



UL66A

Preliminary

CMOS IC

HIGH ACCURACY LINEAR CONSTANT CURRENT LED DRIVER

DESCRIPTION

The UTC **UL66A** 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

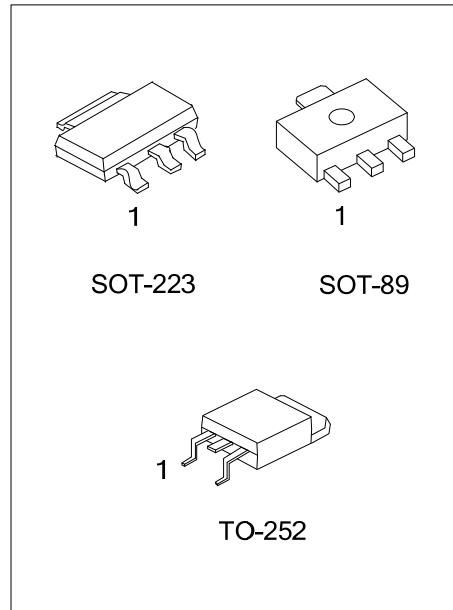
- * 5mA ~ 30mA Output Current
- * Up to $\pm 4\%$ Constant Current Accuracy
- * No EMC Problem
- * Temperature Compensate
- * Thermal Shutdown

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UL66AL-xx-AA3-R	UL66AG-xx-AA3-R	SOT-223	Tape Reel
UL66AL-xx-AB3-R	UL66AG-xx-AB3-R	SOT-89	Tape Reel
UL66AL-xx-TN3-R	UL66AG-xx-TN3-R	TO-252	Tape Reel

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

<p>UL66AG-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>
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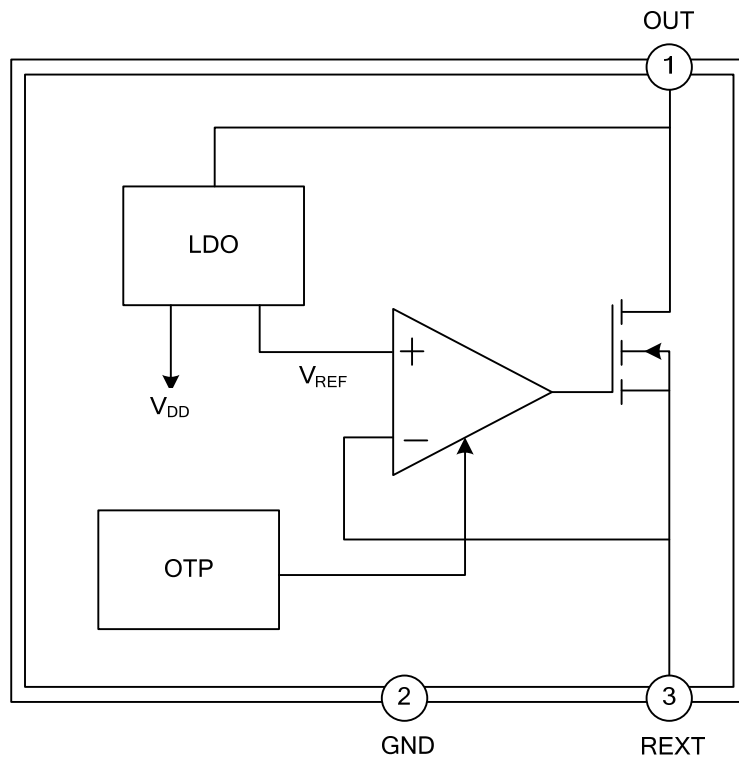
MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
SOT-223	06: 0.6V 03: 0.3V	<p>UL66A □ □□□□□□ Voltage Code ← 1 → Date Code</p> <p>L: Lead Free G: Halogen Free</p>
SOT-89		<p>□□□□□□ UL66A □ 1</p> <p>Voltage Code Date Code L: Lead Free G: Halogen Free</p>
TO-252		<p>UTC UL66A □ □□□□□□□□ Voltage Code ← 1 → Date Code Lot Code</p> <p>L: Lead Free G: Halogen Free</p>

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

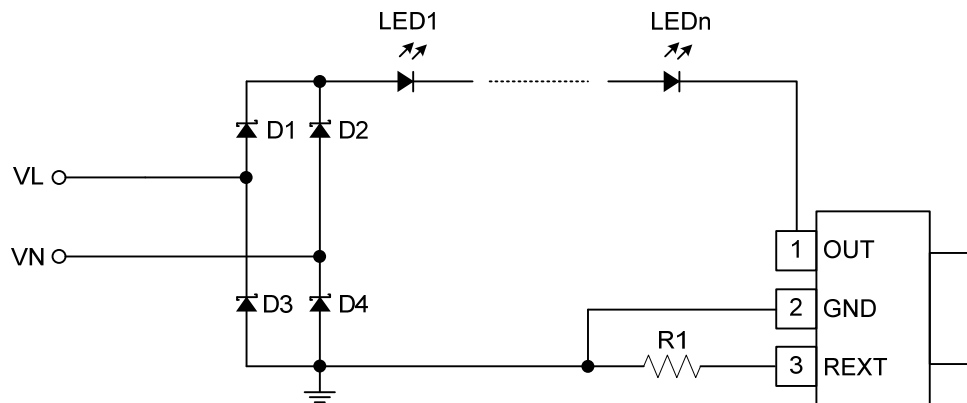
PARAMETER	SYMBOL	RATINGS	UNIT
OUT Pin Voltage	V_{OUT}	-0.5 ~ 450	V
OUT Pin Current	I_{OUT}	5 ~ 30	mA
Operating Junction Temperature	T_{OPT}	-40 ~ +150	°C
Storage Junction Temperature	T_{STG}	-50 ~ +150	°C

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}	$V_{OUT}=10V$		0.3		V
				0.6		V
Output Current Error		$I_{OUT}=5\sim 30mA$		± 4		%
Temperature Compensate Point	T_{CP}			140		°C

■ TYPICAL APPLICATION CIRCUIT



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