



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 30mA, 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

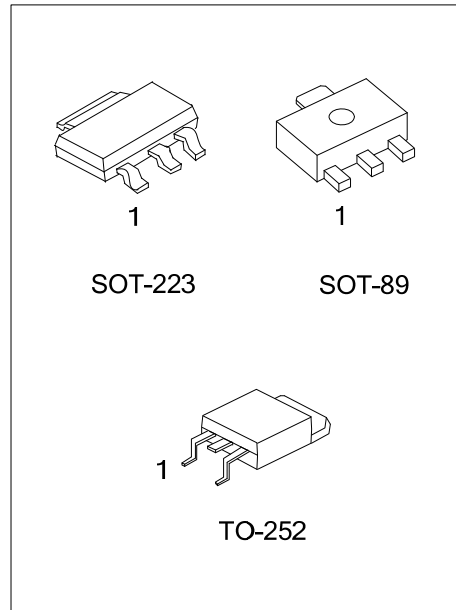
- * 5mA ~ 30mA Output Current
- * Up to $\pm 4\%$ Constant Current Accuracy
- * No EMC Problem
- * Temperature Compensate
- * Thermal Shutdown

ORDERING INFORMATION

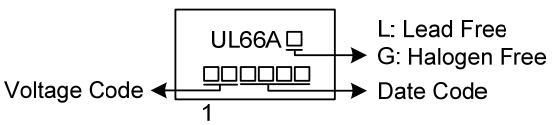
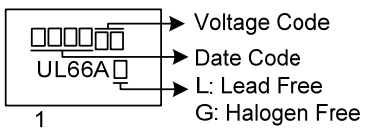
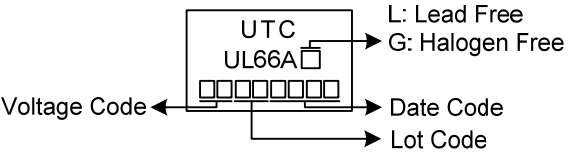
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UL66AL-xx-AA3-R	UL66AG-xx-AA3-R	SOT-223	Tape Reel
UL66AL-xx-AB3-R	UL66AG-xx-AB3-R	SOT-89	Tape Reel
UL66AL-xx-TN3-R	UL66AG-xx-TN3-R	TO-252	Tape Reel

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

UL66AG-xx-AA3-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AA3: SOT-223, AB3: SOT-89, TN3: TO-252
	(3)Output Voltage Code	(3) xx: Refer to Marking Information
	(4)Green Package	(4) G: Halogen Free and Lead Free, L: Lead Free



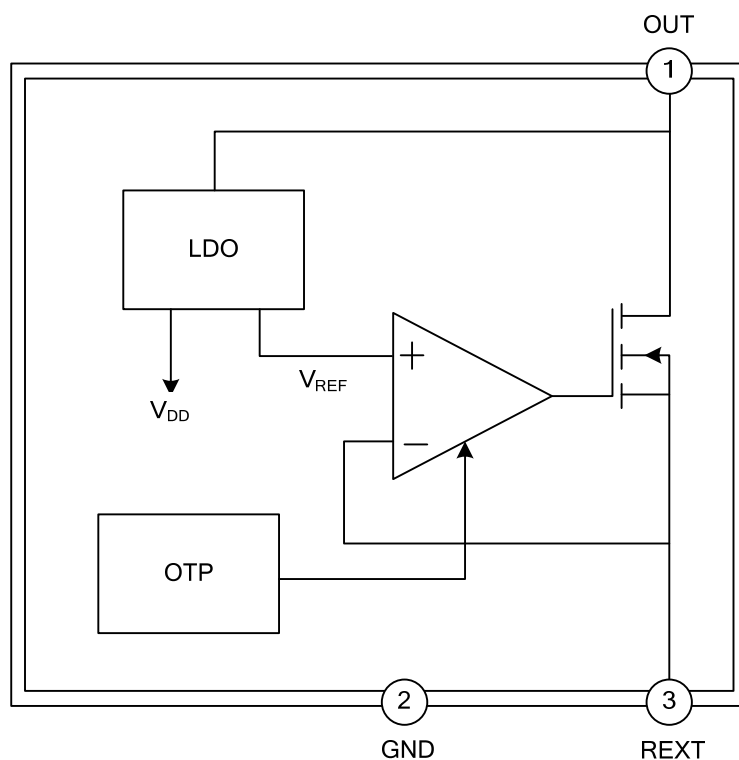
MARKING INFORMATION

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

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

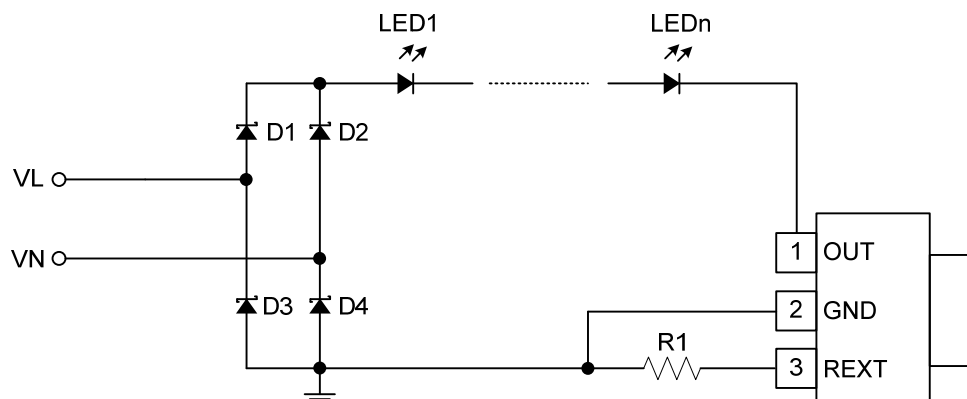
PARAMETER	SYMBOL	RATINGS	UNIT
OUT Pin Voltage	V_{OUT}	-0.5 ~ 500	V
OUT Pin Current	I_{OUT}	5 ~ 30	mA
Operating Junction Temperature	T_{OPT}	-40 ~ +150	°C
Storage Junction Temperature	T_{STG}	-50 ~ +150	°C

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}	$I_{OUT}=30\text{mA}$	6.5			V
OUT Pin Withstanding Voltage		$I_{OUT}=0$	500			V
Output Current	I_{OUT}		5		30	mA
Quiescent Current	I_Q	$V_{OUT}=10\text{V}$ REXT No Collection		0.16	0.25	mA
REXT Pin Voltage	V_{REXT}	$V_{OUT}=10\text{V}$		0.3		V
				0.6		V
Output Current Error		$I_{OUT}=5\sim 30\text{mA}$		± 4		%
Temperature Compensate Point	T_{CP}			140		°C

■ TYPICAL APPLICATION CIRCUIT



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