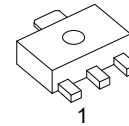


**UR73XXH****CMOS IC****36V INPUT VOLTAGE 300MA,
ULTRA LOW IQ VOLTAGE
REGULATOR****■ DESCRIPTION**

The UTC **UR73XXH** Series are a low dropout regulator with wide input voltage range, high output voltage accuracy, ultra low quiescent current and low dropout. This regulator is based on a CMOS process, and it's input voltage could high enough more than 36V, thus they are very suitable for high voltage application.

■ FEATURES

- * High output voltage accuracy: $\pm 2\%$
- * Ultra low quiescent current: 2uA (Typ.)
- * Low temperature-drift coefficient of V_{OUT} : $\pm 50\text{ppm}/^\circ\text{C}$ (Typ.)
- * Wide Input voltage range: 2.5~ 36V

**SOT-89****■ ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UR73XXHL-AB3-R	UR73XXHG-AB3-R	SOT-89	G	I	O	Tape Reel

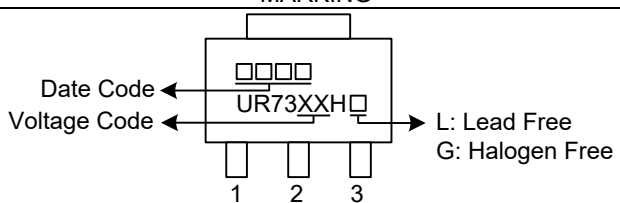
Note: Pin assignment: G: Ground I: V_{IN} O: V_{OUT}

UR73XXHG-AB3-R

- (1) Packing Type
- (2) Package Type
- (4) Green Package
- (5) Output Voltage Code

- (1) R: Tape Reel
- (2) AB3: SOT-89
- (4) G: Halogen Free and Lead Free, L: Lead Free
- (5) XX: Refer to Marking Information

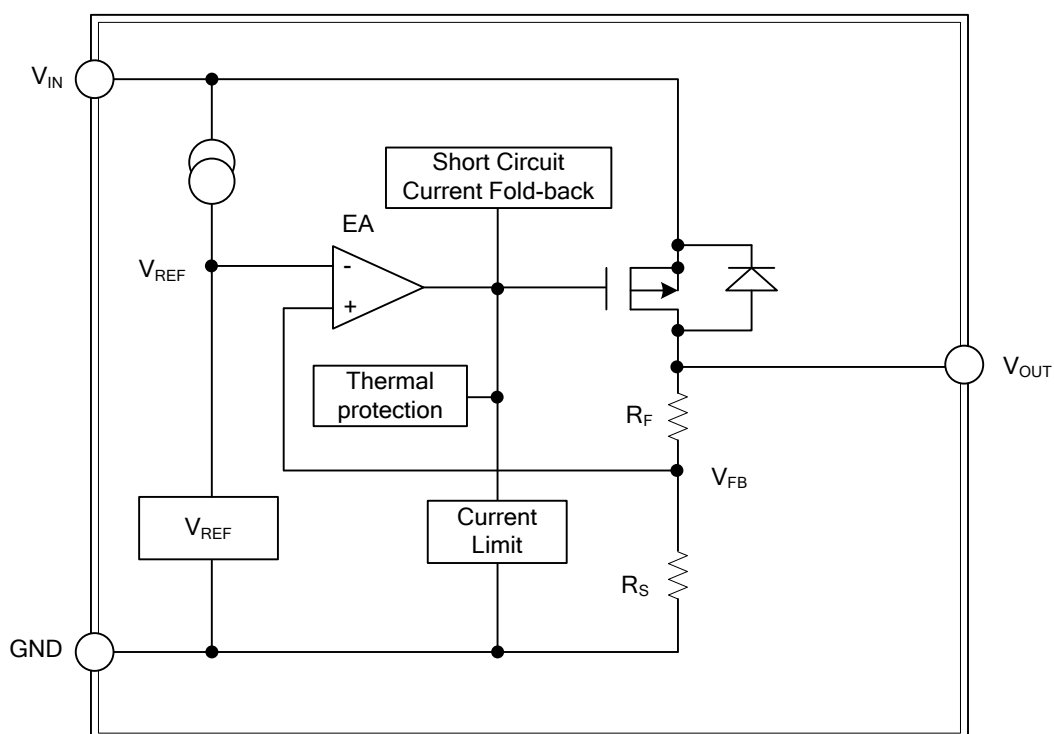
MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-89	25:2.5V 30:3.0V 33:3.3V 50:5.0V	

PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	GND	Ground
2	V_{IN}	Input voltage
3	V_{OUT}	Regulated output voltage

BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{IN}	36	V
Power Dissipation	P_D	500	mW
Operating Temperature Range	T_{OPR}	-40 ~ +125	°C
Storage Temperature Range	T_{STG}	-40 ~ +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)

UTC UR7325H

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	$V_{IN}=V_{OUT}+1\text{V}$, $I_{OUT}=1\text{mA}$	2.45	2.5	2.55	V
Output Current (Note 1)	I_{OUT}	$V_{IN}=V_{OUT}+1\text{V}$	200	300		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=100\text{mA}$		160		mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+1\text{V} \leq V_{IN} \leq 36\text{V}$, $I_{OUT}=10\text{mA}$		0.01	0.3	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+1\text{V}$, $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$		10		mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+1\text{V}$, $I_{OUT}=10\text{mA}$, $-40^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$		± 300		Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+1\text{V}$		2	5	uA
Thermal Shutdown Temperature	T_{SD}			160		°C
Thermal Shutdown Hysteresis	ΔT_{SD}			20		°C

UTC UR7330H

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	$V_{IN}=V_{OUT}+1\text{V}$, $I_{OUT}=1\text{mA}$	2.94	3.0	3.06	V
Output Current (Note 1)	I_{OUT}	$V_{IN}=V_{OUT}+1\text{V}$	200	300		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=100\text{mA}$		160		mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+1\text{V} \leq V_{IN} \leq 36\text{V}$, $I_{OUT}=10\text{mA}$		0.01	0.3	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+1\text{V}$, $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$		10		mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+1\text{V}$, $I_{OUT}=10\text{mA}$, $-40^{\circ}\text{C} \leq T_A \leq 85^{\circ}\text{C}$		± 300		Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+1\text{V}$		2	5	uA
Thermal Shutdown Temperature	T_{SD}			160		°C
Thermal Shutdown Hysteresis	ΔT_{SD}			20		°C

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

UTC UR7333H

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V _{OUT}	V _{IN} =V _{OUT} +1V, I _{OUT} =1mA	3.234	3.3	3.366	V
Output Current (Note 1)	I _{OUT}	V _{IN} =V _{OUT} +1V	200	300		mA
Dropout Voltage (Note 2)	V _{DROP}	I _{OUT} =100mA		160		mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	V _{OUT} +1V≤V _{IN} ≤36V, I _{OUT} =10mA		0.01	0.3	%/V
Load Regulation	ΔV _{OUT2}	V _{IN} =V _{OUT} +1V, 1mA≤I _{OUT} ≤100mA		10		mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	V _{IN} =V _{OUT} +1V, I _{OUT} =10mA, -40°C≤T _A ≤85°C		±300		Ppm/°C
Supply Current	I _{SS1}	V _{IN} =V _{OUT} +1V		2	5	uA
Thermal Shutdown Temperature	T _{SD}			160		°C
Thermal Shutdown Hysteresis	ΔT _{SD}			20		°C

UTC UR7350H

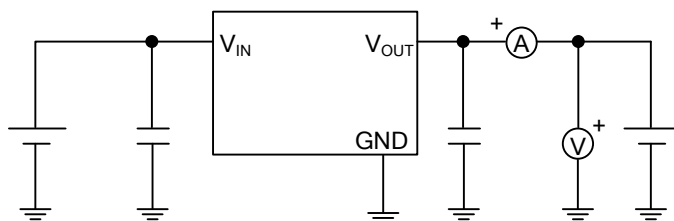
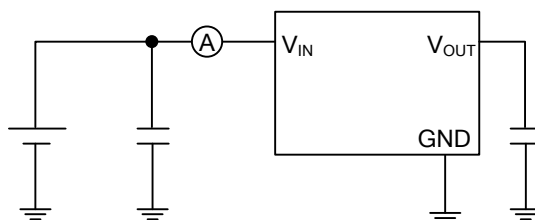
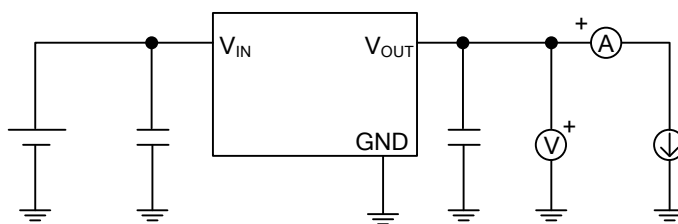
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V _{OUT}	V _{IN} =V _{OUT} +1V, I _{OUT} =1mA	4.9	5.0	5.1	V
Output Current (Note 1)	I _{OUT}	V _{IN} =V _{OUT} +1V	200	300		mA
Dropout Voltage (Note 2)	V _{DROP}	I _{OUT} =100mA		160		mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	V _{OUT} +1V≤V _{IN} ≤36V, I _{OUT} =10mA		0.01	0.3	%/V
Load Regulation	ΔV _{OUT2}	V _{IN} =V _{OUT} +1V, 1mA≤I _{OUT} ≤100mA		10		mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	V _{IN} =V _{OUT} +1V, I _{OUT} =10mA, -40°C≤T _A ≤85°C		±300		Ppm/°C
Supply Current	I _{SS1}	V _{IN} =V _{OUT} +1V		2	5	uA
Thermal Shutdown Temperature	T _{SD}			160		°C
Thermal Shutdown Hysteresis	ΔT _{SD}			20		°C

Notes: 1. Increase the output current slowly, record the current when V_{OUT} decrease 98% of V_{OUT}.

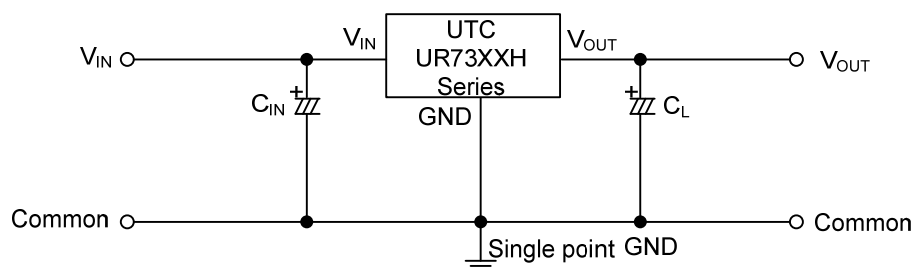
2. V_{drop}=V_{IN1}-(V_{OUT}×0.98), V_{OUT}: V_{IN}=V_{OUT}+1V, I_{OUT}=100mA

3. No short-circuit protection.

■ TEST CIRCUIT



■ TYPICAL APPLICATION CIRCUIT



$$C_{IN}=1\mu F, C_L=1\mu F$$

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