



UTC812

CMOS IC

MICROPROCESSOR RESET IC

DESCRIPTION

The UTC **UTC812** is a microprocessor (μ P) reset circuit designed to monitor the power supplies in μ P and digital systems.

The UTC **UTC812** has push-pull output and active-low **RESET** output.

This device provides customers with perfect system reliability and low cost which are achieved by to no external component requirement and adjustments when used with +5V, +3.3V, +3.0V-powered circuits.

This circuit performs a single function: it asserts a reset signal whenever the V_{CC} supply voltage declines below a preset threshold, keeping it asserted for at least 140ms after V_{CC} has risen above the reset threshold. Reset thresholds suitable for operation with a variety of supply voltages are available.

The reset comparator can be used to ignore fast transients on V_{CC} , and outputs are guaranteed to be in the correct logic state for V_{CC} down to 1V.

In applications, the **UTC812** is suitable for computers, controllers, intelligent instruments, critical microprocessors, microcomputer power monitoring, portable, or battery-powered equipments and automotive device.

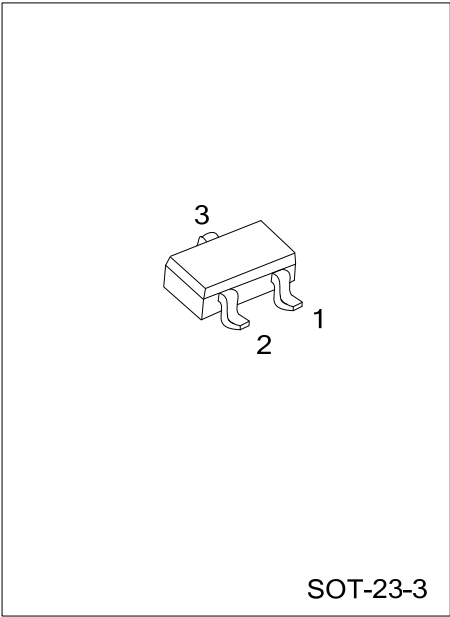
FEATURES

- * Supply Current: 10 μ A
- * Precision Monitoring of +5V, +3.3V, +3.0V Powered Circuits
- * With the Two Configurations In The Following:
 - Push-Pull RESET Output
- * Power-On Reset Pulse Width: 140ms (MIN.)
- * Outputs Guaranteed To Be In The Correct Logic State for V_{CC} Down to 1V.
- * Required No External Components
- * Power Supply Transient Immunity

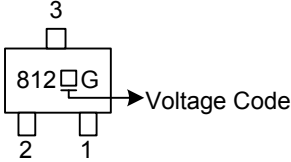
ORDERING INFORMATION

Ordering Number	Package	Packing
UTC812G-X-AE2-R	SOT-23-3	Tape Reel

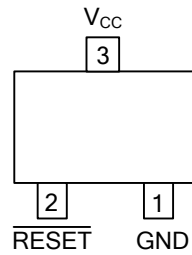
<p>UTC812G-X-AE2-R</p>	<p>(1) R: Tape Reel (2) AE2: SOT-23-3 (3) Refer to Marking Information (4) G: Halogen Free</p>
------------------------	---



■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-23-3	C : 3.08 V	

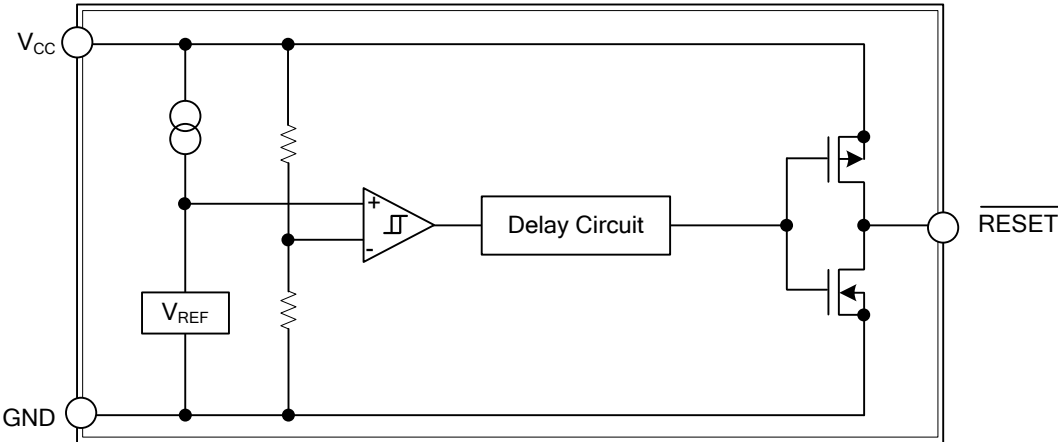
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	GND	IC Ground Pin
2	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$ goes low if V _{CC} falls below the reset threshold and remains asserted for one reset timeout period after V _{CC} exceeds the reset threshold.
3	V _{CC}	Power Supply Input

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Terminal Voltage (with respect to GND)	V_{CC}	-0.3~6.0	V
RESET, $\overline{\text{RESET}}$ (push-pull)		-0.3~($V_{CC}+0.3$)	V
Input Current	V_{CC}	20	mA
Output Current, RESET, $\overline{\text{RESET}}$		20	mA
Junction Temperature	T_J	150	°C
Operating Temperature	T_{OPR}	-40~105	°C
Storage Temperature	T_{STG}	-65~150	°C

Notes: 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.

■ THERMAL DATA

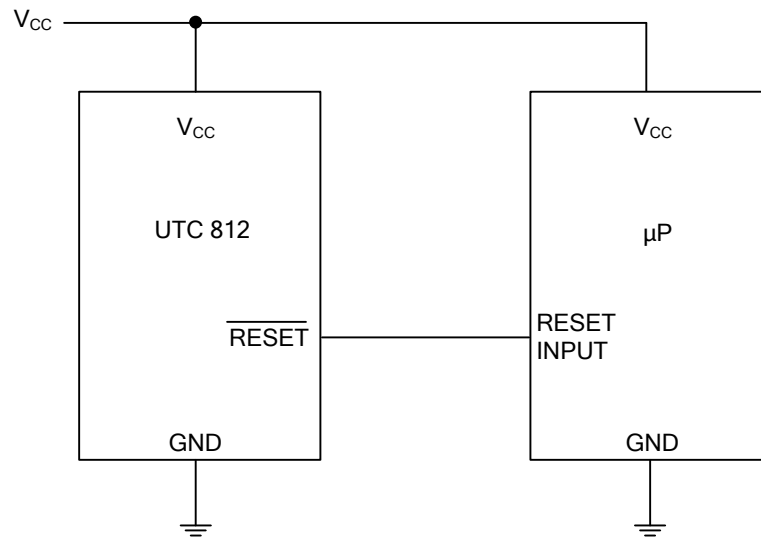
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	420	°C/W

■ ELECTRICAL CHARACTERISTICS (Note 1) ($T_A = 25^\circ\text{C}$, $V_{CC} = 3.3\text{V}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
V_{CC} Range			1.0		5.5	V
Supply Current	I_{CC}	$V_{CC} < 3.6\text{V}$		10	23	μA
Reset Threshold	V_{TH}		3.03	3.08	3.12	V
Reset Threshold Tempco				40		ppm/°C
V_{CC} to Reset Delay (Note 2)		$V_{CC} = V_{TH}$ to ($V_{TH} - 100\text{mV}$)		7		μs
Reset Active Timeout Period		$V_{CC} = V_{TH}$ max	150		550	ms
$\overline{\text{RESET}}$ Output Current High (push-pull active low)	I_{OH}	$V_{CC} = 3.3\text{V}$, $V_{\overline{\text{RESET}}} = 2.8\text{V}$	3			mA

Notes: 1. Production testing done at $T_A = +25^\circ\text{C}$; limits over temperature guaranteed by design

■ TYPICAL APPLICATION CIRCUIT



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.