



UL26B

Advance

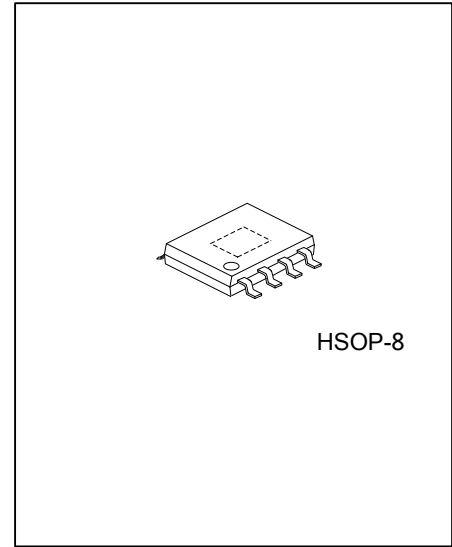
CMOS IC

LED CONTROLLER

DESCRIPTION

Featured Device, UTC **UL26B**, is a led lighting controller with innovative technology. The controller can work in high voltage.

UTC **UL26B** provides several features such as over-temperature-protection (OTP).



HSOP-8

FEATURES

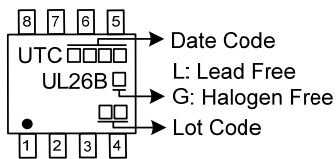
- * Input voltage 110Vac/220Vac
- * PF > 0.9
- *THD < 10%
- *OTP

ORDERING INFORMATION

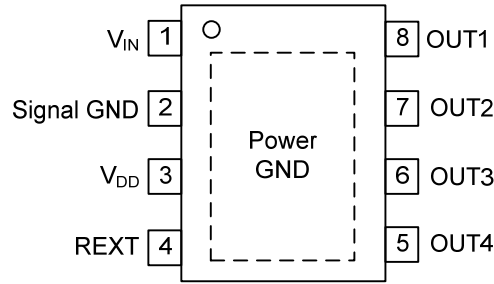
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UL26BL-SH2-R	UL26BG-SH2-R	HSOP-8	Tape Reel

<p>UL26BG-SH2-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) SH2: HSOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ PIN CONFIGURATION

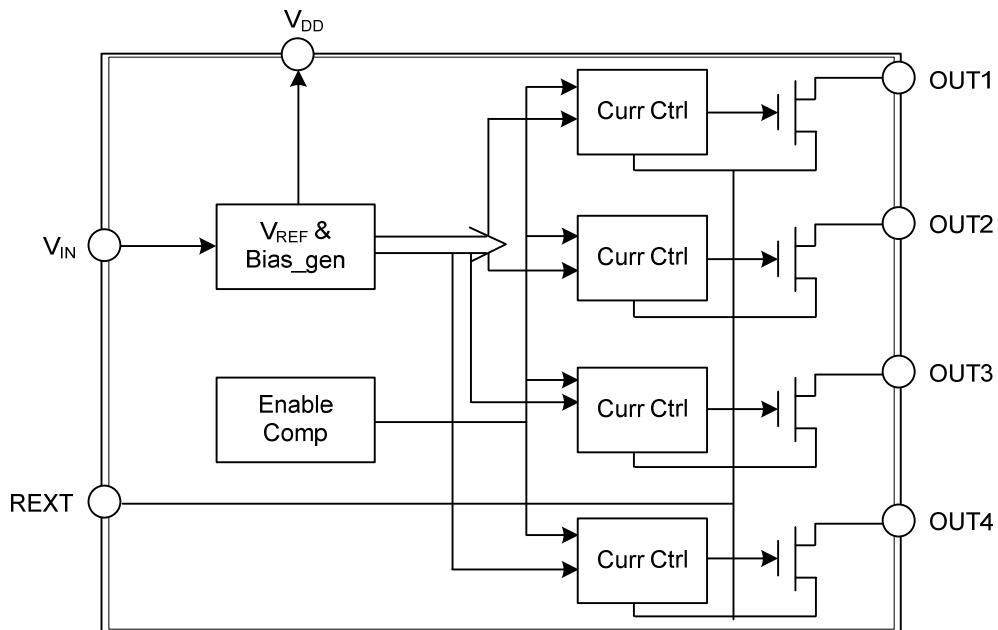


■ PIN DESCRIPTION

PIN NO.	PIN NAME	I/O (Note 1)	DESCRIPTION
1	V _{IN}	Power	Power supply
2	Signal GND	Ground	Power ground (Note 2)
3	V _{DD}	Power	Power supply
4	REXT	I	Input for controlling led currents
5	OUT4	O	Output port 4
6	OUT3	O	Output port 3
7	OUT2	O	Output port 2
8	OUT1	O	Output port 1

Notes: 1. I=Input, O=Output
 2. Signal GND and power GND must be shorted.

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Voltage of output ports	V_{OUT}	-0.3 ~ 500	V
Voltage of VIN	V_{IN}	500	V
Current of output ports	I_{OUT}	1 ~ 60	mA
ESD voltage in HBM	V_{ESD}	>2	KV
Maximum Operating Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +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.

■ RECOMMENDED OPERATING RANGE

PARAMETER	SYMBOL	RATINGS	UNIT
Operation Ambient Temperature	T_A	-40 ~ +85	°C

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	°C/W
Junction to Case	θ_{JC}	10	°C/W

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply VOLTAGE						
V_{IN} Operating range	V_{IN}		10		500	V
V_{DD} voltage	V_{DD}	$V_{IN}=10V$	5.6		6.6	V
HIGH VOLTAGE						
Breakdown voltage of output ports	V_{OUT_BV}		500			V
Current of output ports	I_{OUT}				60	mA
Static current of power supply	I_{VDD}			0.4	0.5	mA
Voltage for current setting	V_{OUT1_REXT}	$V_{IN}=10V, V_{OUT1}=10V$		0.57		V
Voltage for current setting	V_{OUT2_REXT}	$V_{IN}=10V, V_{OUT2}=10V$		0.74		V
Voltage for current setting	V_{OUT3_REXT}	$V_{IN}=10V, V_{OUT3}=10V$		0.88		V
Voltage for current setting	V_{OUT4_REXT}	$V_{IN}=10V, V_{OUT4}=10V$		0.96		V
Variation of output currents	D_I_{OUT}			+/- 5		%
PROTECTION						
Temperature starting OTP	T_{OTP}			110		°C

■ FUNCTIONAL DESCRIPTION

Refer to both the Block Diagram in Figure 1 and a reference design circuit in Figure 4 for the following discussions. All parameters mentioned below are typical values.

UL26B is a linear led lighting controller with low THD and high PF.

Output currents Setting

The chip output current is adjustable by REXT resistor $I_{OUT}=V_{REXT}/R$. Output current generated by four switches opening one by one is shown below:

$$I_{OUT1}=0.57V/R$$

$$I_{OUT2}=0.74V/R$$

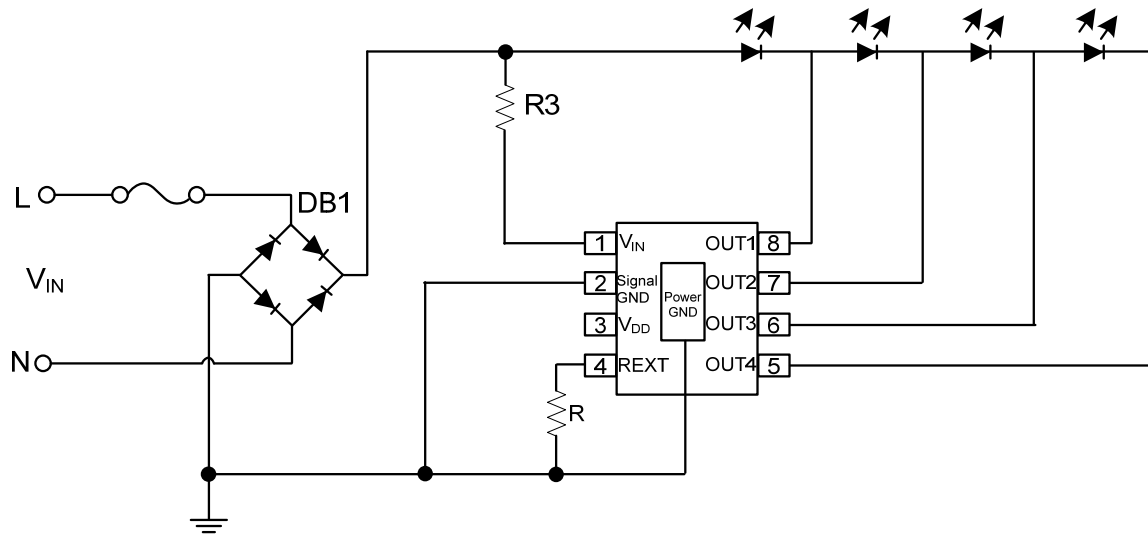
$$I_{OUT3}=0.88V/R$$

$$I_{OUT4}=0.96V/R$$

OTP

Over-temperature-protection is included in chip. When temperature of PN junction is over the pre-set value OTP starts. Output currents are reduced and power dissipation is also reduced.

■ TYPICAL APPLICATION CIRCUIT



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