



UWD708

CMOS IC

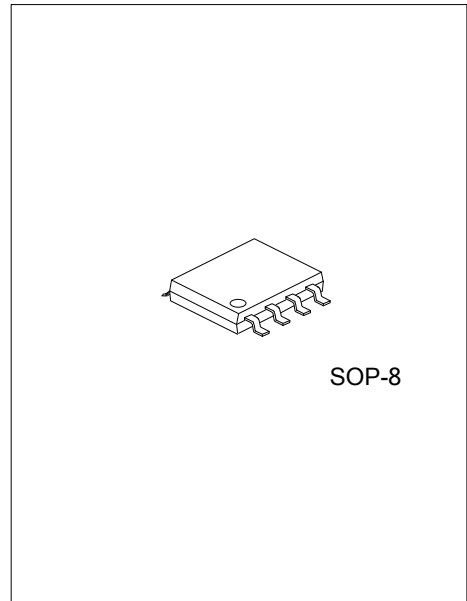
LOW COST MICROPROCESSOR SUPERVISORY CIRCUITS

DESCRIPTION

The UTC **UWD708** microprocessor supervisory circuit reduces the complexity and number of components required to monitor power-supply and monitor microprocessor activity. It significantly improves system reliability and accuracy compared to separate ICs or discrete components.

The UTC **UWD708** provides power-supply monitoring circuitry that generates a reset output during power-up, power-down and brownout conditions. The reset output remains operational with V_{CC} as low as 1V.

In addition, there is a 1.25V threshold detector for power-fail warning, low-battery detection, or monitoring an additional power supply. An active-low manual-reset input (\overline{MR}) is also included.



FEATURES

- * Precision supply- Voltage Monitor
- * Valid \overline{RESET} remains with V_{CC} as low as 1V
- * 200ms Reset Pulse Width
- * Voltage Monitor for Power-Fail or Low-Battery Warning
- * With Manual reset input

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UWD708L-x-S08-R	UWD708G-x-S08-R	SOP-8	Tape Reel

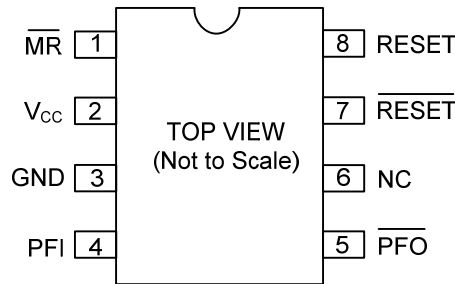
Note: Pin Assignment: x: Output Voltage, refer to Marking Information.

<p>UWD708G-x-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Output Voltage Code (4) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8 (3) x: refer to Marking Information (4) G: Halogen Free and Lead Free, L: Lead Free
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MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOP-8	B : 2.93V C : 3.08V H: 4.40V	<p> Date Code L: Lead Free G: Halogen Free Lot Code </p>

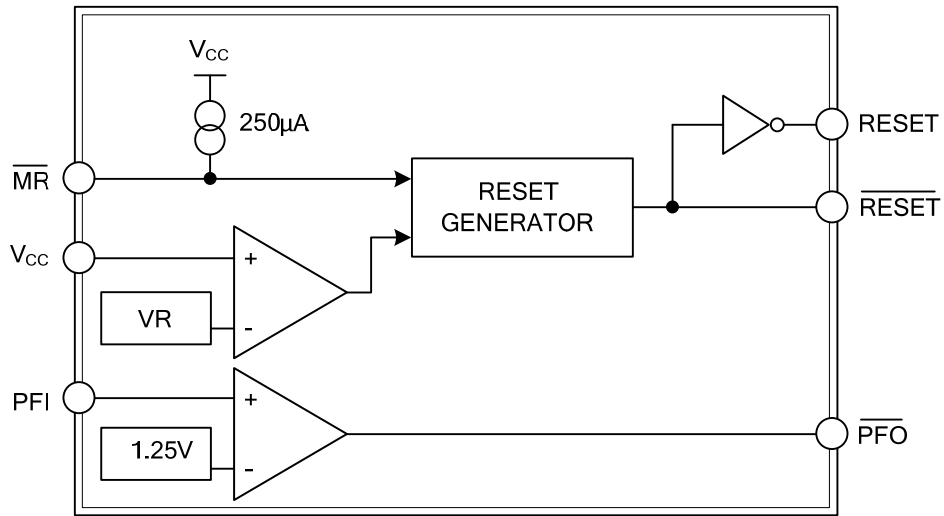
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	\overline{MR}	Manual-Reset Input triggers a reset pulse when pulled below 0.8V. This active-low input has an internal 500 μ A ($V_{CC}=+5V$) pull-up current. It can be driven from a TTL or CMOS logic line as well as shorted to ground with a switch.
2	V_{CC}	Power Supply Voltage that is monitored.
3	GND	0V Ground Reference for all signals.
4	PFI	Power-Fail Voltage Monitor Input. When PFI is less than 1.25V, \overline{PFO} goes low. Connect PFI to GND or V_{CC} when not used.
5	\overline{PFO}	Power-Fail Output goes low and sinks current when PFI is less than 1.25V; otherwise \overline{PFO} stays high.
6	NC	NC
7	\overline{RESET}	Active-Low Reset Output pulses low for 200ms when triggered, and stays low whenever V_{CC} is below the reset threshold. It remains low for 200ms after V_{CC} rises above the reset threshold or \overline{MR} goes from low to high.
8	RESET	Logic Output. RESET is an active high output suitable for systems that use active high reset logic. It is the inverse of \overline{RESET} .

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

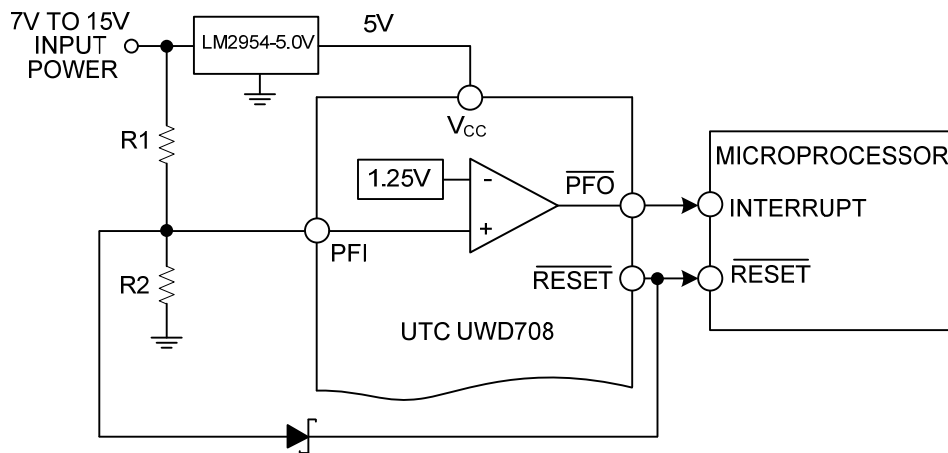
PARAMETER	SYMBOL	RATINGS	UNIT
Terminal Voltage (with respect to GND)	V_{CC}	-0.3 ~ 6.0	V
All Other Inputs	V_{IN}	-0.3 ~ ($V_{CC}+0.3V$)	V
Input Current, V_{CC} , GND	I_{CC}	20	mA
Output Current, (all outputs)	I_{OUT}	20	mA
Junction Temperature	T_J	+150	°C
Operating Temperature Range	T_{OPR}	-40 ~ +85	°C
Storage Temperature	T_{STG}	-65 ~ +150	°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 ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage Range	V_{CC}		1.0		5.5	V
Supply Current	I_{SUPPLY}			50	150	μA
Reset Threshold	V_{RT}	UWD708-B	2.83	2.93	2.99	V
		UWD708-C	3.01	3.08	3.15	V
		UWD708-H	4.25	4.4	4.5	V
Reset Threshold Hysteresis			60		mV	
Reset Pulse Width	t_{RS}		110	200	300	ms
RESET , RESET Output Voltage		$I_{SOURCE}=800\mu\text{A}$	$V_{CC}-1.5$			V
		$I_{SINK}=3.2\text{mA}$			0.4	V
		$V_{CC}=1V, I_{SINK}=50\mu\text{A}$			0.3	V
MR Pull-Up Current		MR = 0V		500		μA
MR Pulse Width	t_{MR}		250			ns
MR Input Threshold		Low			0.8	V
		High	2			V
MR to Reset Out Delay	t_{MD}				350	ns
PFI Input Threshold			1.1	1.25	1.3	V
PFI Input Current		$V_{CC}=5V$		0.2		nA
PFO Output Voltage		$I_{SOURCE}=800\mu\text{A}$	$V_{CC}-1.5$			V
		$I_{SINK}=3.2\text{mA}$			0.4	V

■ TYPICAL APPLICATION CIRCUIT



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