



UU6043B

Preliminary

LINEAR INTEGRATED CIRCUIT

FLASHER IC WITH 18mΩ SHUNT

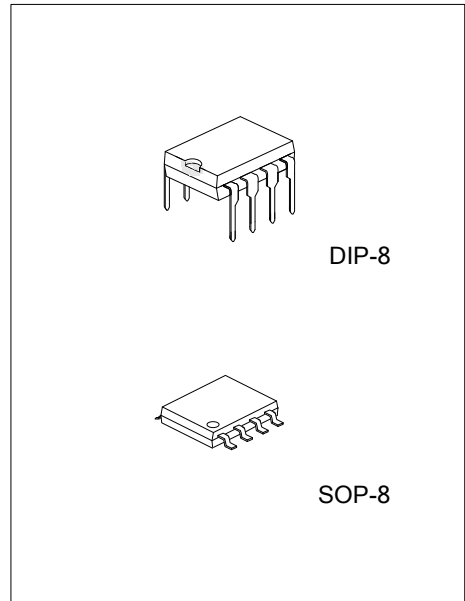
■ **DESCRIPTION**

The UTC **UU6043B** is a microconductor integrated circuit designed for relay-controlled automotive flashers where a high level EMC is required.

Lamp outage is indicated by frequency doubling during hazard warning as well as direction mode.

■ **FEATURES**

- * Temperature and supply voltage compensated frequency
- * Warning indication of lamp failure by means of frequency doubling
- * Relay driver output with high current carrying capacity and low saturation output
- * Minimum lamp load for flasher operation: $\geq 1\text{ W}$
- * Very low susceptibility to EMI



■ **ORDERING INFORMATION**

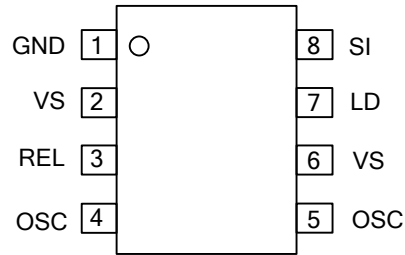
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UU6043BL-D08-T	UU6043BG-D08-T	DIP-8	Tube
-	UU6043BG-S08-R	SOP-8	Tape Reel

<p>UU6043BL-D08-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) D08: DIP-8, S08: SOP-8 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ **MARKING**

DIP-8	SOP-8

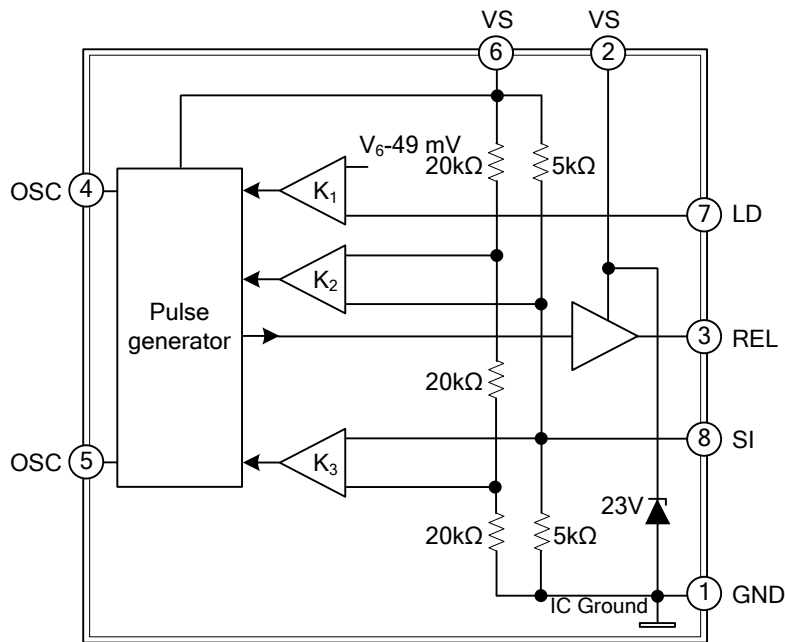
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	GND	IC ground
2	VS	Supply voltage
3	REL	Relay driver
4	OSC	C ₁ Oscillator
5	OSC	R ₁ Oscillator
6	VS	Supply voltage, Sense
7	LD	Lamp outage detection
8	SI	Start input (49a)

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

Reference point Pin 1

PARAMETER		SYMBOL	RATINGS	UNIT	
Supply Voltage		Pin 2 and 6	V_S	16.5	V
Surge Forward Current	$t_p = 0.1 \text{ ms}$	Pin 2 and 6	I_{FSM}	1.5	A
	$t_p = 300 \text{ ms}$	Pin 2 and 6		1.0	A
	$t_p = 300 \text{ ms}$	Pin 8		50	mA
Output Current		Pin 3	I_O	0.3	A
Power Dissipation	$T_A = 95^\circ\text{C}$		P_D	340	mW
	$T_A = 60^\circ\text{C}$			560	mW
Ambient Temperature Range			T_A	-40~+95	$^\circ\text{C}$
Junction Temperature Range			T_J	150	$^\circ\text{C}$
Storage Temperature Range			T_{STG}	-55~+150	$^\circ\text{C}$

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.

■ THERMAL DATA

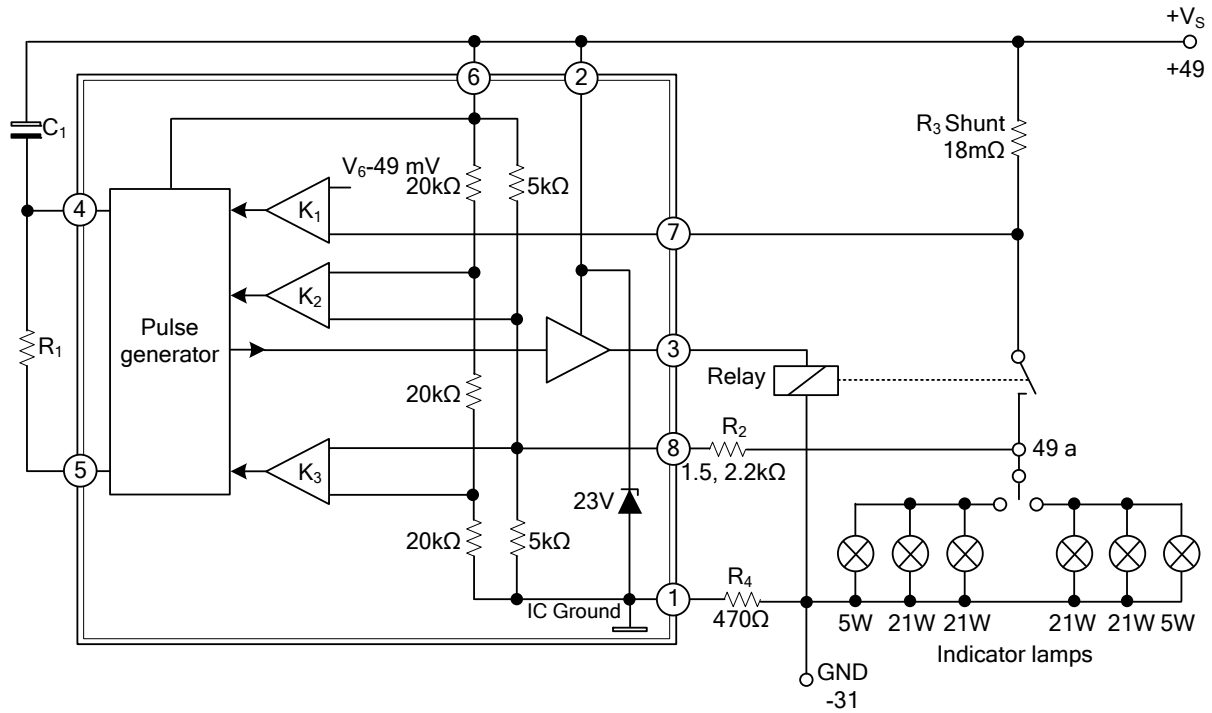
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient (Note)	DIP-8	θ_{JA}	110	$^\circ\text{C/W}$
	SOP-8		160	

■ ELECTRICAL CHARACTERISTICS

Typical values under normal operation in application circuit (see Figure 1), $V_S (+49, \text{Pin 2 and 6}) = 12\text{V}$. Reference point ground (-31), $T_A = 25^\circ\text{C}$, unless otherwise specified.

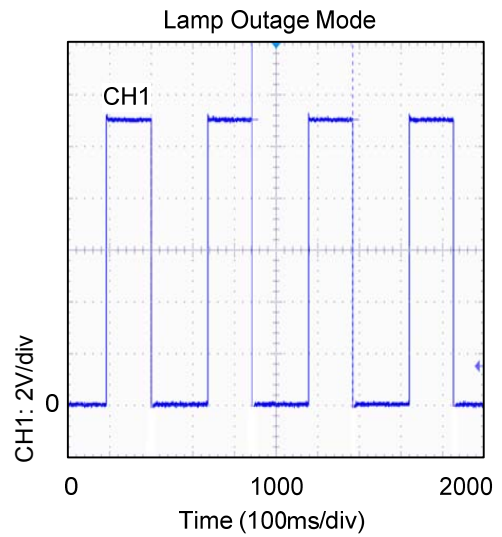
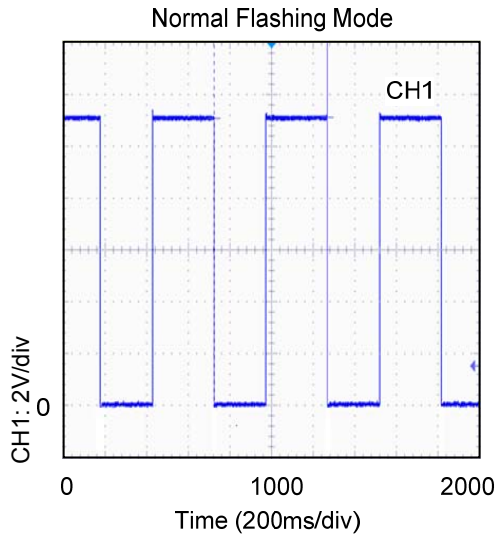
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage Range	V_S	Pin 2 and 6	9		15	V
Supply Current	I_S	Dark phase, Pin 2 and 6		4.5	8	mA
		Bright phase, Pin 2 and 6		7.0	11	mA
Relay Control Output:	V_O	Pin 3			1.0	V
Saturation Voltage Reverse Current	I_O	$I_O = 150\text{mA}, V_S = 9\text{V}$			0.1	mA
Start Delay (Delay Time)	t_{on}	First bright phase			10	ms
Frequency Tolerance	Δf_1	Normal flashing	-5		+5	%
Bright Period	Δf_1	Basic frequency f_1		60		%
	Δf_2	Control frequency f_2		46		%
Frequency Increase	f_2	Lamp outage		$1.8 \times f_1$		Hz
Control Signal Threshold	V_{RS}	$V_S = 15\text{V}, \text{Pin 7}$	50	53	57	mV
		$V_S = 9\text{V}, \text{Pin 7}$	43	45	47	mV
		$V_S = 12\text{V}, \text{Pin 7}$	47	49	51	mV
Leakage Resistance	R_P	49A to GND		4	5	k Ω
Lamp Load	P_L		1			W

■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS

$V_{CC}=12V$, $C_1=47\mu F$, $R_1=6.8K$, $T_A=25^\circ C$



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