



UR56XX

CMOS IC

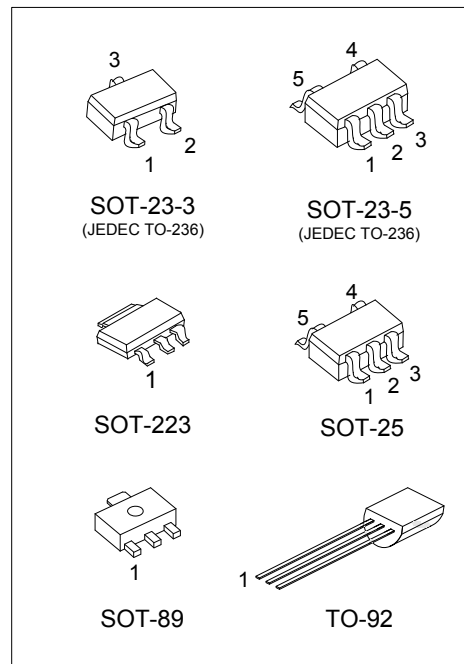
18-V INPUT VOLTAGE 500MA ULTRA LOW IQ VOLTAGE REGULATOR

DESCRIPTION

The UTC **UR56XX** 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 18V, 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: 0~18V



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment					Packing
Lead Free	Halogen Free		1	2	3	4	5	
UR56XXL-AA3-R	UR56XXG-AA3-R	SOT-223	I	G	O	-	-	Tape Reel
UR56XXL-AB3-R	UR56XXG-AB3-R	SOT-89	G	I	O	-	-	Tape Reel
UR56XXL-AE2-R	UR56XXG-AE2-R	SOT-23-3	G	O	I	-	-	Tape Reel
UR56XXL-AE5-R	UR56XXG-AE5-R	SOT-23-5	I	G	N	N	O	Tape Reel
UR56XXL-AF5-R	UR56XXG-AF5-R	SOT-25	I	G	N	N	O	Tape Reel
UR56XXL-T92-B	UR56XXG-T92-B	TO-92	G	I	O	-	-	Tape Box
UR56XXL-T92-K	UR56XXG-T92-K	TO-92	G	I	O	-	-	Bulk

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

<p>UR56XXG-AA3-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) AA3: SOT-223, AB3: SOT-89, AE2: SOT-23-3, AE5: SOT-23-5, AF5: SOT-25, T92: TO-92</p> <p>(4) G: Halogen Free and Lead Free, L: Lead Free</p> <p>(5) XX: Refer to Marking Information</p>
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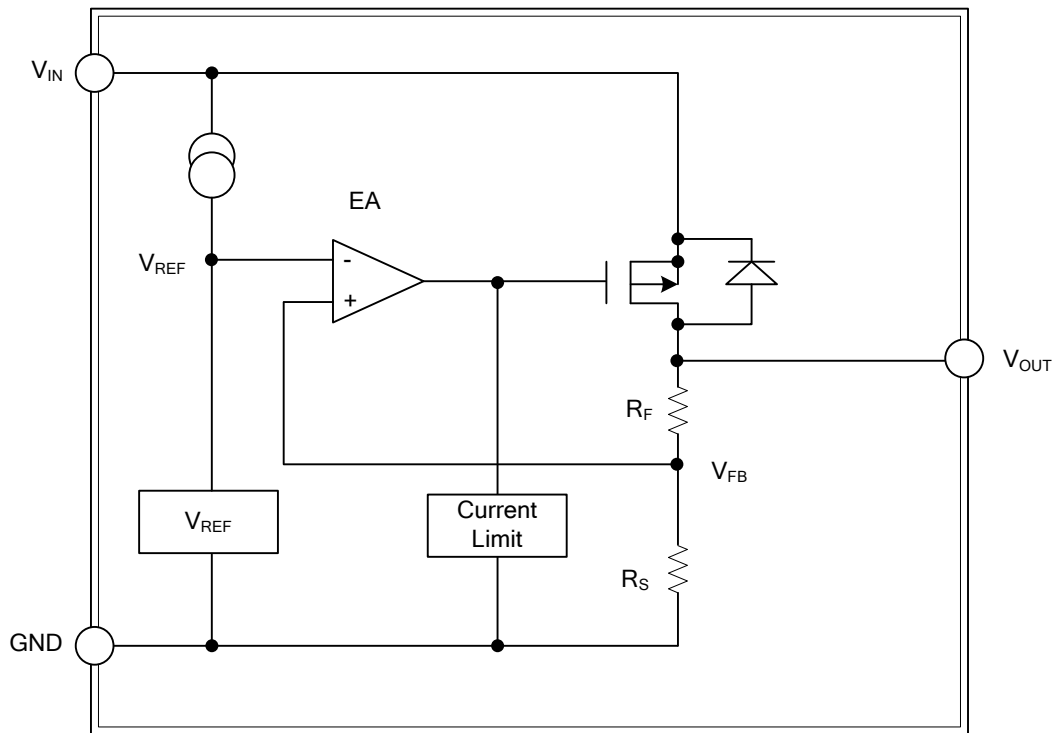
MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223		<p>Voltage Code ← UR56XX → L: Lead Free → G: Halogen Free → Date Code</p> <p>1 2 3</p>
SOT-89	15: 1.5V 18: 1.8V 21: 2.1V 23: 2.3V 25: 2.5V 27: 2.7V	<p>Date Code ← UR56XX → L: Lead Free Voltage Code ← → G: Halogen Free</p> <p>1 2 3</p>
SOT-23-3	30: 3.0V 33: 3.3V 36: 3.6V 40: 4.0V 44: 4.4V 50: 5.0V	<p>R56XX → Voltage Code</p> <p>1 2 3</p>
SOT-23-5 SOT-25	60: 6.0V 70: 7.0V 80: 8.0V 90: 9.0V 10: 10V 12: 12V	<p>R56XX → Voltage Code</p> <p>1 2 3 4 5</p>
TO-92		<p>UTC Voltage Code ← UR56XX → L: Lead Free → G: Halogen Free → Date Code</p> <p>1 2 3</p>

PIN DESCRIPTION

PIN NO.				PIN NAME	DESCRIPTION
SOT-223	SOT-89 TO-92	SOT-23-3	SOT-23-5 SOT-25		
2	1	1	2	GND	Ground
1	2	3	1	V _{IN}	Input voltage.
3	3	2	5	V _{OUT}	Regulated output voltage
-	-	-	3, 4	NC	No connect

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Input Voltage		V_{IN}	18	V
Output Voltage		V_{OUT}	12	V
Power Dissipation	SOT-223	P_D	600	mW
	SOT-23-3		200	mW
	SOT-23-5 SOT-25		250	mW
	SOT-89 TO-92		500	mW
	Operating Temperature Range		T_{OPR}	-40 ~ +85
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 UR5615

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		±100		ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

UTC UR5618

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		±100		ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

UTC UR5621

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1\text{mA}$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0\text{mA} \leq I_{OUT} \leq 100\text{mA}$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10\text{mA}, -40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		±100		ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	uA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC UR5623

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5625

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5627

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5630

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC UR5633

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5636

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5640

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5644

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC UR5650

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5660

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		1.0	3.0	μA

UTC UR5670

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		2.0	5.0	μA

UTC UR5680

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		2.0	5.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC UR5690

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		2.0	5.0	μA

UTC UR5610

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		2.0	5.0	μA

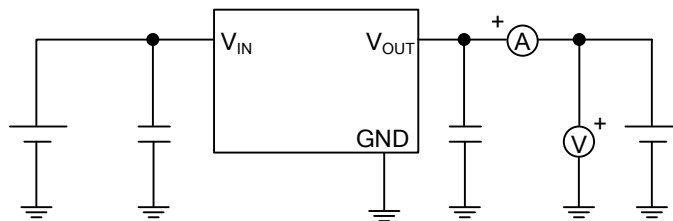
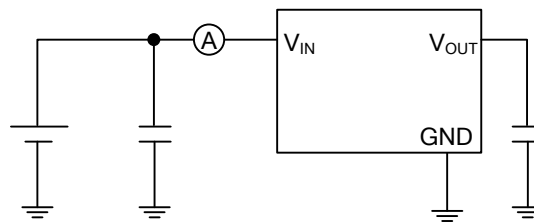
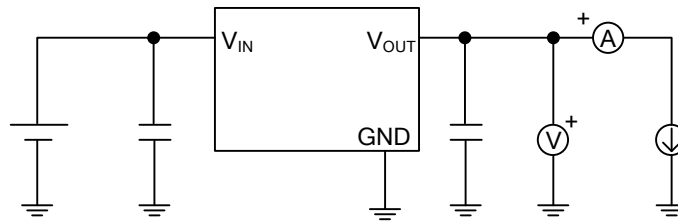
UTC UR5612

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	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \cdot V_{OUT}}$	$V_{OUT}+2V \leq V_{IN} \leq 16V, I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V, 1.0mA \leq I_{OUT} \leq 100mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \cdot V_{OUT}}$	$V_{IN}=V_{OUT}+2V, I_{OUT}=10mA, -40^\circ C \leq T_A \leq 85^\circ C$		± 100		ppm/ $^\circ C$
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		2.0	5.0	μA

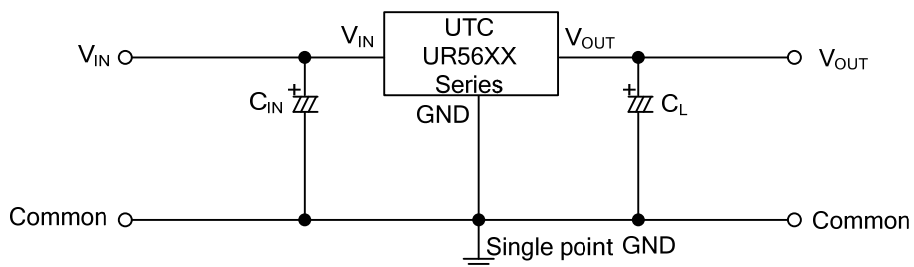
Notes: 1. Increase the output current slowly, record the current when V_{OUT} decrease 98% of V_{OUT} .

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)

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