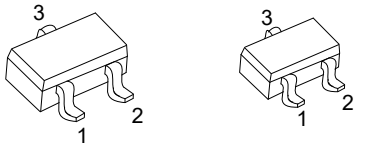
UR76XXH

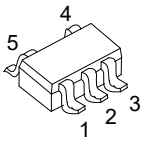
CMOS IC

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



SOT-23
(EIAJ SC-59)

SOT-23-3
(JEDEC TO-236)



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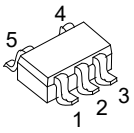
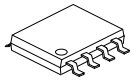
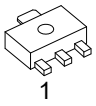
(JEDEC TO-236)



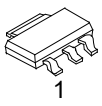
SOT-25
(JEDEC MO-178)



SOP-8



SOT-89



SOT-223

■ DESCRIPTION

The UTC **UR76XXH** 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: 6uA /15uA (Typ.)
* Low temperature-drift coefficient of V_{OUT}: ±100 ppm/°C (Typ.)
* Wide Input voltage range: 2.5~36V

■ ORDERING INFORMATION

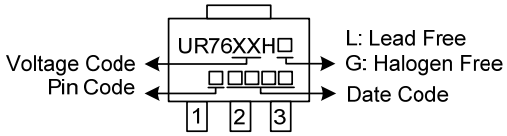
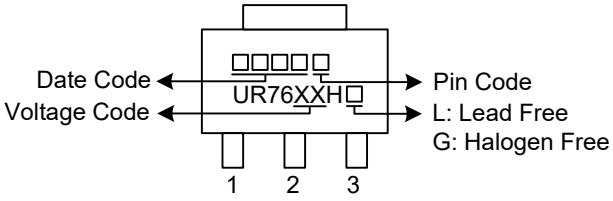
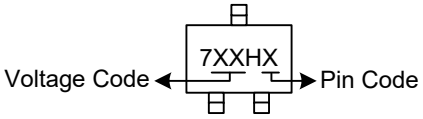
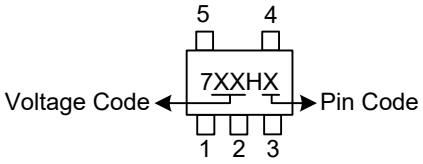
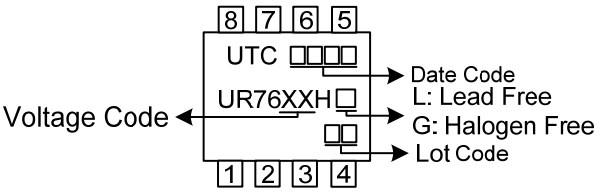
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
UR76XXHL-AA3-x-R	UR76XXHG-AA3-x-R	SOT-223	Pin Code	1	2	3					Tape Reel
			A	G	O	I					
UR76XXHL-AB3-x-R	UR76XXHG-AB3-x-R	SOT-89	B	O	G	I					
			C	G	I	O					
			D	I	G	O					
UR76XXHL-AE2-3-R	UR76XXHG-AE2-3-R	SOT-23-3	G	O	I	-	-	-	-	-	Tape Reel
UR76XXHL-AE3-3-R	UR76XXHG-AE3-3-R	SOT-23	G	O	I	-	-	-	-	-	Tape Reel
UR76XXHL-AE5-C-R	UR76XXHG-AE5-C-R	SOT-23-5	I	G	N	N	O	-	-	-	Tape Reel
UR76XXHL-AF5-F-R	UR76XXHG-AF5-F-R	SOT-25	G	I	O	N	N	-	-	-	Tape Reel
UR76XXHL-S08-R	UR76XXHG-S08-R	SOP-8	I	N	N	G	N	N	N	O	Tape Reel

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

UR76XXHG-AA3-x-R
(1)Packing Type
(2)Pin Code
(3)Package Type
(4)Green Package

(1) R: Tape Reel
(2) x: refer to PIN CONFIGURATIONS
(3) AA3: SOT-223, AB3: SOT-89, AE2: SOT-23-3, AE3: SOT-23, AE5: SOT-23-5, AF5: SOT-25 S08: SOP-8
(4) G: Halogen Free and Lead Free, L: Lead Free

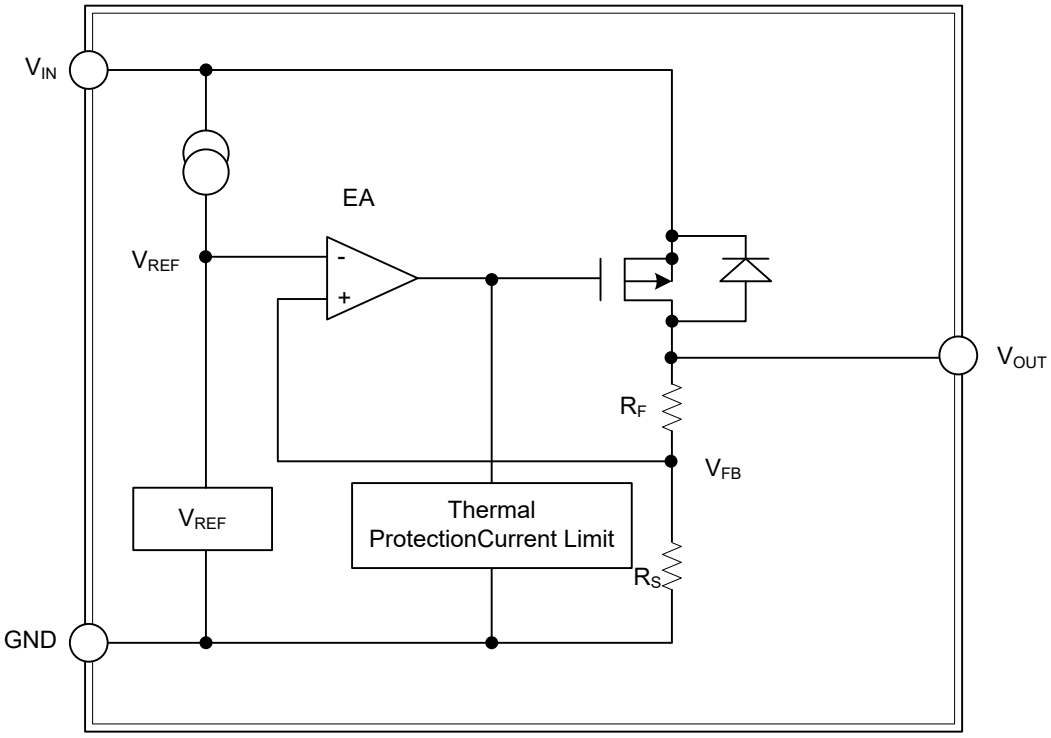
■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223	33: 3.3V 36: 3.6V 40: 4.0V 50: 5.0V	
SOT-89		
SOT-23-3 SOT-23		
SOT-25 SOT-23-5		
SOP-8		

■ PIN DESCRIPTION

PIN NAME	DESCRIPTION
GND	Ground
V_{IN}	Input voltage
V_{OUT}	Regulated output voltage

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Input Voltage		V_{IN}	36	V
Power Dissipation	SOT-223	P_D	600	mW
	SOT-89		500	mW
	SOT-23-3 SOT-23 SOT-23-5 SOT-25		350	mW
	SOP-8		700	mW
Operating Temperature Range		T_{OPR}	-40 ~ +125	°C
Storage Temperature Range		T_{STG}	-40 ~ +150	°C

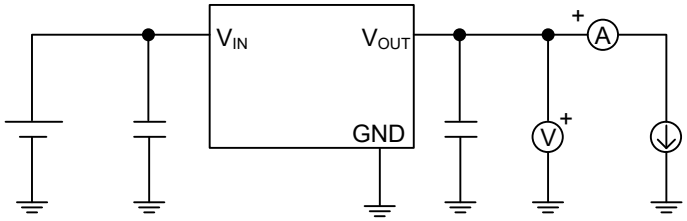
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

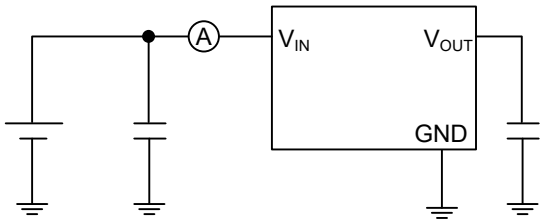
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

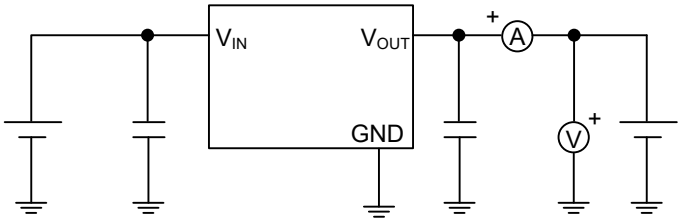
PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	$V_{IN}=V_{OUT}+2V$, I_{OUT}=10mA		×0.98	V_{OUT}	×1.02	V
Output Current (Note 1)	I_{OUT}	$V_{IN}=V_{OUT}+2V$		500			mA
Dropout Voltage (Note 2)	V_{DROP}	I_{OUT}=100mA			160	200	mV
Line Regulation	$\frac{\Delta V_{OUT1}}{\Delta V_{IN} \bullet V_{OUT}}$	$V_{OUT}+2V \le V_{IN} \le 36V$, I_{OUT}=1mA			0.05	0.2	%/V
Load Regulation	ΔV_{OUT2}	$V_{IN}=V_{OUT}+2V$, 1.0mA ≤ I_{OUT} ≤ 100mA			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			±100		ppm/°C
Supply Current	I_{SS1}	$V_{IN}=V_{OUT}+2V$	UR76XXH-A		6	10	μA
			UR76XXH-B		15	20	μA
Thermal Shutdown	TSD				160		°C

Notes: 1. Increase the output current slowly, record the current when V_{OUT} decrease 98% of V_{OUT}.
2. $V_{drop}=V_{IN1}-(V_{OUT}\times 0.98)$, V_{OUT}: $V_{IN}=V_{OUT}+2V$, I_{OUT}=1mA

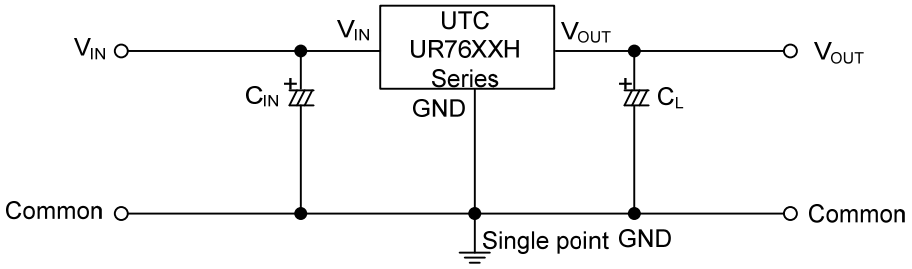
■ TEST CIRCUIT







■ TYPICAL APPLICATION CIRCUIT



C_{IN} > 1.0μF
C_L > 2.2μF