



MONOLITHIC IC 82XX SERIES

DESCRIPTION

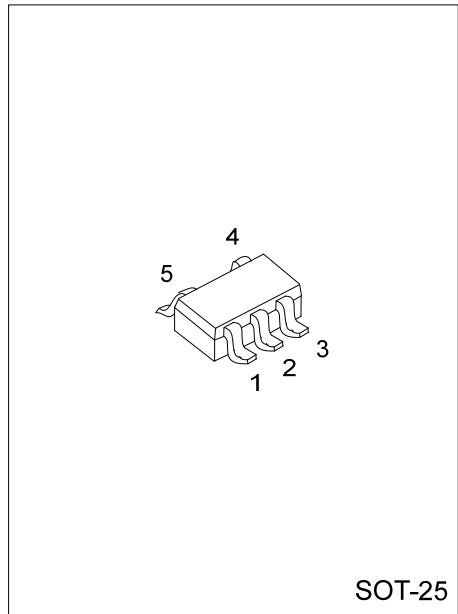
The normal operation of the UTC **82XX** is that while the power is turned on or interrupted, detect power supply voltage and then reset the system accurately.

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
- * Gate Delay Time Temperature Characteristics: ± 800 ppm/ $^{\circ}$ C
- * Operating Limit Voltage as 0.65V(Typ.)
- * Hysteresis Voltage Provided: 50mV(Typ.)
- * Circuit Current While On $I_{CCL}=300\mu$ A(Typ.)
- * Circuit Current While Off $I_{CCH}=200\mu$ A(Typ.)
- * Halogen Free



ORDERING INFORMATION

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

Notes: xx: Output Voltage, refer to Marking Information.

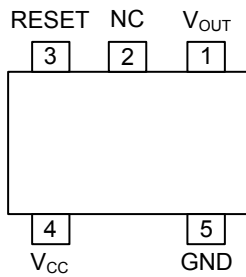
x : Delay Time, refer to Electrical Characteristics of "H" Transport Delay Time

<p>82XXG-x-AF5-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Delay Time</p> <p>(4) Halogen Free</p> <p>(5) Output Voltage Code</p>	<p>(1) R: Tape Reel</p> <p>(2) AF5: SOT-25</p> <p>(3) x: Refer to Electrical Characteristics of "H" Transport Delay Time</p> <p>(4) G: Halogen Free</p> <p>(5) xx: Refer to Marking Information</p>
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MARKING INFORMATION

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

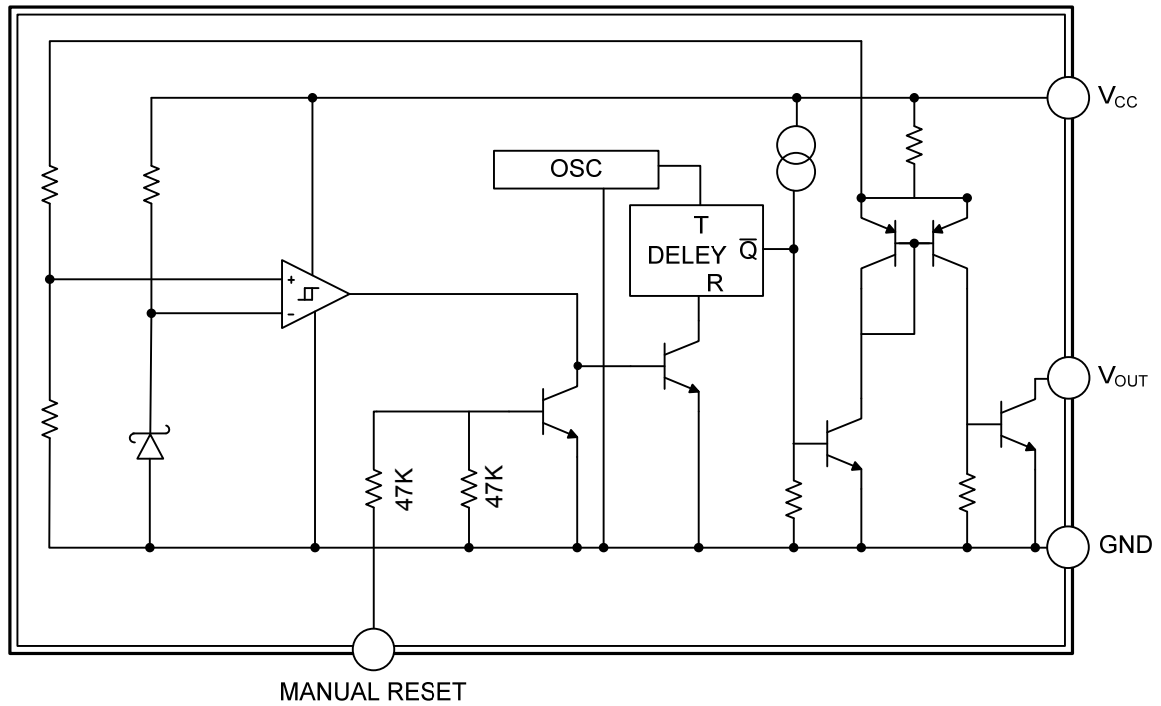
PIN CONFIGURATION



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 (Ta=25°C)

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 (Ta=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, Ta=-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	On	I _{CCL}	V _{CC} =V _{S(min)} -0.05V, R _L =∞ (See Test Circuit 1)		300	600	μA	
	Off	I _{CCH}	V _{CC} =V _{S(TYP)} /0.85V, R _L =∞ (See Test Circuit 1)		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} =V _S min.-0.05V, R _L =0Ω (See Test Circuit 1)	8			mA	
Output Current While on 2		I _{OL2}	Ta=-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)

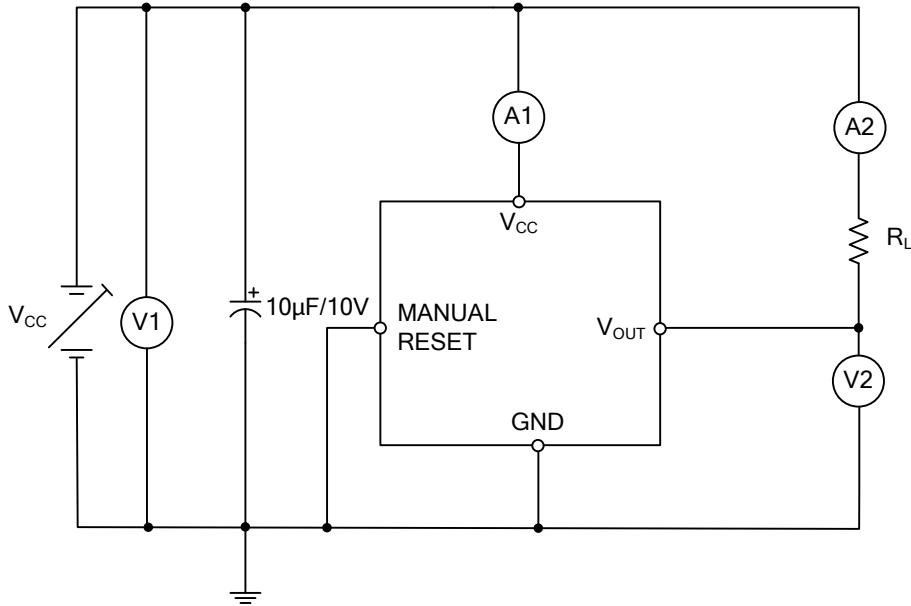
t_{PHL}: V_{CC}=(V_{S(TYP)}+0.4V)→(V_{S(TYP)}-0.4V)

2. V_{CC}=V_{S(MIN)}-0.15V

3. V_{OUT} pin is low when manual reset pin is high.

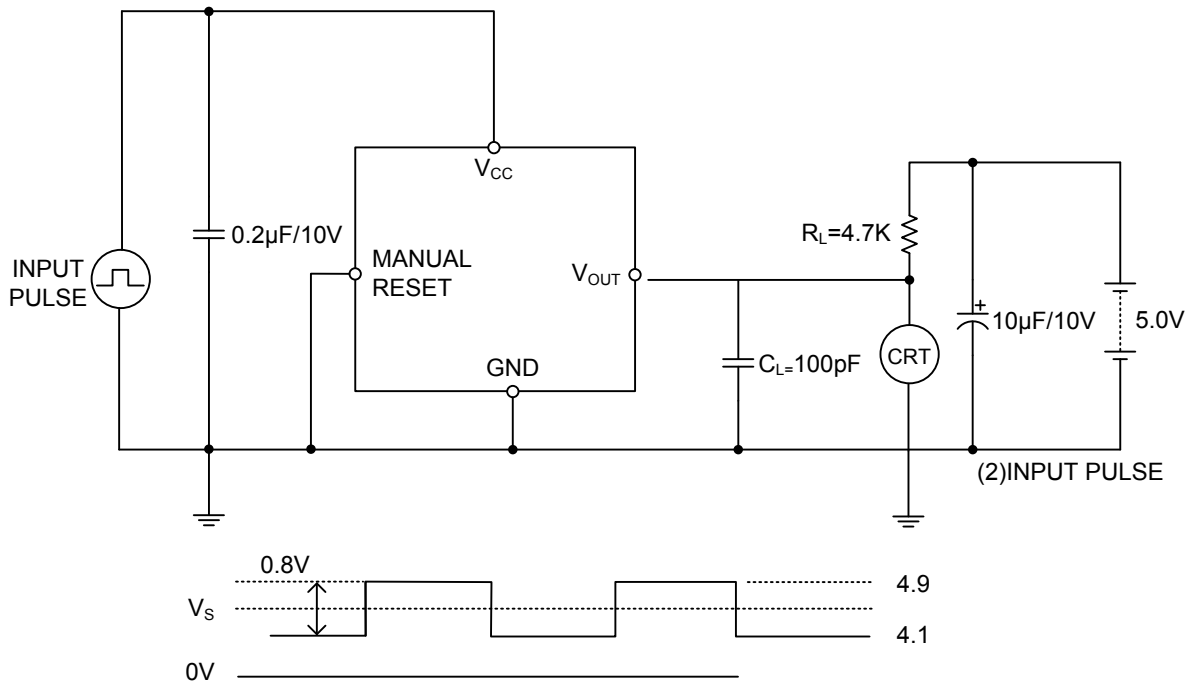
V_{OUT} pin is high when manual reset pin is low.

■ TEST CIRCUITS



Test Circuit 1

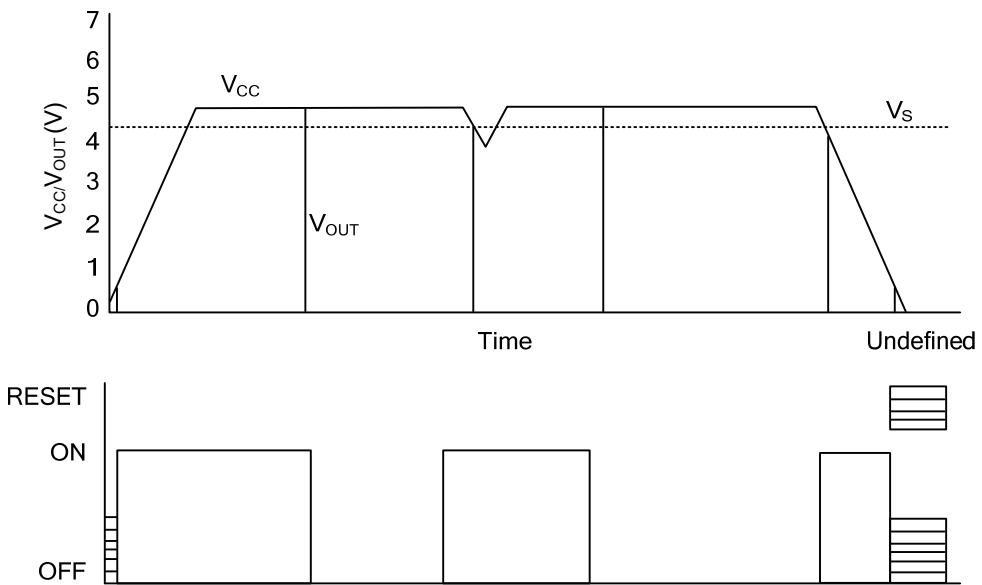
A: DC ammeter
 V: DC voltmeter
 CRT: Oscilloscope



Note Input model is an example for 82XX

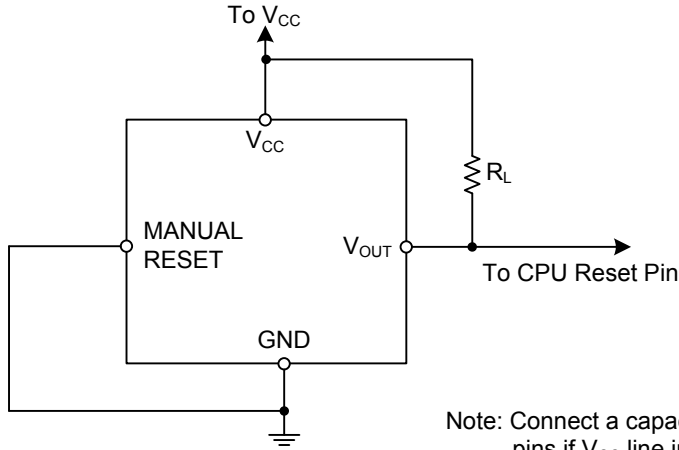
Test Circuit 2

■ TIMING CHART



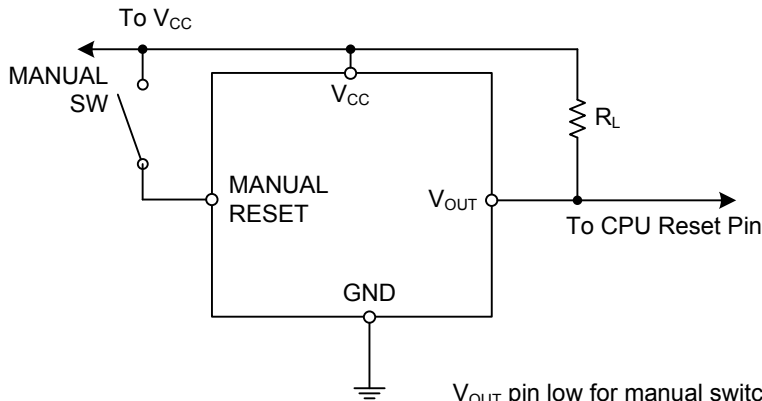
■ TYPICAL APPLICATION CIRCUITS

1. Normal hard reset



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

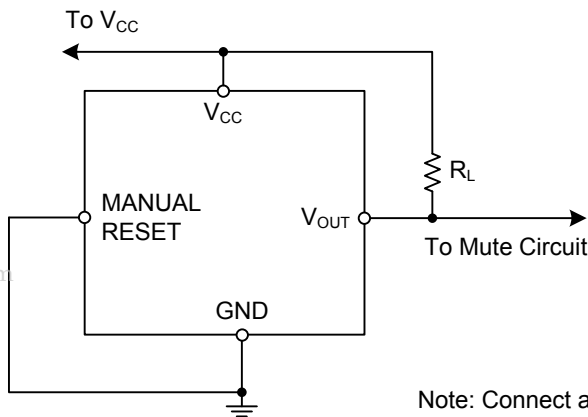
2. Manual reset



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.

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