



## 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 ± 3%. The application scheme is simple and the cost is low. This device also incorporates temperature compensation and thermal shutdown functions.

#### FEATURES

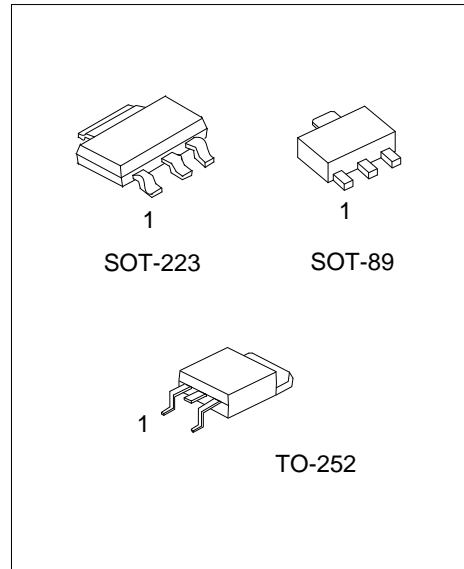
- \* 5mA ~ 30mA Output Current
- \* Up to ± 3% Constant Current Accuracy
- \* No EMC Problem
- \* Temperature Compensate
- \* Thermal Shutdown

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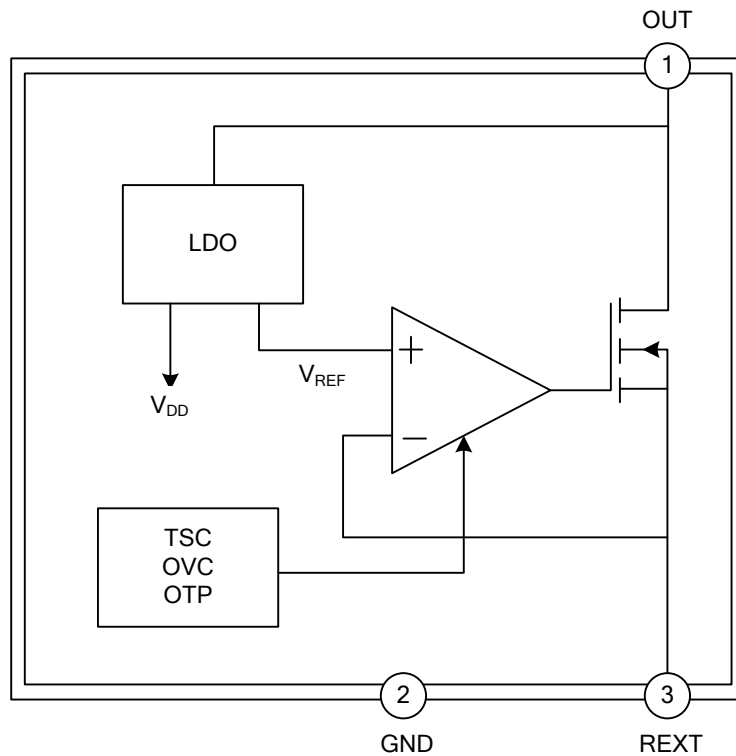
## MARKING INFORMATION

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

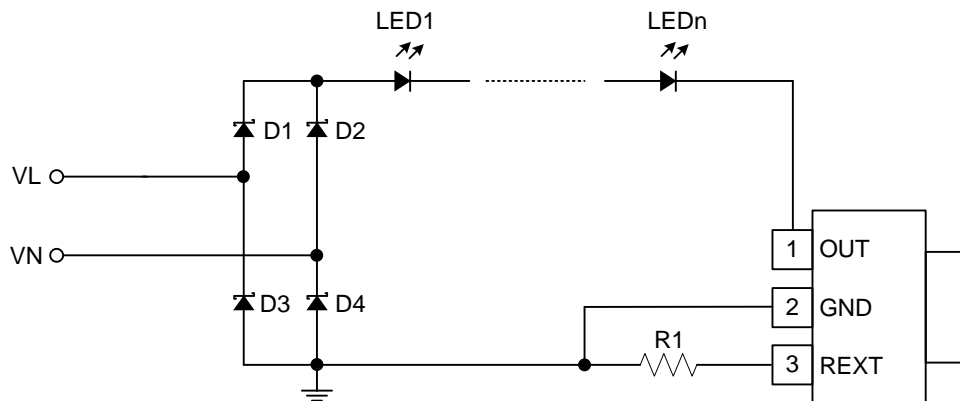
PARAMETER	SYMBOL	RATINGS	UNIT
OUT Pin Voltage	$V_{OUT}$	-0.5 ~ 450	V
OUT Pin Current	$I_{OUT}$	5 ~ 30	mA
Operating Junction Temperature	$T_{OPT}$	-40 ~ +150	°C
Storage Junction Temperature	$T_{STG}$	-50 ~ +150	°C

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



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