



82XX

Preliminary

LINEAR INTEGRATED CIRCUIT

MONOLITHIC IC 82XX SERIES

DESCRIPTION

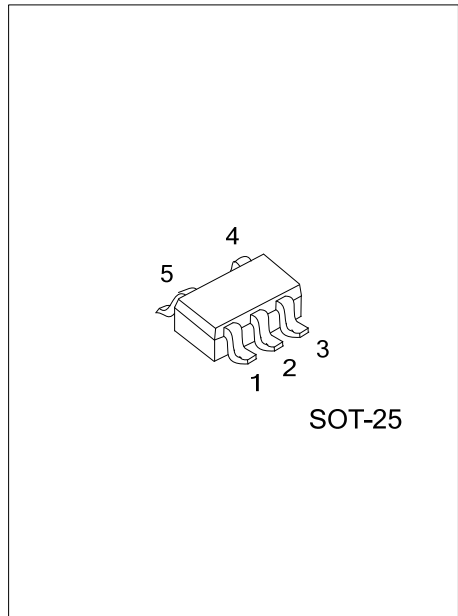
The normal operation of the UTC 82XX is that while the power is turned on or interrupted, detect power supply voltage and then reset the system accurately.

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: ±800ppm/°C
* Operating Limit Voltage as 0.65V(Typ.)
* Hysteresis Voltage Provided: 50mV(Typ.)
* Circuit Current While On ICC=300µA(Typ.)
* Circuit Current While Off ICC=200µA(Typ.)



ORDERING INFORMATION

Table with columns: Ordering Number, Package, Packing. Rows: Lead Free/Halogen Free, 82XXL-x-AF5-R, 82XXG-x-AF5-R, SOT-25, Tape Reel.

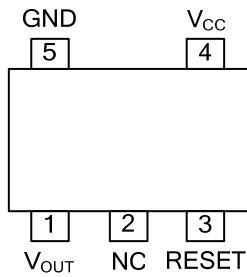
Notes: xx: Output Voltage, refer to Marking Information.
x : Delay Time, refer to Electrical Characteristics of "H" Transport Delay Time

Table explaining part number 82XXL-x-AF5-R with callouts (1) to (5) for Packing Type, Package Type, Delay Time, Lead Free, and Output Voltage Code.

MARKING INFORMATION

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

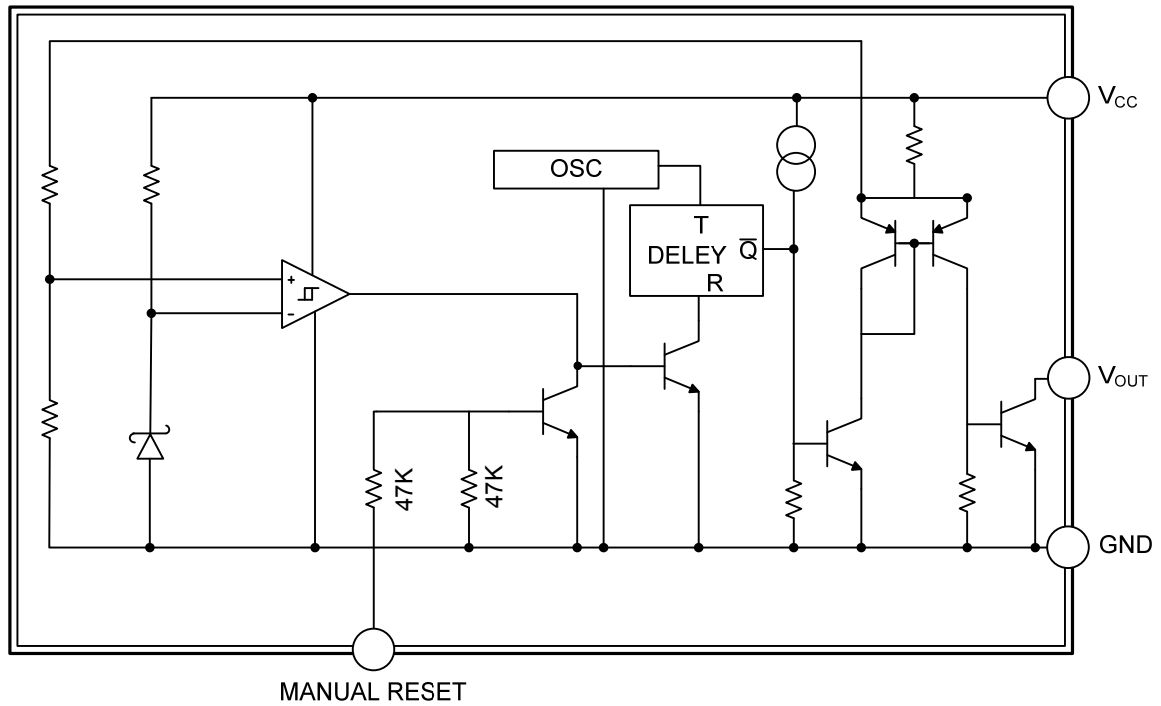
PIN CONFIGURATION



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)

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} =V _S 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}			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)

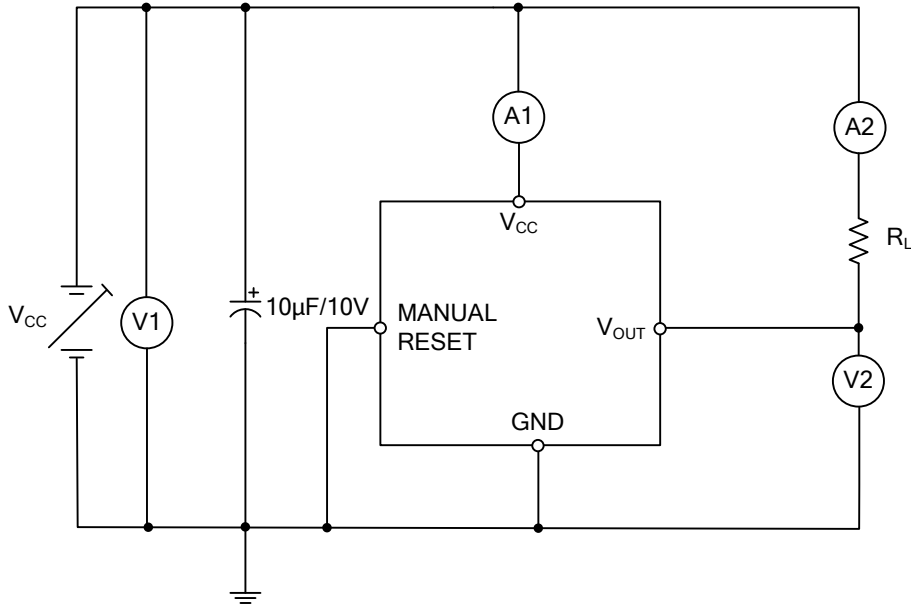
t_{PHL}: V_{CC}=(V_{S(TYP)}+0.4V)→(V_{S(TYP)}-0.4V)

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

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

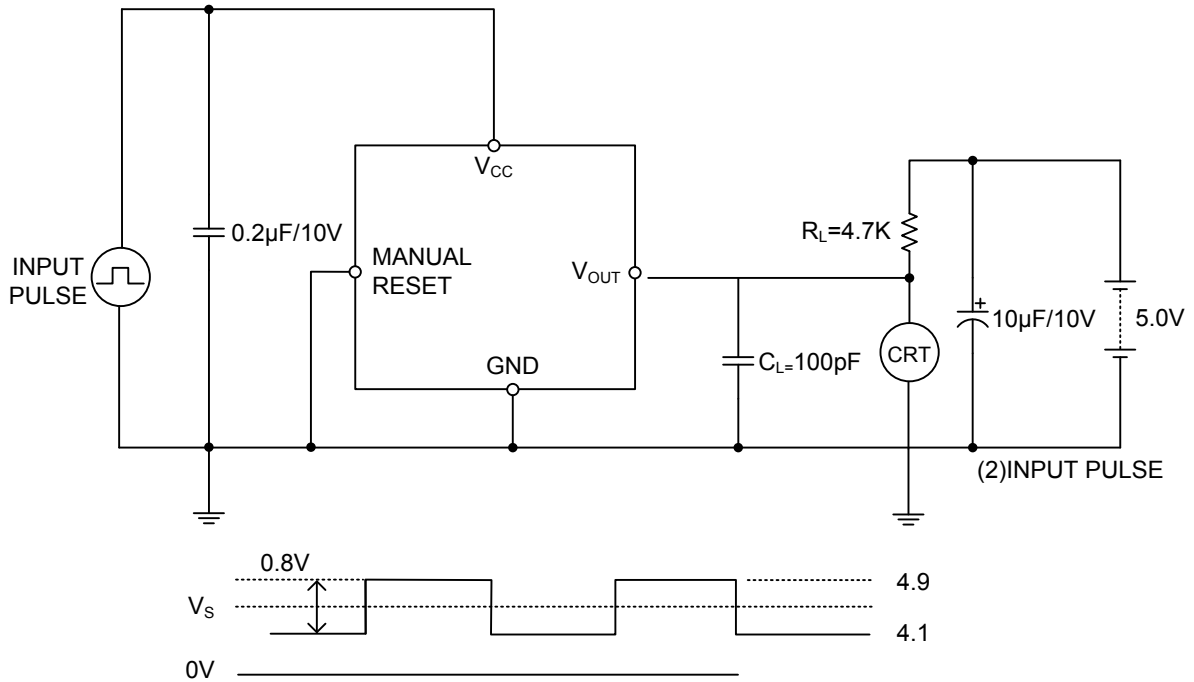
V_{OUT} pin is high when manual reset pin is low.

■ TEST CIRCUITS



Test Circuit 1

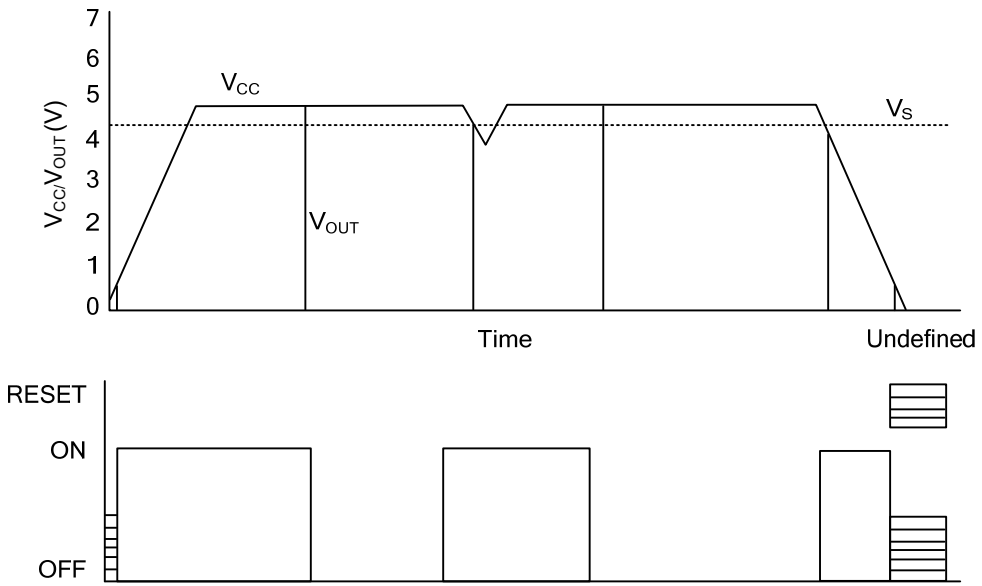
A: DC ammeter
 V: DC voltmeter
 CRT: Oscilloscope



Note Input model is an example for 82XX

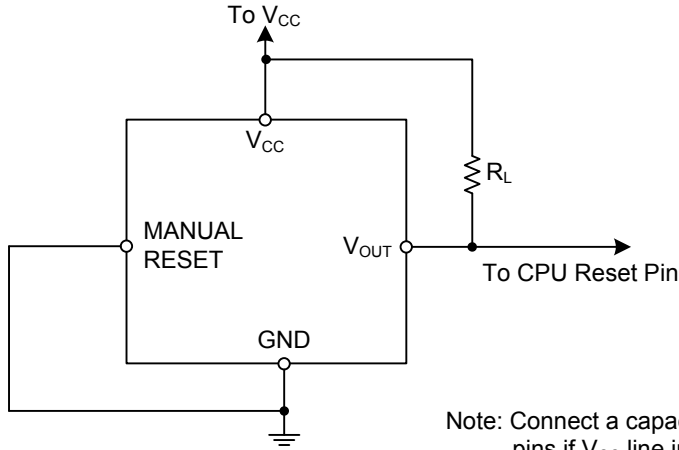
Test Circuit 2

■ TIMING CHART



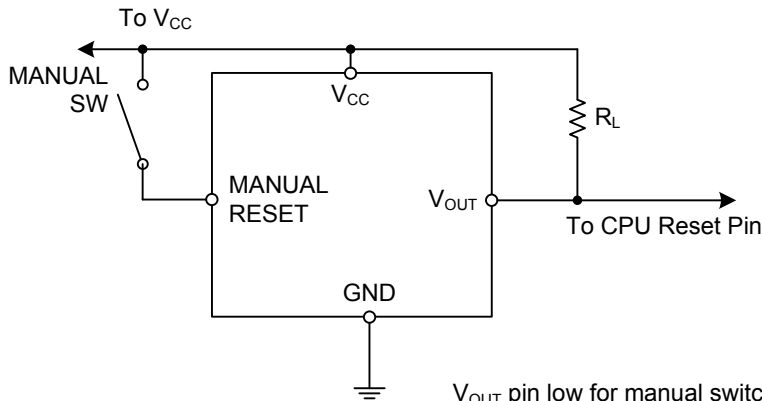
■ TYPICAL APPLICATION CIRCUITS

1. Normal hard reset



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

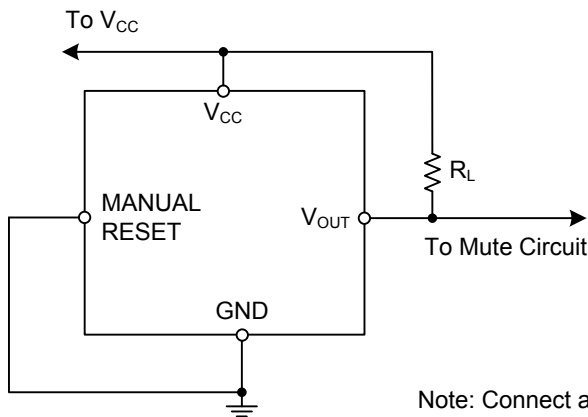
2. Manual reset



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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