



UL68A

CMOS IC

HIGH ACCURACY LINEAR CONSTANT CURRENT LED DRIVER

DESCRIPTION

The UTC **UL68A** is a linear constant current IC with a built-in power MOSFET. The output current can be adjusted from 5mA to 30mA, and constant current accuracy up to $\pm 3\%$. The application scheme is simple and the cost is low. This device also incorporates temperature compensation and thermal shutdown functions.

FEATURES

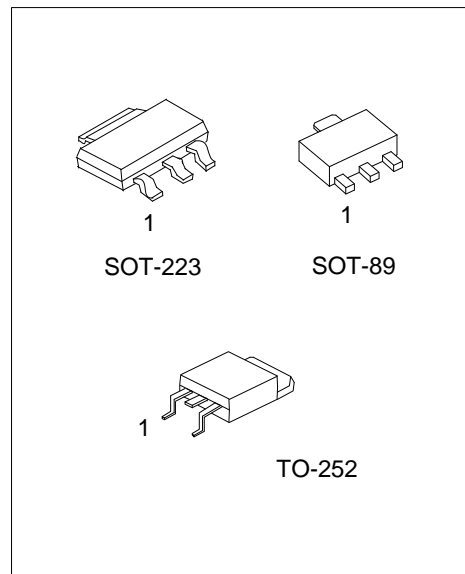
- * 5mA ~ 30mA Output Current
- * Up to $\pm 3\%$ Constant Current Accuracy
- * No EMC Problem
- * Temperature Compensate
- * Thermal Shutdown

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UL68AL-xx-AA3-R	UL68AG-xx-AA3-R	SOT-223	Tape Reel
UL68AL-xx-AB3-R	UL68AG-xx-AB3-R	SOT-89	Tape Reel
UL68AL-xx-TN3-R	UL68AG-xx-TN3-R	TO-252	Tape Reel

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

<p>UL68AG-xx-AA3-R</p>	<p>(1) Packing Type (1) R: Tape Reel</p> <p>(2) Package Type (2) AA3: SOT-223, AB3: SOT-89, TN3: TO-252</p> <p>(3) Output Voltage Code (3) xx: Refer to Marking Information</p> <p>(4) Green Package (4) G: Halogen Free and Lead Free, L: Lead Free</p>
------------------------	--



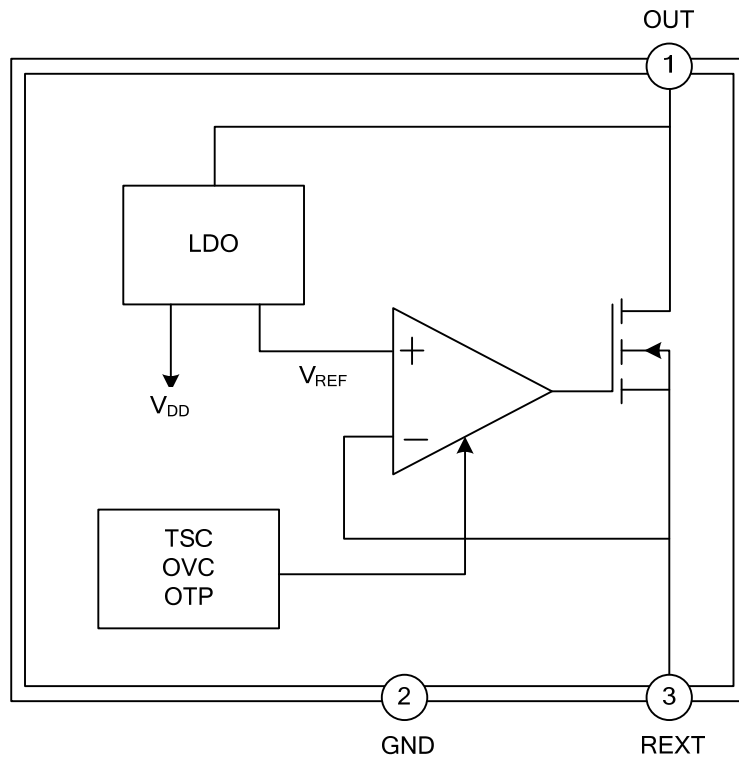
MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-89	25: 250mV 26: 260mV 50: 500mV 60: 600mV	
SOT-223		
TO-252		

PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	OUT	Current Output Pin.
2	GND	Ground.
3	REXT	Output Current Setting Pin.

BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

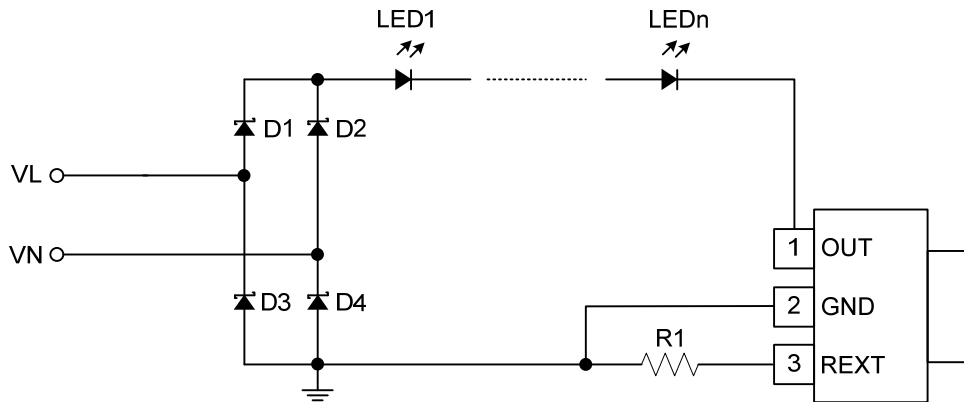
PARAMETER	SYMBOL	RATINGS	UNIT
OUT Pin Voltage	V_{OUT}	-0.5 ~ 450	V
OUT Pin Current	I_{OUT}	5 ~ 40	mA
Operating Junction Temperature	T_{OPT}	-40 ~ +150	°C
Storage Junction Temperature	T_{STG}	-50 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
OUT Pin Voltage	V_{OUT}	$I_{OUT}=30mA$			6.5	V	
OUT Pin Withstanding Voltage		$I_{OUT}=0$	450			V	
Output Current	I_{OUT}		5		30	mA	
Quiescent Current	I_Q	$V_{OUT}=10V$ REXT No Collection		0.16	0.25	mA	
REXT Pin Voltage	V_{REXT}	$V_{OUT}=10V$	UL68A-25	242	250	258	mV
			UL68A-26	252	260	268	mV
			UL68A-50	485	500	515	mV
			UL68A-60	582	600	618	mV
V_{OVC}				70		V	
Output Current Error		$I_{OUT}=5 \sim 30mA$		±3		%	
Temperature Compensate Point	T_{CP}			140		°C	

■ 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.