

# UTC A2804 LINEAR INTEGRATED CIRCUIT

## ZERO VOLTAGE SWITCH

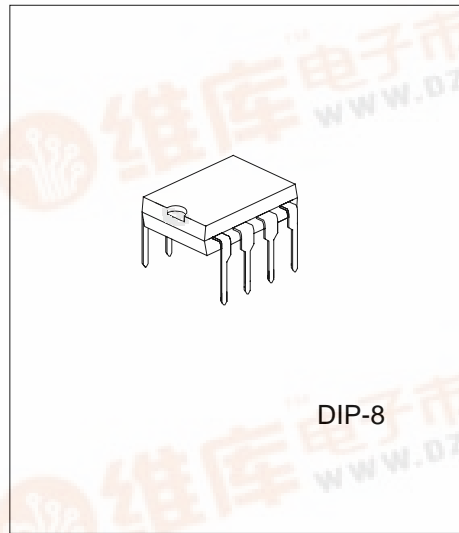
### DESCRIPTION

The UTC A2804 is a TRIAC controller providing a complete solution for temperature controlled electric panel heaters, cookers, film processing baths etc.

Switching occurs at the zero voltage point in order to minimize radio frequency interference. The device is suitable for mains-on-line operation and requires minimal components.

### FEATURES

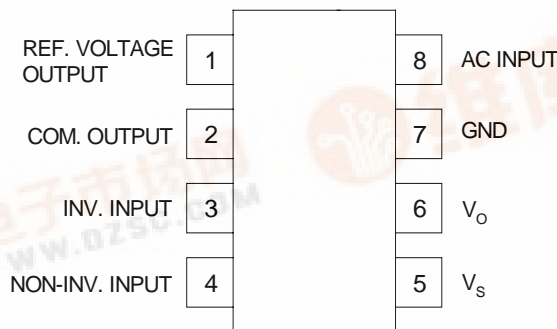
- \*Easy operation either through the AC line or a DC supply.
- \*Supply voltage control.
- \*Very few external components.
- \*Symmetrical burst control-No DC current components in the load circuit
- \*Negative output current pulse up to 250mA-short circuit protection.
- \*Reference voltage output



DIP-8

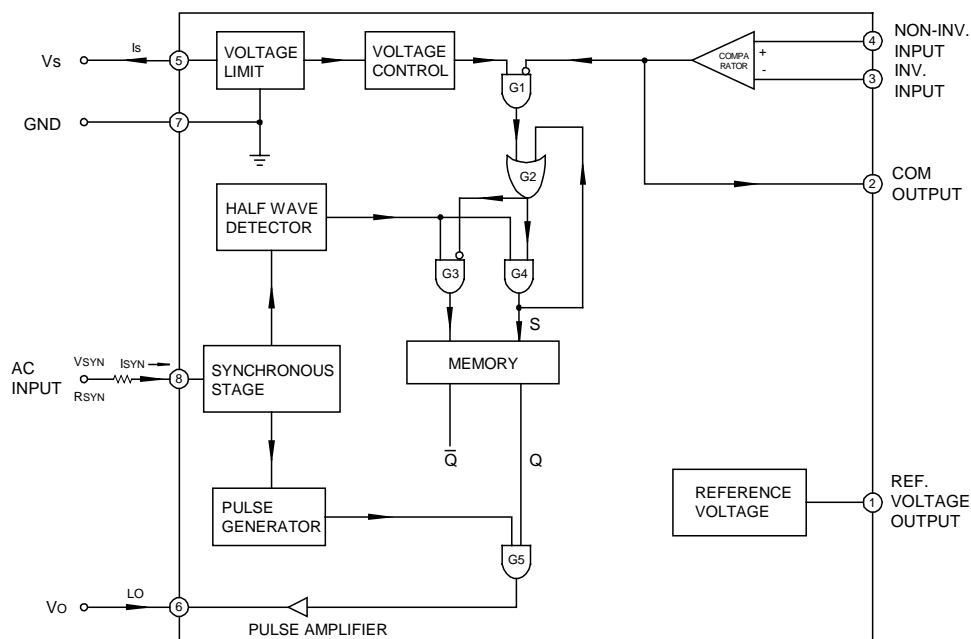
\*Pb-free plating product number: A2804L

### PIN CONFIGURATION



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## BLOCK DIAGRAM



## ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	-Vs	8.2	V
Supply Current	-Is	40(average)	mA
Synchronous Current	ISYN	5.0(rms)	mA
Input Voltage	Vi	Vs	V
Power Dissipation	Pd	350	mW
Junction Temperature	Tj	125	°C
Operating Ambient Temperature	Topr	-20 ~ +70	°C
Storage Temperature	Tstg	-65 ~ +150	°C

## ELECTRICAL CHARACTERISTICS

(Vs=8.0V, VSYN=100 ~ 115Vrms, Ta=25 °C, f=50/60Hz, unless otherwise specified)

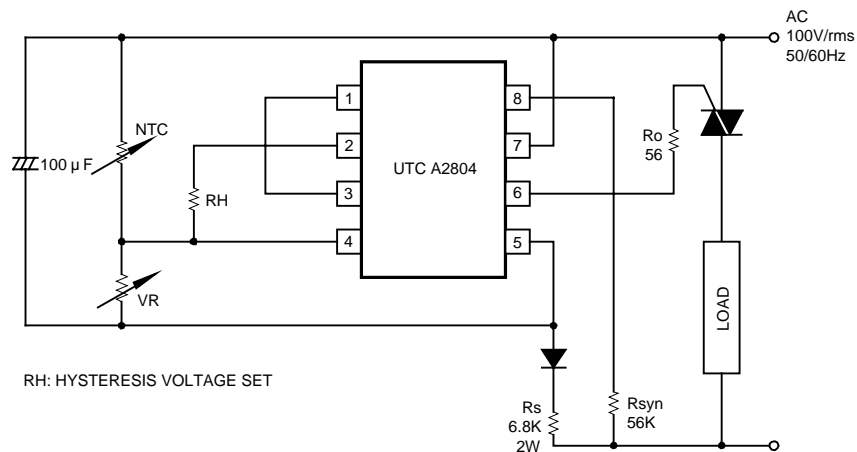
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Circuit Current	-Is	Pin5, RSYN=56K		2.0	2.5	mA
Supply Voltage 1	-Vs1	Pin5, Is=2.5mA RSYN=56K	7.2		8.4	V
Supply Voltage 2	-Vs2	Pin5, Is=20mA RSYN=56K	7.2		8.6	V
Synchronous Current	ISYN	Pin8	0.3			mA
Output Pulse Width	TP	Pin6, RSYN=56K		200		μs
Output Voltage	Vo	Pin6, Io 200mA	4.2	5.2		V

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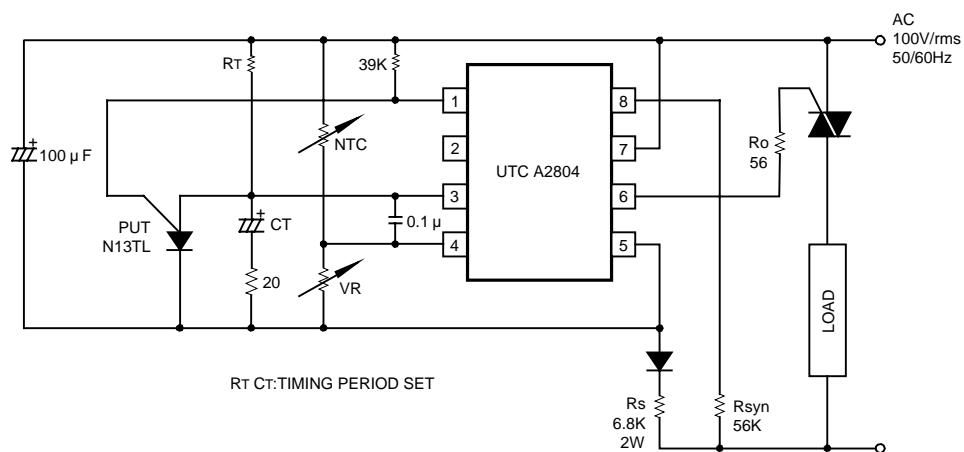
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Current	$I_o$	Pin6, $R_o$ 25	200	250		mA
Output Offset Voltage	$I_{LO}$	Pin6			2.0	$\mu A$
Input Offset Voltage	$V_{IO}$	Pin3, 4		2.0	5.0	mV
Input Bias Current	$I_i$	Pin3, 4		0.5	1.0	$\mu A$
Common Mode Input Voltage Range	$-V_{ICM}$	Pin3, 4	0		5.7	V
Output Leakage Current	$I_{LC}$	Pin2			0.2	$\mu A$
Reference Voltage	$-V_R$	Pin1, $I_R$ 1 $\mu A$		3.6		V

## APPLICATIONS

### ON-OFF TEMPERATURE CONTROL



### TIME PROPORTIONAL TEMPERATURE CONTROL



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