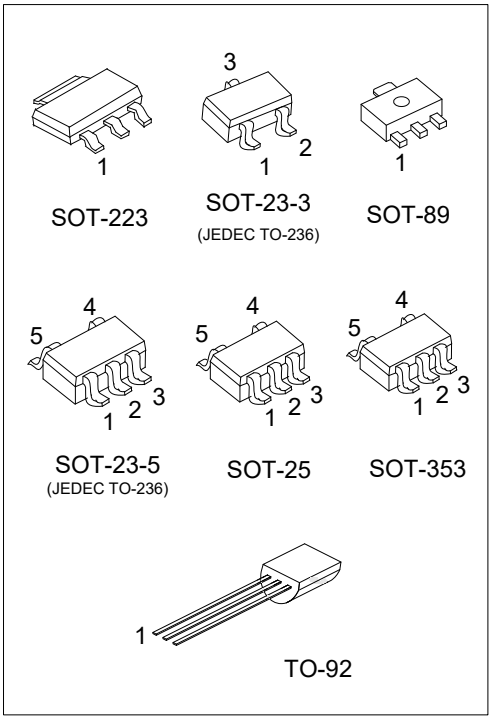
UR75XXA

CMOS IC

HIGH VOLTAGE , ULTRA LOW IQ VOLTAGE REGULATOR



■ DESCRIPTION

The UTC **UR75XXA** 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: ±2%
* Ultra low quiescent current: 4.7μA (Typ.)
* Low temperature-drift coefficient of V_{OUT}: ±50ppm/°C (Typ.)
* Wide Input voltage range: 0 ~ 36V

■ ORDERING INFORMATION

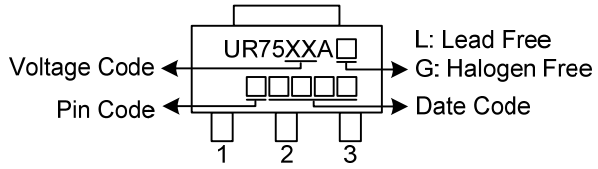
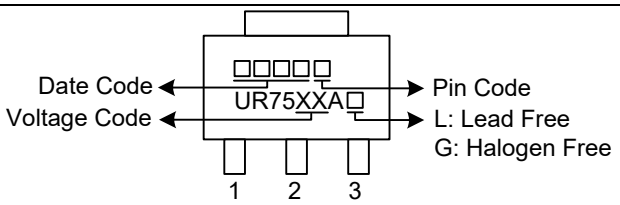
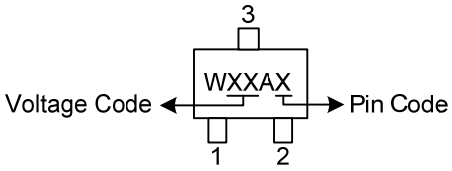
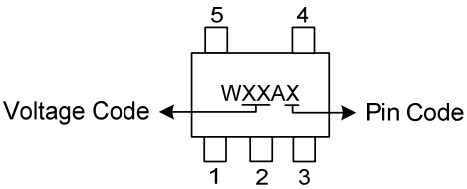
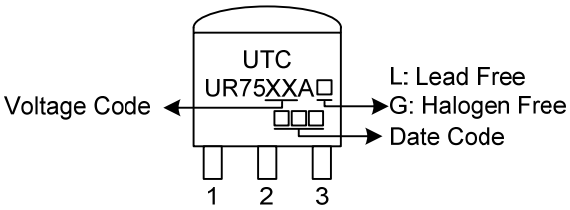
Ordering Number		Package	Pin Assignment					Packing
Lead Free	Halogen Free		1	2	3	4	5	
UR75XXAL-AA3-C-R	UR75XXAG-AA3-C-R	SOT-223	G	I	O	-	-	Tape Reel
UR75XXAL-AA3-D-R	UR75XXAG-AA3-D-R	SOT-223	I	G	O	-	-	Tape Reel
UR75XXAL-AB3-R	UR75XXAG-AB3-R	SOT-89	G	I	O	-	-	Tape Reel
UR75XXAL-AB3-A-R	UR75XXAG-AB3-A-R	SOT-89	G	O	I	-	-	Tape Reel
UR75XXAL-AE2-1-R	UR75XXAG-AE2-1-R	SOT-23-3	G	I	O	-	-	Tape Reel
UR75XXAL-AE2-2-R	UR75XXAG-AE2-2-R	SOT-23-3	O	I	G	-	-	Tape Reel
UR75XXAL-AE2-3-R	UR75XXAG-AE2-3-R	SOT-23-3	G	O	I	-	-	Tape Reel
UR75XXAL-AE2-4-R	UR75XXAG-AE2-4-R	SOT-23-3	I	O	G	-	-	Tape Reel
UR75XXAL-AE5-C-R	UR75XXAG-AE5-C-R	SOT-23-5	I	G	N	N	O	Tape Reel
UR75XXAL-AE5-F-R	UR75XXAG-AE5-F-R	SOT-23-5	G	I	O	N	N	Tape Reel
UR75XXAL-AF5-C-R	UR75XXAG-AF5-C-R	SOT-25	I	G	N	N	O	Tape Reel
UR75XXAL-AF5-E-R	UR75XXAG-AF5-E-R	SOT-25	O	G	I	N	N	Tape Reel
UR75XXAL-AF5-F-R	UR75XXAG-AF5-F-R	SOT-25	G	I	O	N	N	Tape Reel
UR75XXAL-AL5-C-R	UR75XXAG-AL5-C-R	SOT-353	I	G	N	N	O	Tape Reel
UR75XXAL-T92-B	UR75XXAG-T92-B	TO-92	G	I	O	-	-	Tape Box
UR75XXAL-T92-K	UR75XXAG-T92-K	TO-92	G	I	O	-	-	Bulk

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

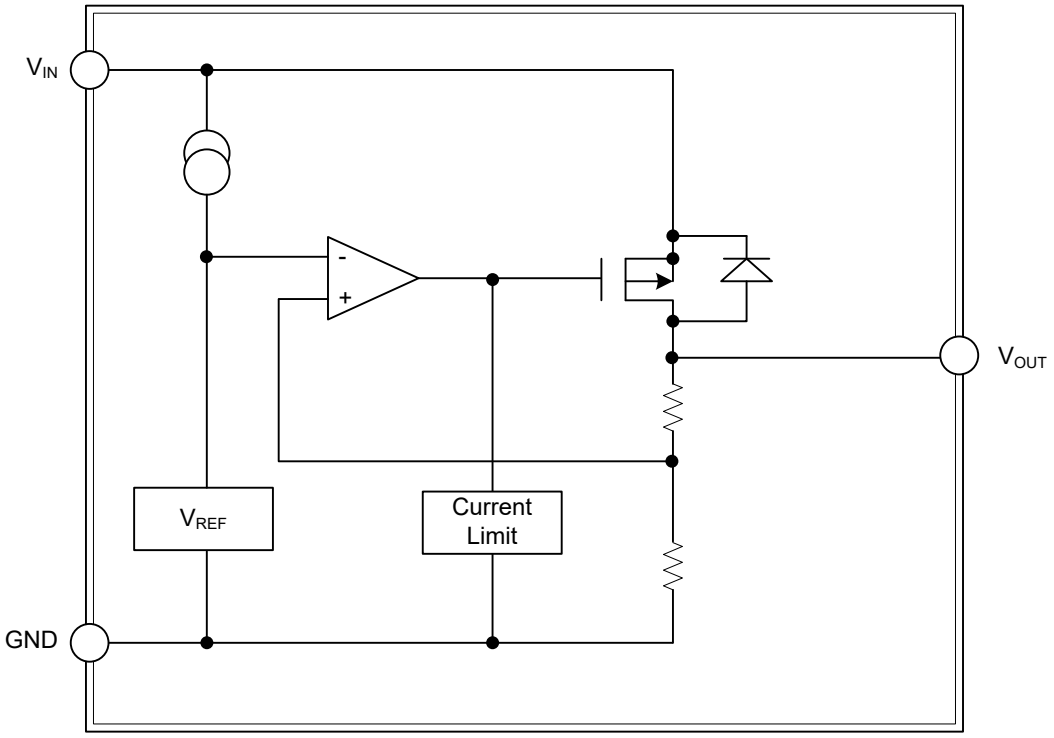
UR75XXAG-AA3-C-R
(1)Packing Type
(2)Pin Assignment
(3)Package Type
(4)Green Package
(5)Output Voltage Code

(1) R: Tape Reel, B: Tape Box, K: Bulk
(2) refer to Pin Assignment
(3) AA3: SOT-223, AB3: SOT-89, AE2: SOT-23-3
AE5: SOT-23-5, AF5: SOT-25, AL5: SOT-353
T92: TO-92
(4) G: Halogen Free and Lead Free, L: Lead Free
(5) XX: Refer to Marking Information

■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223	15:1.5V 18:1.8V 21:2.1V 23:2.3V 25:2.5V 27:2.7V 30:3.0V 33:3.3V 36:3.6V 40:4.0V 44:4.4V 50:5.0V 60:6.0V 70:7.0V 80:8.0V 90:9.0V 10:10V 12:12V	
SOT-89		
SOT-23-3		
SOT-23-5 SOT-25 SOT-353		
TO-92		

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Input Voltage		V_{IN}	36	V
Power Dissipation	SOT-223	P_D	600	mW
	SOT-23-3		250	mW
	SOT-23-5 SOT-25 SOT-353		300	mW
	SOT-89/TO-92		500	mW
Operating Temperature Range		T_{OPR}	-40 ~ +125	°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°C, unless otherwise specified)

UTC **UR7515**

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA	1.47	1.5	1.53	V
Output Current (Note 1)	I_{OUT}	V_{IN}=V_{OUT}+2V	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	I_{OUT}=1mA		45	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	V_{OUT}+2V≤V_{IN}≤36V, I_{OUT}=1mA		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	V_{IN}=V_{OUT}+2V, 1.0mA≤I_{OUT}≤50mA		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA , -40°C≤T_A≤85°C		±50	±100	Ppm/°C
Supply Current	I_{SS1}	V_{IN}=V_{OUT}+2V		4.7	8.0	μA

UTC **UR7518**

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA	1.764	1.8	1.836	V
Output Current (Note 1)	I_{OUT}	V_{IN}=V_{OUT}+2V	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	I_{OUT}=1mA		45	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	V_{OUT}+2V≤V_{IN}≤36V, I_{OUT}=1mA		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	V_{IN}=V_{OUT}+2V, 1.0mA≤I_{OUT}≤50mA		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA , -40°C≤T_A≤85°C		±50	±100	Ppm/°C
Supply Current	I_{SS1}	V_{IN}=V_{OUT}+2V		4.7	8.0	μA

UTC **UR7521**

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA	2.058	2.1	2.142	V
Output Current (Note 1)	I_{OUT}	V_{IN}=V_{OUT}+2V	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	I_{OUT}=1mA		40	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	V_{OUT}+2V≤V_{IN}≤36V, I_{OUT}=1mA		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	V_{IN}=V_{OUT}+2V, 1.0mA≤I_{OUT}≤50mA		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	V_{IN}=V_{OUT}+2V, I_{OUT}=10mA , -40°C≤T_A≤85°C		±50	±100	Ppm/°C
Supply Current	I_{SS1}	V_{IN}=V_{OUT}+2V		4.7	8.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC **UR7523**

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}	$V_{IN}=V_{OUT}+2V$	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		40	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7525**

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}	$V_{IN}=V_{OUT}+2V$	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		40	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7527**

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}	$V_{IN}=V_{OUT}+2V$	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		40	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7530**

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}	$V_{IN}=V_{OUT}+2V$	70	100		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		40	100	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC **UR7533**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	80	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7536**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	65	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7540**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	65	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7544**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	65	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC **UR7550**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	65	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7560**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	60	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7570**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	60	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7580**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		30	60	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

■ ELECTRICAL CHARACTERISTICS (Cont.)

UTC **UR7590**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		25	55	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

UTC **UR7510**

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}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		25	55	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

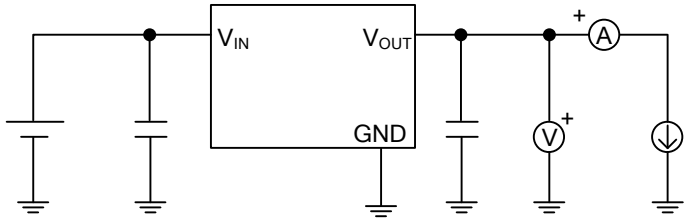
UTC **UR7512**

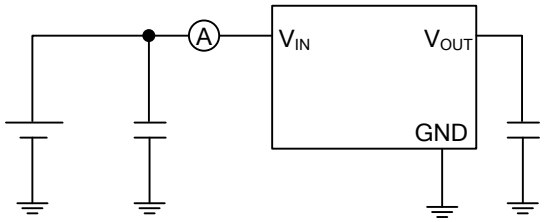
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$	11.76	12.0	12.24	V
Output Current (Note 1)	I_{OUT}	$V_{IN}=V_{OUT}+2V$	100	150		mA
Dropout Voltage (Note 2)	V_{DROP}	$I_{OUT}=1mA$		25	55	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, $I_{OUT}=1mA$		0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, $1.0mA \le I_{OUT} \le 50mA$		30	80	mV
Output Voltage Temperature Coefficient	$\frac{\Delta V_{OUT1}}{T_A \bullet V_{OUT}}$	$V_{IN}=V_{OUT}+2V$, $I_{OUT}=10mA$, $-40°C \le T_A \le 85°C$		±50	±100	Ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$		4.7	8.0	μA

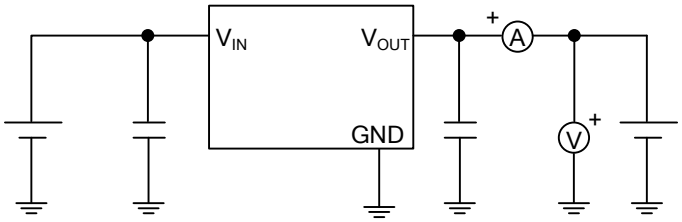
Notes: 1. Increase the output current slowly, record the current when V_{OUT} decrease 98% of V_{OUT}.

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

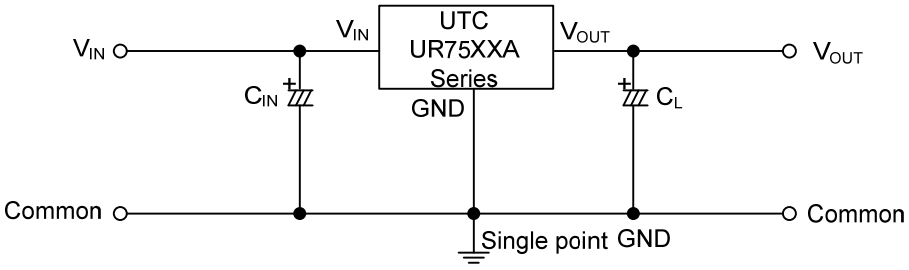
■ TEST CIRCUIT







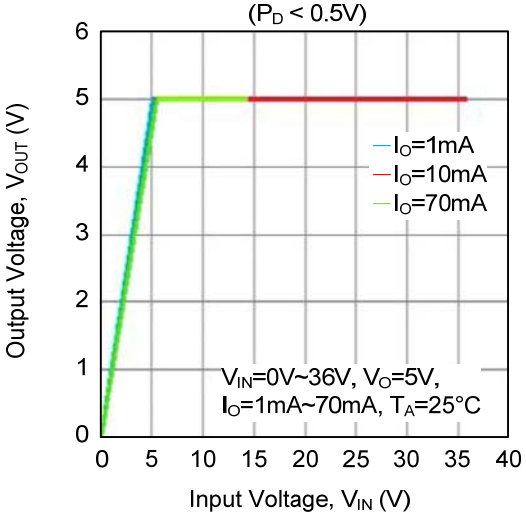
■ TYPICAL APPLICATION CIRCUIT



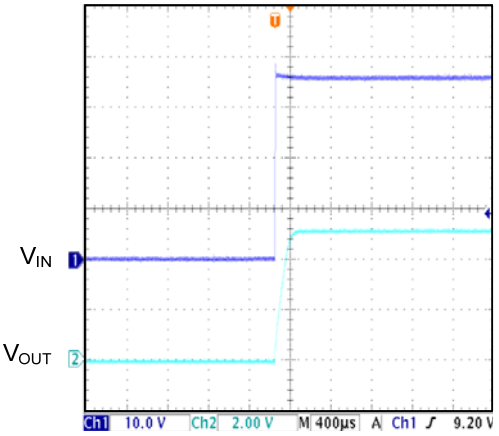
C_{IN}>1.0μF
C_L>2.2μF (tantalum capacitor)

■ TYPICAL CHARACTERISTICS

Output Voltage vs. Input Voltage
(P_D < 0.5V)



Power ON
(V_{IN}=36V, I_O=10mA, V_O=5V, T_A=25°C)



Power OFF
(V_{IN}=36V, I_O=10mA, V_O=5V, T_A=25°C)