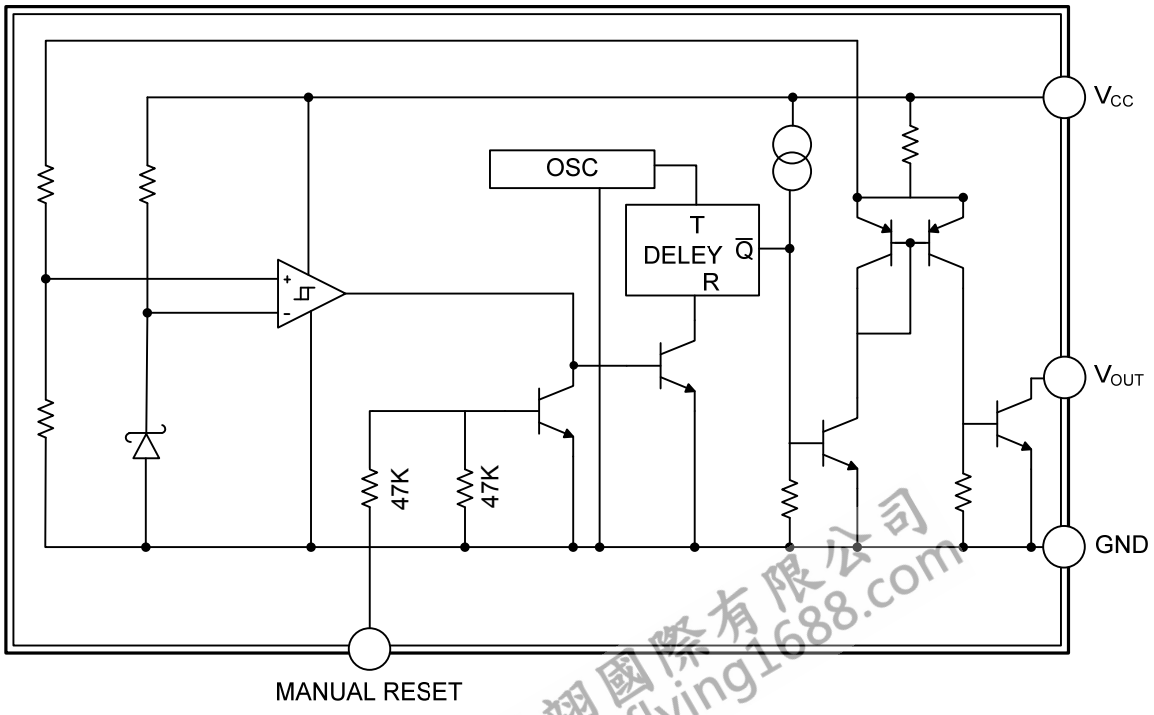
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V_{OUT}	Output pin
2	NC	Connected nothing
3	RESET	Reset control pin
4	V_{CC}	Supply voltage
5	GND	Ground

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, Unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V_{CC}	-0.3~+10	V
Manual Reset Input Voltage	V_{RESET}	-0.3~+10	V
Power Dissipation	P_D	400	mW
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.

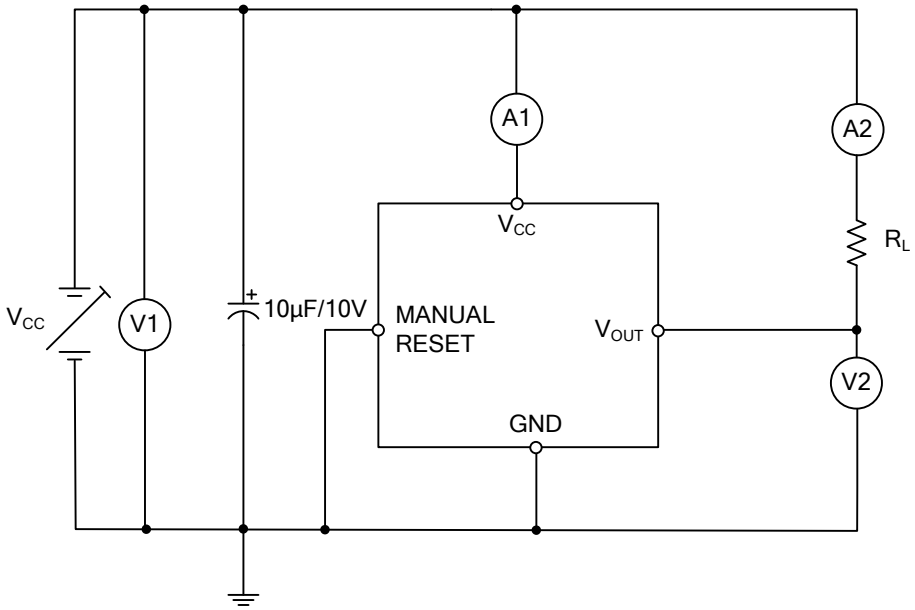
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, Unless otherwise specified)

V_S=2.5V~2.93V

PARAMETER		SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Detection Voltage		V_S	V_{OL}≤0.4V, V_{CC}=H→L, R_L=470Ω (See Test Circuit 1)		V_S -0.15V	V_S	V_S +0.15V	V
Low-Level Output Voltage		V_{OL}	V_{CC}=$V_{S(min)}$-0.05V, R_L=470Ω (See Test Circuit 1)			0.1	0.4	V
Operating Power Supply Voltage		V_{OPL}	R_L=4.7kΩ, V_{OL}≤0.4V			0.65	0.85	V
Hysteresis Voltage		ΔV_S	V_{CC}=L→H→L , R_L=470Ω (See Test Circuit 1)		30	50	100	mV
Detection Voltage Temperature Coefficient		$\frac{V_S}{\Delta T}$	R_L=470Ω, T_A=-20°C~+75°C (See Test Circuit 1)			±0.01		%/°C
Output Leakage Current		I_{OH}	V_{CC}=10V (See Test Circuit 1)				±0.1	μA
Circuit Current (See Test Circuit 1)	On	I_{CCL}	V_{CC}= $V_{S(MIN)}$-0.05V, R_L=∞			300	600	μA
	Off	I_{CCH}	V_{CC}=$V_{S(TYP)}$/0.85V, R_L=∞			200	350	μA
"H" Transport Delay Time		t_{PLH}	R_L=4.7KΩ, C_L=100PF (Note 1) (See Test Circuit 2)	P	30	50	75	mS
				Q	60	100	150	mS
				R	120	200	300	mS
				S	240	400	600	mS
				T	480	800	1200	mS
"L" Transport Delay Time		t_{PHL}	R_L=4.7kΩ, C_L=100PF (Note 1) (See Test Circuit 2)			10		μS
Output Current While on 1		I_{OL1}	V_{CC}=VS min.-0.05V, R_L=0Ω (See Test Circuit 1)		8			mA
Output Current While on 2		I_{OL2}	T_A=-20°C ~+75°C, R_L=0Ω(Note 2) (See Test Circuit 1)		6			mA
Manual Reset Pin	Input High Voltage	V_{RESH}			2.0			V
	Input High Current	I_{RESH}	V_{RESET}=2V				80	μA
	Input Low Voltage	V_{RESL}					0.8	V

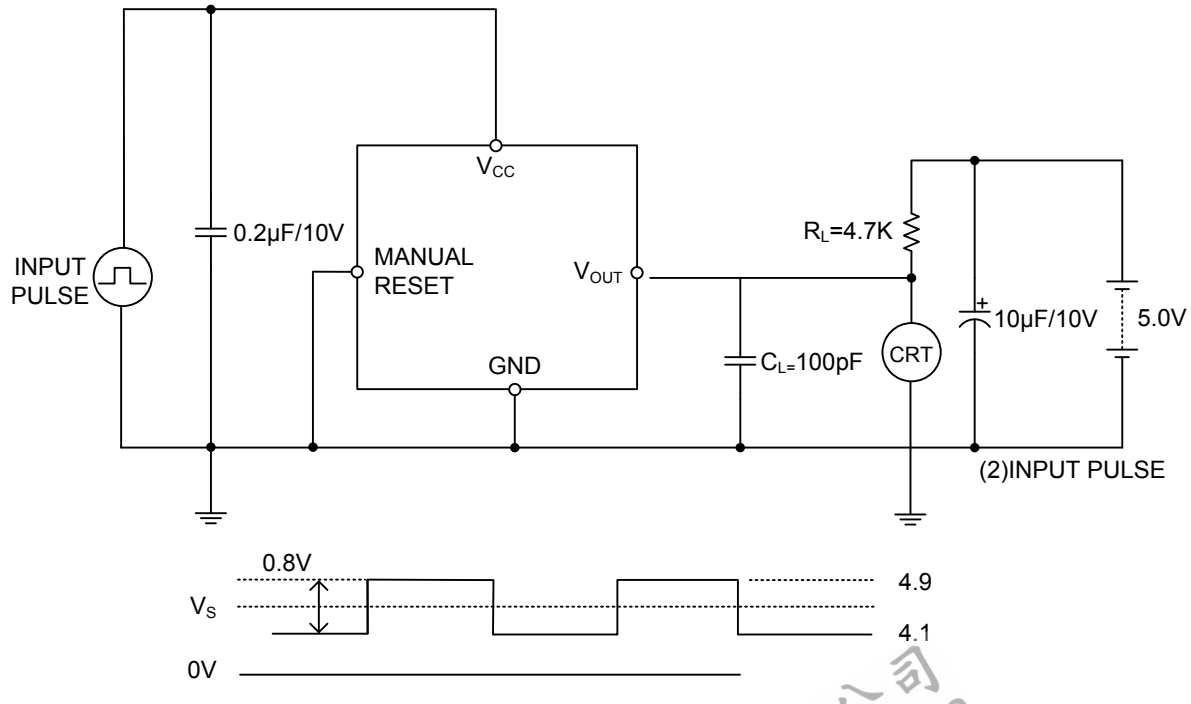
Notes: 1. t_{PLH}: V_{CC}= ($V_{S(TYP)}$-0.4V)→($V_{S(TYP)}$+0.4V)
t_{PHL}: V_{CC}= ($V_{S(TYP)}$+0.4V)→($V_{S(TYP)}$-0.4V)
2. V_{CC}=$V_{S(MIN)}$-0.15V
3. V_{OUT} pin is low when manual reset pin is high.
V_{OUT} pin is high when manual reset pin is low.

■ TEST CIRCUITS



Test Circuit 1

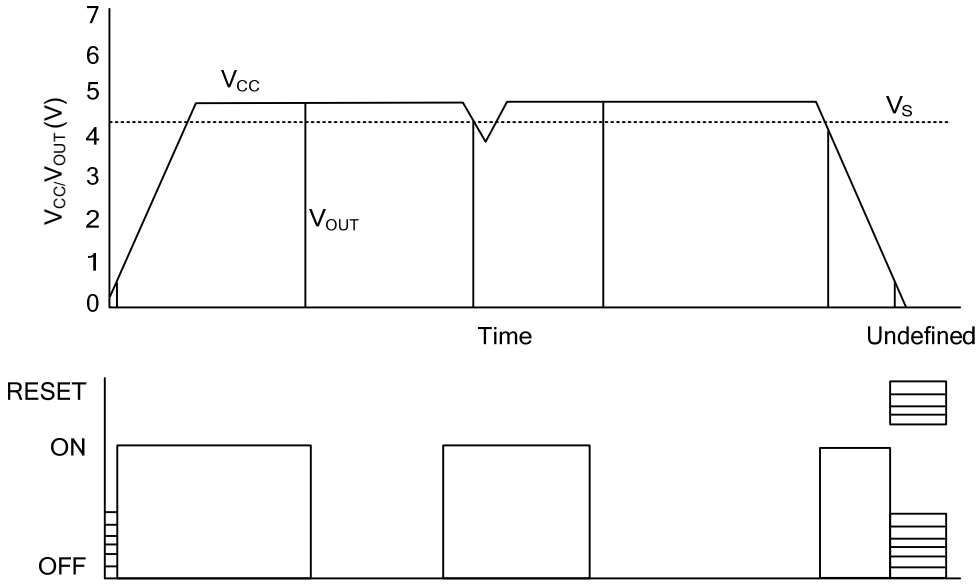
A: DC ammeter
V: DC voltmeter
CRT: Oscilloscope



Note Input model is an example for 82XX

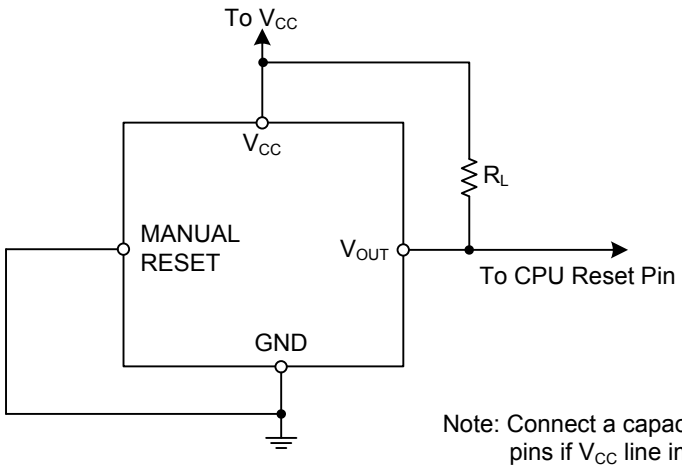
Test Circuit 2

■ TIMING CHART



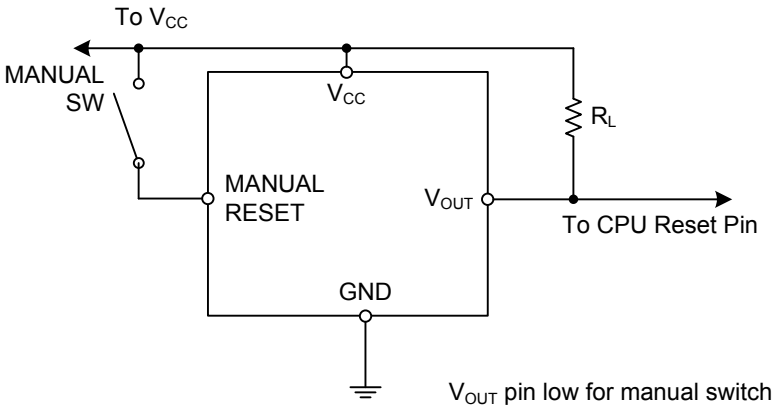
■ TYPICAL APPLICATION CIRCUITS

1. Normal hard reset



Note: Connect a capacitor between IC V_{CC} and GND pins if V_{CC} line impedance is high.

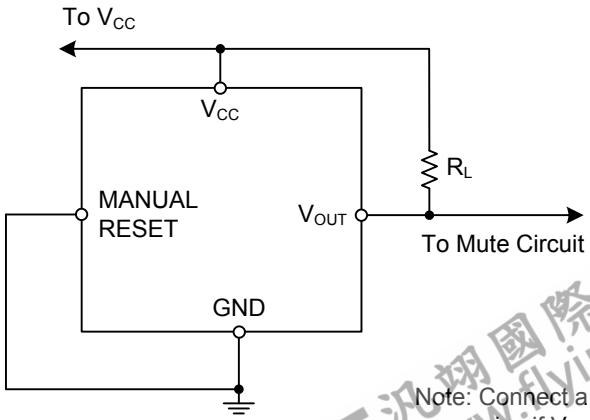
2. Manual reset



V_{OUT} pin low for manual switch ON.
V_{OUT} pin high for manual switch OFF.

Note: Connect a capacitor between IC V_{CC} and GND pins if V_{CC} line impedance is high.

3. Mute circuit



Note: Connect a capacitor between IC V_{CC} and GND pins if V_{CC} line impedance is high.