



## UL66C

CMOS IC

### HIGH ACCURACY LINEAR CONSTANT CURRENT LED DRIVER

#### DESCRIPTION

The UTC **UL66C** is a linear constant current IC with a built-in power MOSFET. The output current can be adjusted from 5mA to 60mA, and constant current accuracy up to  $\pm 4\%$ . The application scheme is simple and the cost is low. This device also incorporates temperature compensation and thermal shutdown functions.

#### FEATURES

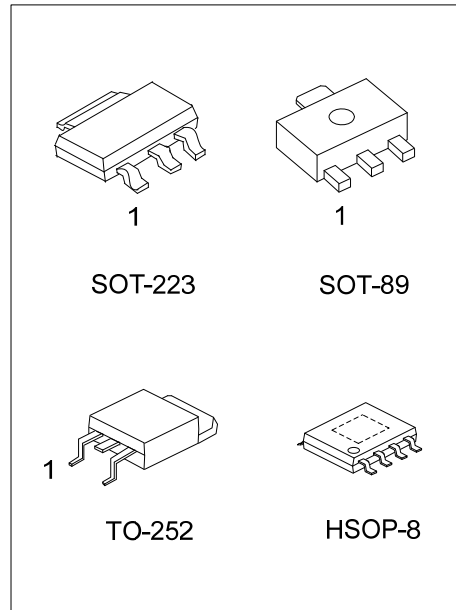
- \* 5mA ~ 60mA Output Current
- \* Up to  $\pm 4\%$  Constant Current Accuracy
- \* No EMC Problem
- \* Temperature Compensate
- \* Thermal Shutdown

#### ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UL66CL-xx-AA3-R	UL66CG-xx-AA3-R	SOT-223	Tape Reel
UL66CL-xx-AB3-R	UL66CG-xx-AB3-R	SOT-89	Tape Reel
UL66CL-xx-TN3-R	UL66CG-xx-TN3-R	TO-252	Tape Reel
UL66CL-xx-SH2-R	UL66CG-xx-SH2-R	HSOP-8	Tape Reel

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

<p>UL66CG-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 SH2: HSOP-8 (3) xx: Refer to Marking Information (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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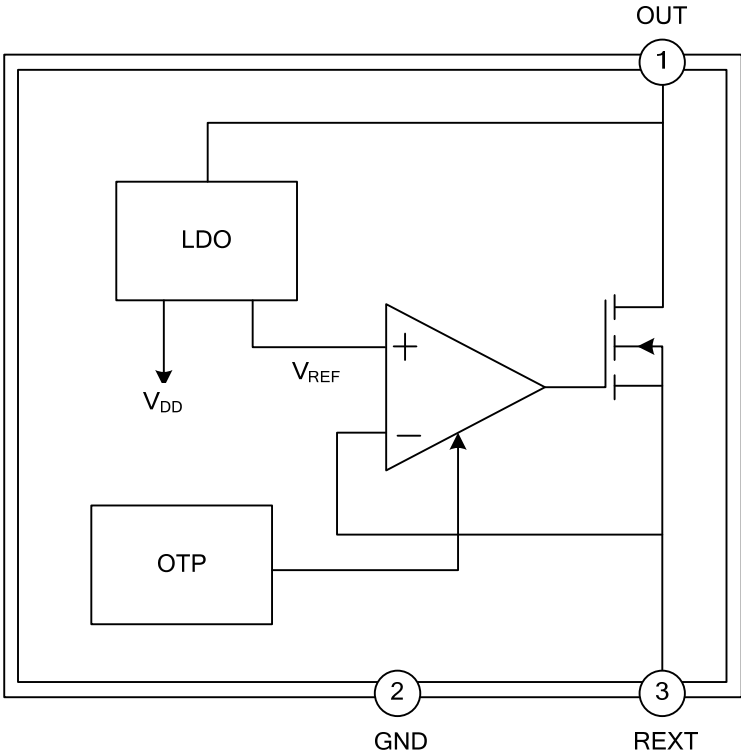
## MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223	03: 0.3V 06: 0.6V	<p>UL66C □ □□□□□□ Voltage Code ← 1 → Date Code L: Lead Free G: Halogen Free</p>
SOT-89		<p>□□□□□□ → Voltage Code □□□□□□ → Date Code UL66C □ L: Lead Free G: Halogen Free</p>
TO-252		<p>UTC □ UL66C □ Voltage Code ← □□□□□□ → Date Code □□□□□□ → Lot Code L: Lead Free G: Halogen Free</p>
HSOP-8		<p>UTC □□□□ □ UL66C □ Voltage Code ← □□□□□□ → Date Code □□□□□□ → Lot Code L: Lead Free G: Halogen Free</p>

## PIN DESCRIPTION

PIN NO.		PIN NAME	DESCRIPTION
SOT-223 SOT-89 TO-252	HSOP-8		
1	3	OUT	Current Output Pin.
2	6	GND	Ground.
3	5	REXT	Output Current Setting Pin.
-	1, 2, 4, 7, 8	NC	NC

■ BLOCK DIAGRAM



## ■ ABSOLUTE MAXIMUM RATING

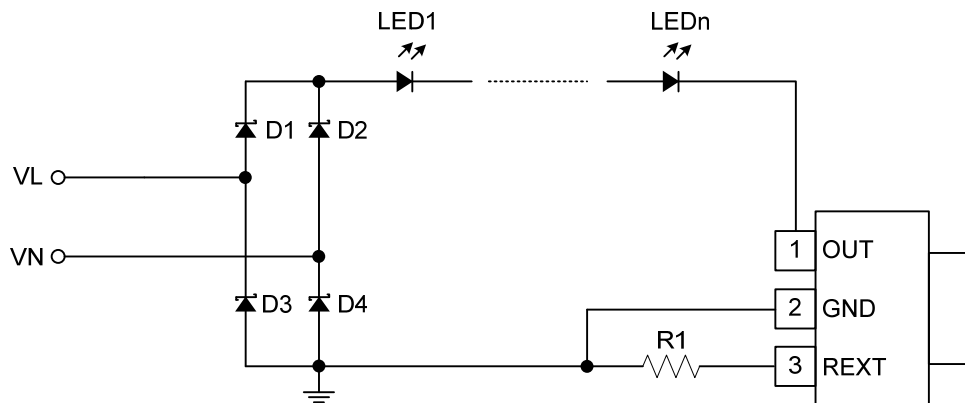
PARAMETER	SYMBOL	RATINGS	UNIT
OUT Pin Voltage	$V_{OUT}$	-0.5 ~ 500	V
OUT Pin Current	$I_{OUT}$	5 ~ 60	mA
Operating Junction Temperature	$T_{OPT}$	-40 ~ +150	°C
Storage Junction Temperature	$T_{STG}$	-50 ~ +150	°C

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		$I_{OUT}=0$	500			V
Output Current	$I_{OUT}$		5		60	mA
Quiescent Current	$I_Q$	$V_{OUT}=10V$ REXT No Collection		0.16	0.25	mA
REXT Pin Voltage	$V_{REXT}$	$V_{OUT}=10V$		0.3		V
				0.6		V
Output Current Error		$I_{OUT}=5\sim 60mA$		$\pm 4$		%
Temperature Compensate Point	$T_{CP}$			140		°C

■ TYPICAL APPLICATION CIRCUIT



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