



LP5951

Preliminary

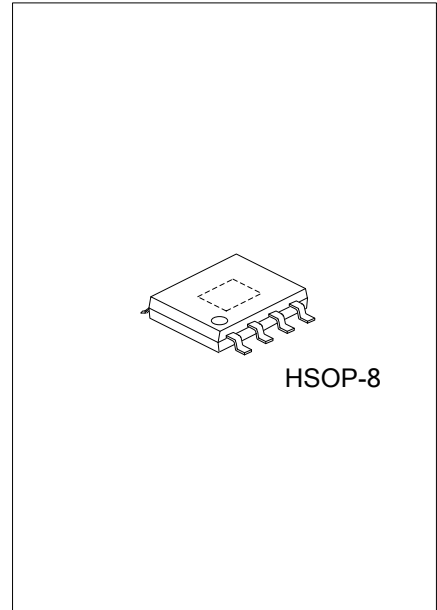
LINEAR INTEGRATED CIRCUIT

HIGH INPUT VOLTAGE, LOW QUIESCENT CURRENT, 150mA LDO REGULATOR

DESCRIPTION

The **UTC LP5951** is a low ground current linear regulator which operates with input voltage from 6.5V ~ 25V and delivers output current up to 150mA. Typical dropout voltage is only 450mV at 150mA loading.

The **UTC LP5951** has many protection functions including over temperature and current limit which prevent the device from thermal over-load and current over-load.



FEATURES

- * Wide Operating Voltage : 6.5V~25V
- * Ultra Low Ground Current :120μA
- * High Output Accuracy : ±2% over temperature
- * Excellent Load/Line Transient
- * Low Dropout Voltage : 450mv @ 150mA
- * Built-in Current Limit Protection
- * Built-in Over Temperature Protection
- * Zero Shutdown Current

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
LP5951L-xx-SH2-R	LP5951G-xx-SH2-R	HSOP-8	Tape Reel

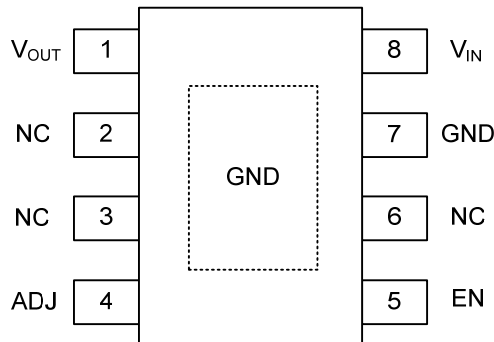
Note: xx: Output Voltage, refer to Marking Information.

<p>LP5951G-xx-SH2-R</p>	<p>(1) R: Tape Reel (2) SH2: HSOP-8 (3) xx: refer to Output Voltage Code (4) G: Halogen Free and Lead Free, L: Lead Free</p>
-------------------------	---

MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
HSOP-8	AD :ADJ	

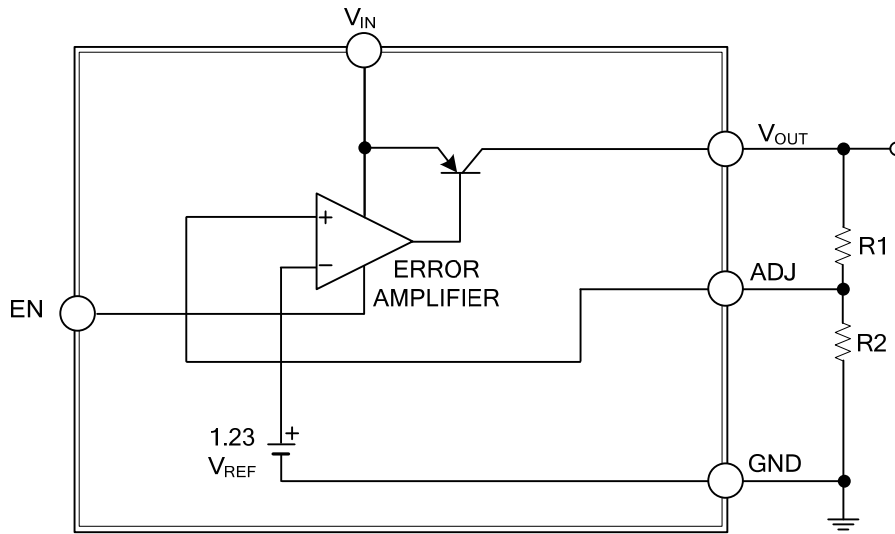
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V_{OUT}	Output pin
2, 3, 6	NC	No Connection
4	ADJ	ADJ: output feedback pin
5	EN	ON/OFF pin, low=output ON; high=output OFF
7	GND	Ground
8	V_{IN}	Input pin
Exposed Pad	GND	Connect exposed pad to GND.

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.3 ~ +27	V
Feedback Voltage	V_{FB}	-1.5 ~ +27	V
Shutdown Voltage	V_{SHDN}	-0.3 ~ +27	V
Power Dissipation	P_D	Internally Limited	W
Junction Temperature	T_J	+125	°C
Storage Temperature	T_{STG}	-65 ~ +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.

■ THERMAL DATA

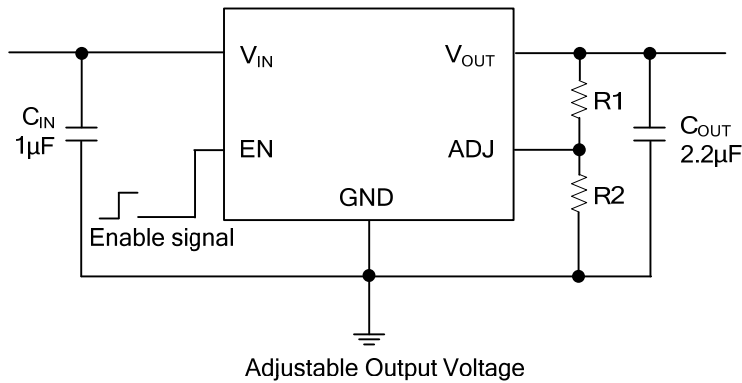
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	°C/W
Junction to Case	θ_{JC}	20	°C/W

■ ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, these specifications apply over $V_{IN}=V_{OUT}+2.5V$, $C_{IN}=1\mu F$, $C_{OUT}=2.2mF$, $T_A=-40^\circ C \sim 85^\circ C$. Typical values refer to $T_A=25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V_{IN}		6.5		25	V
Output Voltage Accuracy	V_{OUT}		-2		2	%
Output Voltage Range			3		20	V
Quiescent Current	I_Q	$I_{OUT}=0.1mA$	75	120	140	μA
		$I_{OUT}=150mA$	8	12	22	mA
Load Current Range	I_{OUT}		0		150	mA
Reference Voltage	V_{REF}		-2%	1.235	+2%	V
Line Regulation	ΔV_{OUT}	$V_{OUT}+2.5V < V_{IN} < 25V$, $I_{OUT}=1mA$		0.1	0.2	%
Load Regulation	ΔV_{OUT}	$0.1mA < I_{OUT} < 150mA$		0.2	0.5	%
Dropout Voltage	V_D	$I_{OUT}=0.1mA$	50	80	150	mV
		$I_{OUT}=150mA$	380	450	600	
PROTECTION						
Over Temperature Shutdown	OTS			150		°C
Circuit Current Limit	I_{LIMIT}	$V_{IN}=V_{OUT}+2.5V$	250	350	500	mA
Short Current	I_{SHORT}	$V_{OUT}=0V$		50		mA
SHUTDOWN						
Input High Voltage	V_{EN}		2			V
Input Low Voltage					0.7	
EN pin Input Bias Current	I_{EN}	$V_{EN}=25V$		450	600	μA
Shutdown Supply Current	I_{QSHDN}	$EN=High$, $V_{IN}=19V$		0.1	1	mA

■ 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.