



## UR76XX

CMOS IC

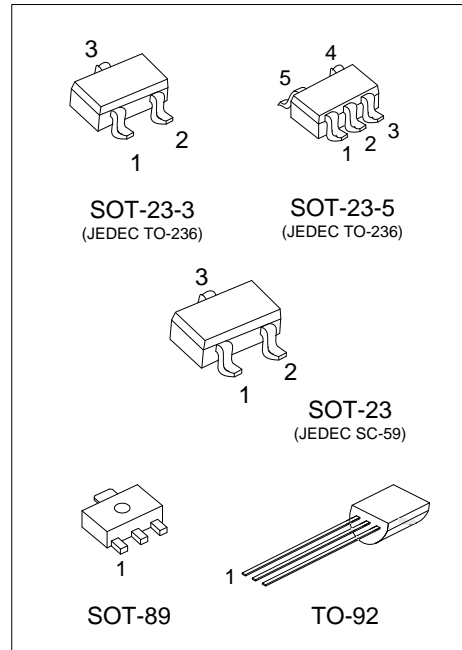
### 36-V INPUT VOLTAGE 500MA ULTRA LOW IQ VOLTAGE REGULATOR

#### DESCRIPTION

The UTC UR76XX 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 its 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: 1.0uA (Typ.)
- \* Low temperature-drift coefficient of  $V_{OUT}$ :  $\pm 100\text{ppm}/^\circ\text{C}$  (Typ.)
- \* Wide Input voltage range: 2.5~36V



#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment					Packing
Lead Free	Halogen Free		1	2	3	4	5	
UR76XXL-AB3-R	UR76XXG-AB3-R	SOT-89	G	I	O	-	-	Tape Reel
UR76XXL-AE2-R	UR76XXG-AE2-R	SOT-23-3	G	O	I	-	-	Tape Reel
UR76XXL-AE3-R	UR76XXG-AE3-R	SOT-23	G	O	I	-	-	Tape Reel
UR76XXL-AE5-R	UR76XXG-AE5-R	SOT-23-5	I	G	N	N	O	Tape Reel
UR76XXL-T92-B	UR76XXG-T92-B	TO-92	G	I	O	-	-	Tape Box
UR76XXL-T92-K	UR76XXG-T92-K	TO-92	G	I	O	-	-	Bulk

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

<p>UR76XXG-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(4) Green Package</p> <p>(5) Output Voltage Code</p>	<p>(1) R: Tape Reel, B: Tape Box, K: Bulk</p> <p>(2) AB3: SOT-89, AE2: SOT-23-3, AE5: SOT-23-5 AE3: SOT-23, T92: TO-92</p> <p>(4) G: Halogen Free and Lead Free, L: Lead Free</p> <p>(5) XX: Refer to Marking Information</p>
------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

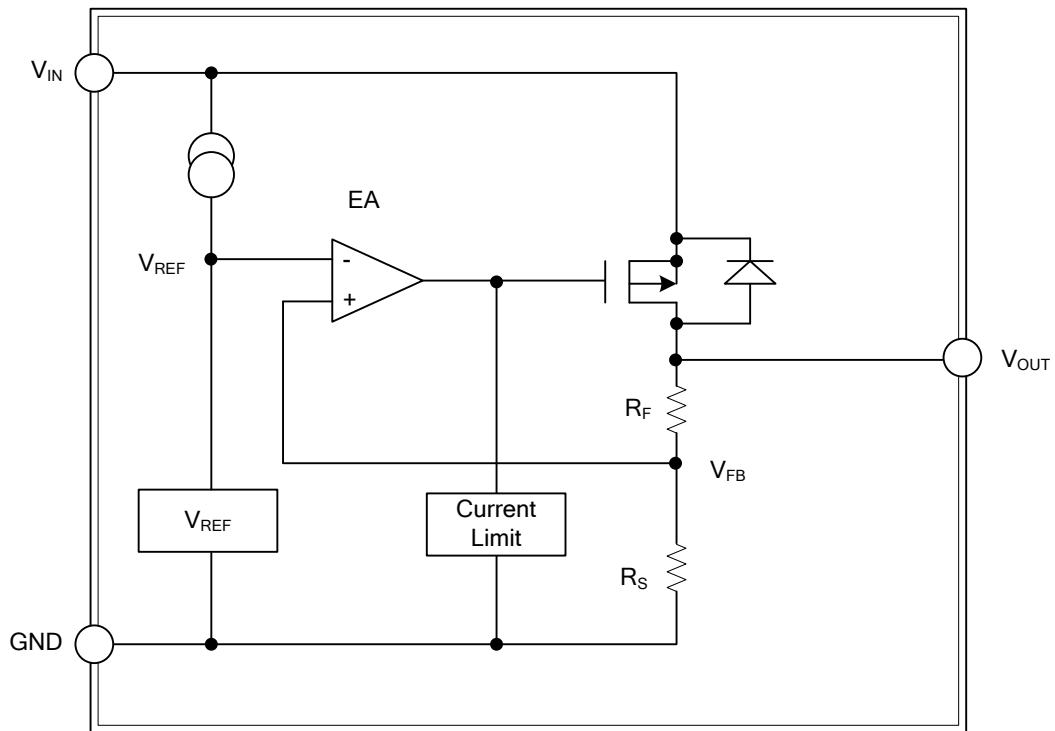
## MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-89	15:1.5V 18:1.8V 21:2.1V	
SOT-23-3 SOT-23	23:2.3V 25:2.5V 27:2.7V 30:3.0V 33:3.3V 36:3.6V	
SOT-23-5	40:4.0V 44:4.4V 50:5.0V 60:6.0V 70:7.0V 80:8.0V	
TO-92	90:9.0V 10:10V 12:12V	

## PIN DESCRIPTION

PIN NO.			PIN NAME	DESCRIPTION
TO-92 SOT-89	SOT-23-3 SOT-23	SOT-23-5		
1	1	2	GND	Ground
2	3	1	V <sub>IN</sub>	Input voltage.
3	2	5	V <sub>OUT</sub>	Regulated output voltage
-	-	3/4	NC	No connect

## ■ BLOCK DIAGRAM



### ■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT	
Input Voltage	$V_{IN}$	36	V	
Output Voltage	$V_{OUT}$	12	V	
Power Dissipation	SOT-23	$P_D$	200	mW
	SOT-23-3			
	SOT-23-5			
	SOT-89 TO-92			
Operating Temperature Range	$T_{OPR}$	-40 ~ +85	°C	
Storage Temperature Range	$T_{STG}$	-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 ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

#### UTC UR7615

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}$	1.47	1.5	1.53	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=60\text{mA}$		100	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		$\pm 100$		ppm/°C
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

#### UTC UR7618

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}$	1.764	1.8	1.836	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=60\text{mA}$		100	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		$\pm 100$		ppm/°C
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

#### UTC UR7621

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}$	2.058	2.1	2.142	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=80\text{mA}$		120	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		$\pm 100$		ppm/°C
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

## ■ ELECTRICAL CHARACTERISTICS (Cont.)

### UTC UR7623

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	2.254	2.3	2.346	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=80mA$		120	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7625

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	2.45	2.5	2.55	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=80mA$		120	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7627

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	2.646	2.7	2.754	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=80mA$		120	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7630

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	2.94	3.0	3.06	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=80mA$		120	150	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

## ■ ELECTRICAL CHARACTERISTICS (Cont.)

### UTC UR7633

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	3.234	3.3	3.366	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=100mA$		160	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7636

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	3.528	3.6	3.672	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=100mA$		160	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7640

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	3.92	4.0	4.08	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=100mA$		160	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7644

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	4.312	4.4	4.488	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=100mA$		170	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

## ■ ELECTRICAL CHARACTERISTICS (Cont.)

### UTC UR7650

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	4.9	5.0	5.1	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=100mA$		170	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7660

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	5.88	6.0	6.12	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7670

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	6.86	7.0	7.14	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7680

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	7.84	8.0	8.16	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

## ■ ELECTRICAL CHARACTERISTICS (Cont.)

### UTC UR7690

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	8.82	9.0	9.18	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7610

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	9.8	10.0	10.2	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

### UTC UR7612

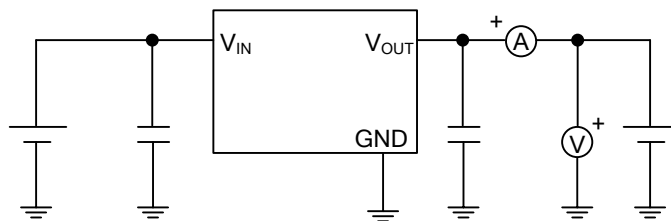
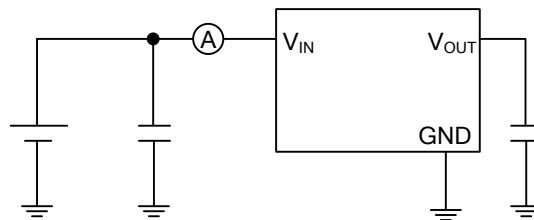
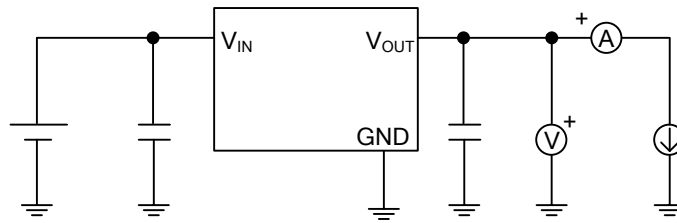
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA$	11.76	12.0	12.24	V
Output Current (Note 1)	$I_{OUT}$	$V_{IN}=V_{OUT}+2V$	500			mA
Dropout Voltage (Note 2)	$V_{DROP}$	$I_{OUT}=200mA$		200	240	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 36V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	$\Delta V_{OUT2}$	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		$\pm 100$		ppm/ $^\circ C$
Supply Current	$I_{SS1}$	$V_{IN}=V_{OUT}+2V$		1.0	3.0	$\mu A$

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

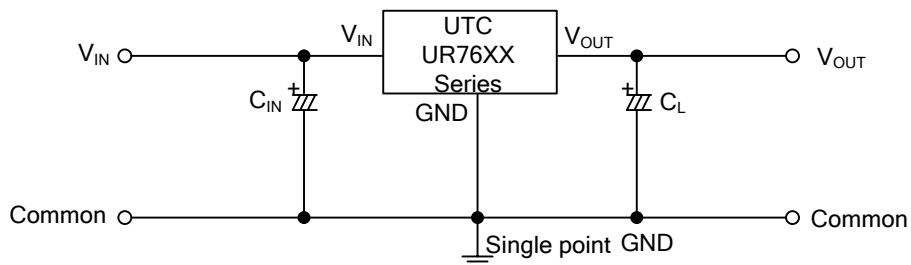
2.  $V_{drop}=V_{IN1}-(V_{OUT} \times 0.98)$ ,  $V_{OUT}: V_{IN}=V_{OUT}+2V, I_{OUT}=1mA$



## ■ TEST CIRCUIT



## ■ TYPICAL APPLICATION CIRCUIT



$C_{IN} > 1.0\mu F$   
 $C_L > 2.2\mu F$  (tantalum capacitor)

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. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.