

**Features**

- Defrost mode for frozen bread
- Reheat mode
- Operating voltage: 3.5~5.5V
- Few external components
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. “Green” Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/contact-us) or your local Diodes representative.
- <https://www.diodes.com/quality/product-definitions/>
- Packaging (Pb-free & Green):
  - 8-DIP (P)

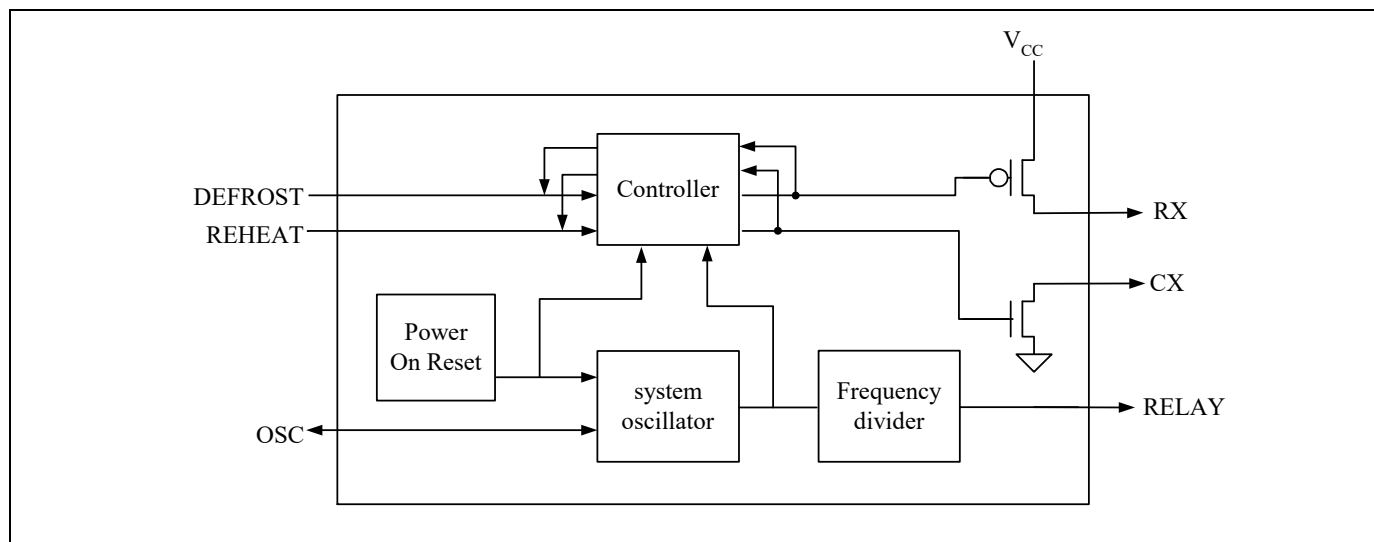
**Description**

The DIODES PT8A2511 is a CMOS LSI chip designed for toaster. Besides normal heating, it also provides defrost and reheat work modes. It provides low cost solution for toaster.

**Application(s)**

- Toaster

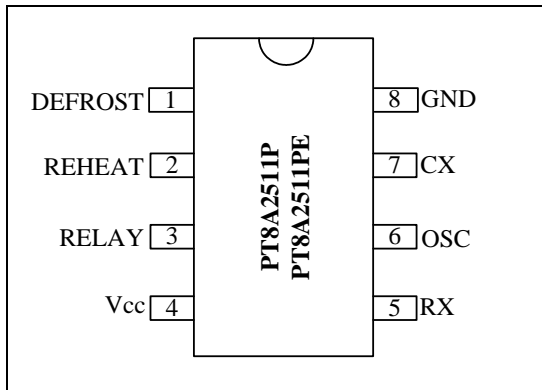
**Block Diagram**



Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Pin Configuration



(Top View)

## Pin Description

Name	Pin No.	Type	Description
DEFROST	1	I/O	As input, requires a negative pulse to active "Defrost" function. As output, gives a "Defrost" function indicator
REHEAT	2	I/O	As input, requires a negative pulse to active "Reheat" function. As output, gives a "Reheat" function indicator
RELAY	3	O	RELAY drive output. High active.
Vcc	4	-	Power supply
RX	5	O	Shorts to VCC once an active negative pulse appears at Reheat
OSC	6	I/O	Oscillator input/output, oscillator's Frequency of 1024Hz with an external R1,C1
CX	7	O	Shorts to GND once an active negative pulse appears at Defrost
GND	8	-	Power Ground

## Maximum Ratings

Storage Temperature .....	-40°C to +125°C
Supply Voltage to Ground Potential (Inputs & VCC Only).....	-0.5 to +6.5V
Supply Voltage to Ground Potential (Outputs & D/O Only) .....	-0.5 to +6.5V
DC Input Voltage.....	-0.5 to +6.5V
DC Output Current .....	20mA
Power Dissipation .....	500mW
Junction Temperature .....	125°C max

**Note:**

Stresses greater than those listed under MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

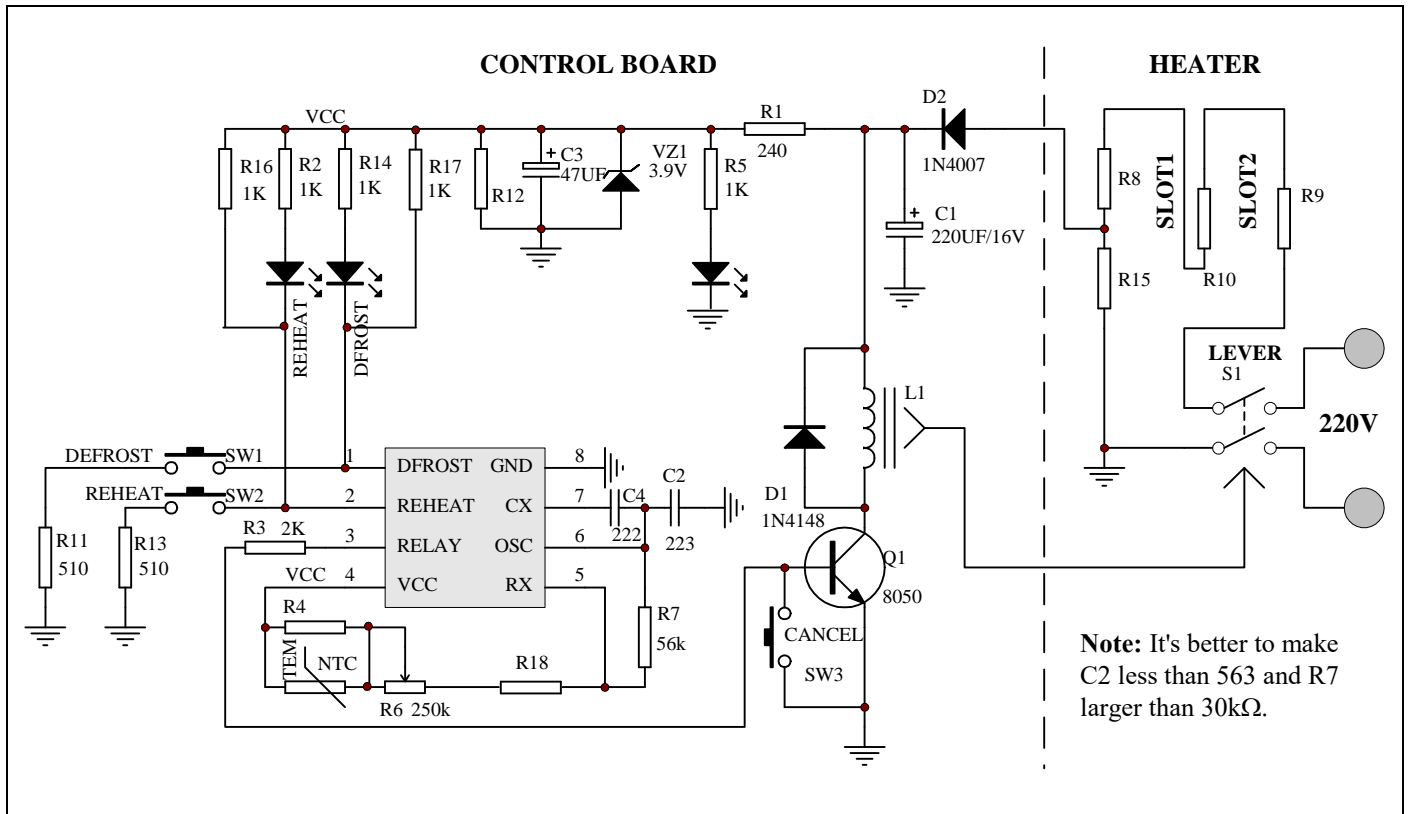
## Recommended Operation Conditions

Symbol	Description	Min	Type	Max	Unit
T <sub>A</sub>	Operation Temperature	0	25	+85	°C
V <sub>CC</sub>	Supply voltage	3.5	4.0	5.5	V
V <sub>IH</sub>	Input High Voltage	0.8V <sub>CC</sub>	-	0	V
V <sub>IL</sub>	Input Low Voltage	0	-	0.35V <sub>CC</sub>	V

## Electrical Characteristics (T<sub>A</sub> = 0 ~ 85°C, unless otherwise noted)

Symbol	Description	Test Conditions	Min	Type	Max	Unit
V <sub>IL</sub>	Input High Voltage	PIN: DEFROST, REHEAT V <sub>CC</sub> =4.0V	-	-	2.0	V
I <sub>OH</sub>	Output Source Current	PIN: DEFROST, REHEAT V <sub>CC</sub> =3.5V V <sub>OH</sub> =3.0V	-2.0	-	-	mA
I <sub>OL</sub>	Output Sink Current	PIN: DEFROST, REHEAT V <sub>CC</sub> =3.5V V <sub>OL</sub> =0.5V	4	-	-	mA
I <sub>OH</sub>	Output Source Current	PIN: RELAY V <sub>CC</sub> =3.5V V <sub>OH</sub> =2.0V	-15	-	-	mA
I <sub>OL</sub>	Output Sink Current	PIN: RELAY V <sub>CC</sub> =3.5V V <sub>OL</sub> =0.5V	0.5	-	-	mA
I <sub>IH</sub>	Input High Leakage Current	- V <sub>CC</sub> =4.0V V <sub>IH</sub> =3.5V	-	-	-1	μA
I <sub>IL</sub>	Input Low Leakage Current	- V <sub>CC</sub> =4.0V V <sub>IL</sub> =0.5V	-	-	1	μA
OSC	Frequency of normal oscillator	V <sub>CC</sub> =4.0V, R1=56kΩ, C1=223	952	1024	1096	Hz
I <sub>CC</sub>	Power supply Current	V <sub>CC</sub> =4.0V, R1=56kΩ, C1=223, all output floating	-	-	100	μA

**Application Circuit**



**Part Marking**

PT8A  
2511PE  
XYYWWJW

XYYWW: Die Rev/Year and Workweek of mold operation  
J: Assembly Site Code  
W: Wafer Fab Site Code

**Packaging Mechanical**

**8-DIP- (P)**

PKG. DIMENSIONS(MM)		
SYMBOL	Min	Max
A	3.71	4.31
A1	0.51	
A2	3.20	3.60
B	0.38	0.57
B1	1.52 BSC	
c	0.20	0.36
D	9.00	9.40
E	6.20	6.60
E1	7.32	7.92
e	2.54 BSC	
L	3.00	3.60
E2	8.40	9.00

**Notes:**  
1. Refer JEDEC MS-001D/BA

**PERICOM**  
Enabling Serial Connectivity

DATE: 06/14/13

DESCRIPTION: 8-Pin, Dual InLine Plastic, DIP

PACKAGE CODE: P (P8)

DOCUMENT CONTROL#: PD-2134

REVISION: --

13-0173

For latest package info.

please check: <http://www.diodes.com/design/support/packaging/pericom-packaging/packaging-mechanicals-and-thermal-characteristics/>

**Ordering Information**

Part Number	Package Code	Package Description
PT8A2511PEX	P	8-pin, Dual InLine Plastic (DIP)

**Notes:**

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- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- E = Pb-free and Green
- X suffix = Tape/Reel

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