



**LR9282A**

Preliminary

CMOS IC

**300mA LDO REGULATOR**

■ DESCRIPTION

The UTC **LR9282A** is a typical LDO (linear regulator) with the features of high output voltage accuracy, low supply current, low ON-resistance. Internally, there're many functions of UTC **LR9282A** which can be seen in the block figure. There are a voltage reference unit, an error amplifier, resistor-net for voltage setting, a current limit circuit, and a chip enable circuit in each UTC **LR9282A**.

The output voltage of these ICs is fixed with high accuracy.

■ FEATURES

- \* Output voltage accuracy ( $\pm 1\%$ )
- \* Output voltage range (0.8V~5V)
- \* Dropout voltage (TYP=290mV)( $I_{OUT}=100mA, V_{OUT}=1.8V$  Output type)
- \* Line regulation (TYP=0.2%/V)
- \* Built-in fold-back protection circuit (TYP=15mA) (Current at short mode)

■ ORDERING INFORMATION

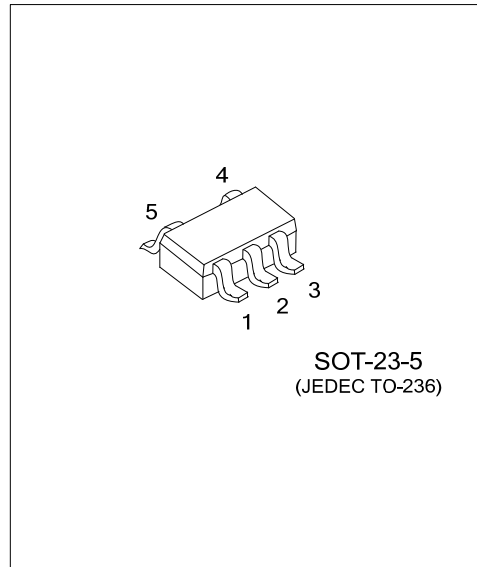
Ordering Number		Package	Packing
Lead Free	Halogen Free		
LR9282AL-xx-AE5-R	LR9282AG-xx-AE5-R	SOT-23-5	Tape Reel

Note: xx: Output Voltage.

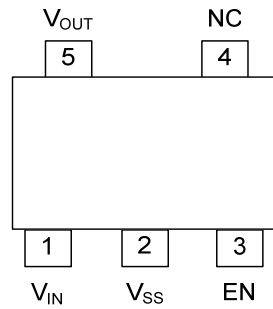
<p>LR9282AG-xx-AE5-R</p>	<p>(1) R: Tape Reel                  (2) AE5: SOT-23-5                  (3) xx: refer to Marking Information                  (4) G: Halogen Free and Lead Free, L: Lead Free</p>
--------------------------	---

■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-23-5	12: 1.2V	



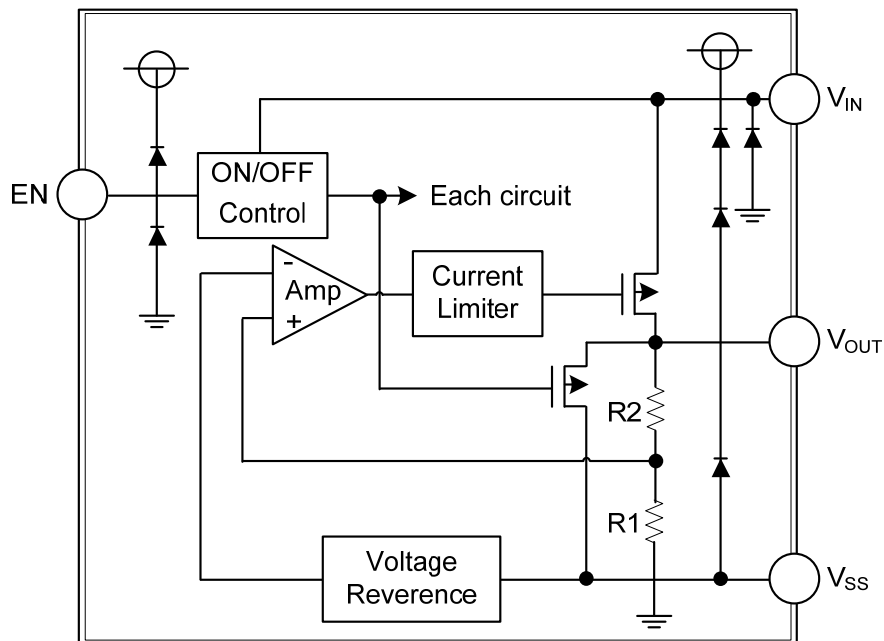
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V <sub>IN</sub>	Positive power supply input voltage.
2	V <sub>SS</sub>	Ground
3	EN	Chip Enable.
4	NC	No Connection.
5	V <sub>OUT</sub>	Regulated output voltage.

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	$V_{IN}$	7	V
Output Current	$I_{OUT}$	300	mA
Power Dissipation	$P_D$	355	mW
Operating Temperature	$T_{OPT}$	-40 ~ +125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-40 ~ +125	$^{\circ}\text{C}$

Notes: 1. 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.

2. Device mounted on PCB.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	280	$^{\circ}\text{C/W}$
Junction to Case	$\theta_{JC}$	90	$^{\circ}\text{C/W}$

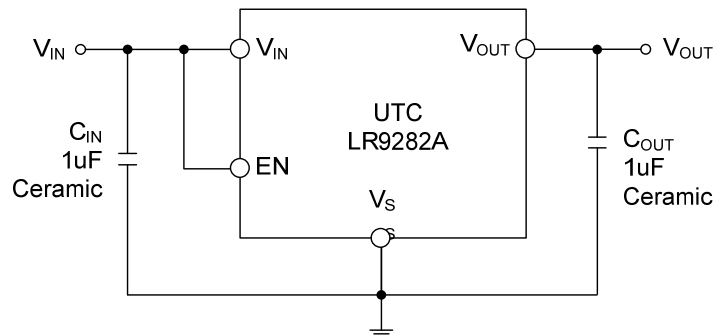
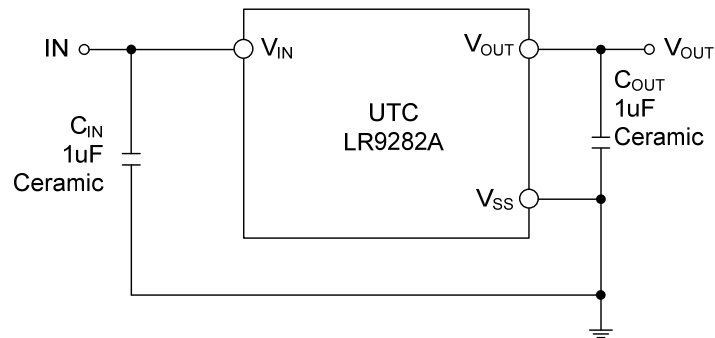
Note: Device mounted on PCB.

■ ELECTRICAL CHARACTERISTICS

( $V_{IN} = V_{OUT}+1\text{V}$  for  $V_{OUT} > 1.5\text{V}$ ,  $V_{IN} = 2.5\text{V}$  for  $V_{OUT} \leq 1.5\text{V}$ ,  $I_{OUT}=1\text{mA}$ ,  $C_I=C_O=1.0\mu\text{F}$ ,  $T_A=25^{\circ}\text{C}$ , unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{in}$				7.0	V
DC Output Accuracy		$I_{OUT}=1\text{mA}$	-1.0		1.0	%
Dropout Voltage	$V_{DIF}$	$I_{OUT}=100\text{mA}$ , $V_{OUT}=3.3\text{V}$		130	180	mV
		$I_{OUT}=100\text{mA}$ , $V_{OUT}=1.8\text{V}$		290	380	mV
		$I_{OUT}=100\text{mA}$ , $V_{OUT}=1.5\text{V}$		400	500	mV
		$I_{OUT}=100\text{mA}$ , $V_{OUT}=0.8\text{V}$		800	1000	mV
Supply Current	$I_{SS}$	$I_{OUT}=0\text{mA}$			0.5	$\mu\text{A}$
Load Regulation	$\Delta V_{OUT}$	$1\text{mA} \leq I_{OUT} \leq 100\text{mA}$		10		mV
Line Regulation	$\frac{\Delta V_{OUT}}{V_{OUT}+\Delta V_{IN}}$	$I_{OUT}=10\text{mA}$ $V_{OUT}+1\text{V} \leq V_{IN} \leq 6.5\text{V}$		0.2	0.35	%/V
Output Current Limit	$I_{LIM}$		300			mA
Short Current	$I_{SC}$	$V_{OUT}=0\text{V}$		15		mA
EN "High" Voltage	$V_{EN}$ "H"		1.5		$V_{IN}$	V
EN "Low" Voltage	$V_{EN}$ "L"				0.3	V

■ TYPICAL APPLICATION CIRCUIT



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.