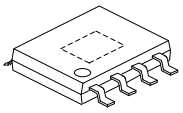
HIGH INPUT VOLTAGE, LOW QUIESCENT CURRENT, 150mA LDO REGULATOR



HSOP-8

■ 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

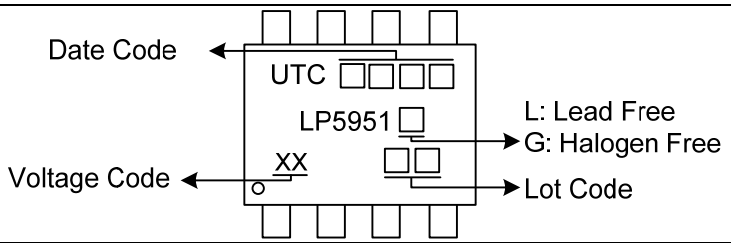
Ordering Number		Package	Packing
Lead Free	Halogen Free		
LP5951L-xx-SH2-R	LP5951G-xx-SH2-R	HSOP-8	Tape Reel

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

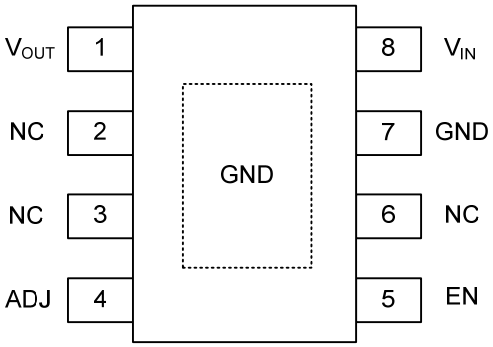
LP5951G-xx-SH2-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) HS2: HSOP-8
(3)Output Voltage Code	(3) xx: refer to Output Voltage Code
(4)Green Package	(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
HSOP-8	AD :ADJ	

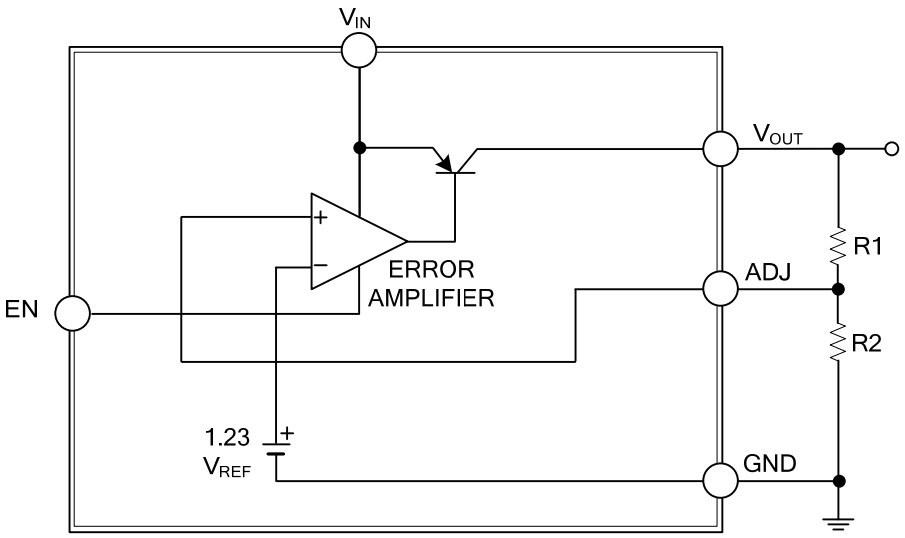
■ PIN CONFIGURATION



■ 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

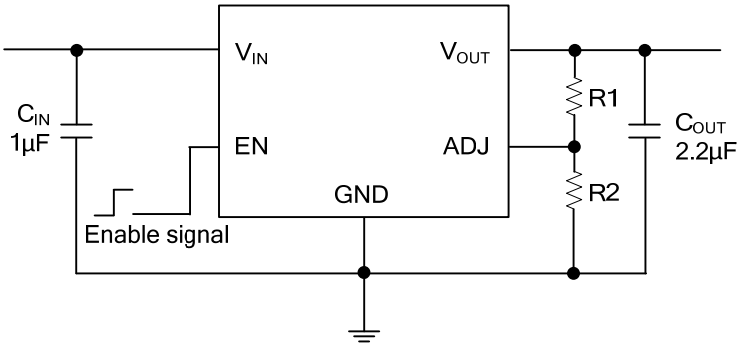
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	°C/W
Junction to Case	θ_{JC}	20	°C/W

■ ELECTRICAL CHARACTERISTICS

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

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
		$I_{OU}T$=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



Adjustable Output Voltage