BCT5511 Toaster Controller

General

BCT5511 is designed for toaster applications. It is basically a timer, setting by external RC components, to stop heating of toaster. Besides normal timer, it also has defrost and reheat functions. It is built in oscillation detecting circuitry. If the oscillation of the IC is not working, the toaster will not start working. It also has the function of timing protection, If the IC is switched on over 300s, The IC will stop the heating for safety. It provides low cost solution for toaster.

Features

- Operating voltage: 4.0~5.5V
- A few external components
- Zener is built in
- Switch transistor is built in
- Oscillation abnormal detection

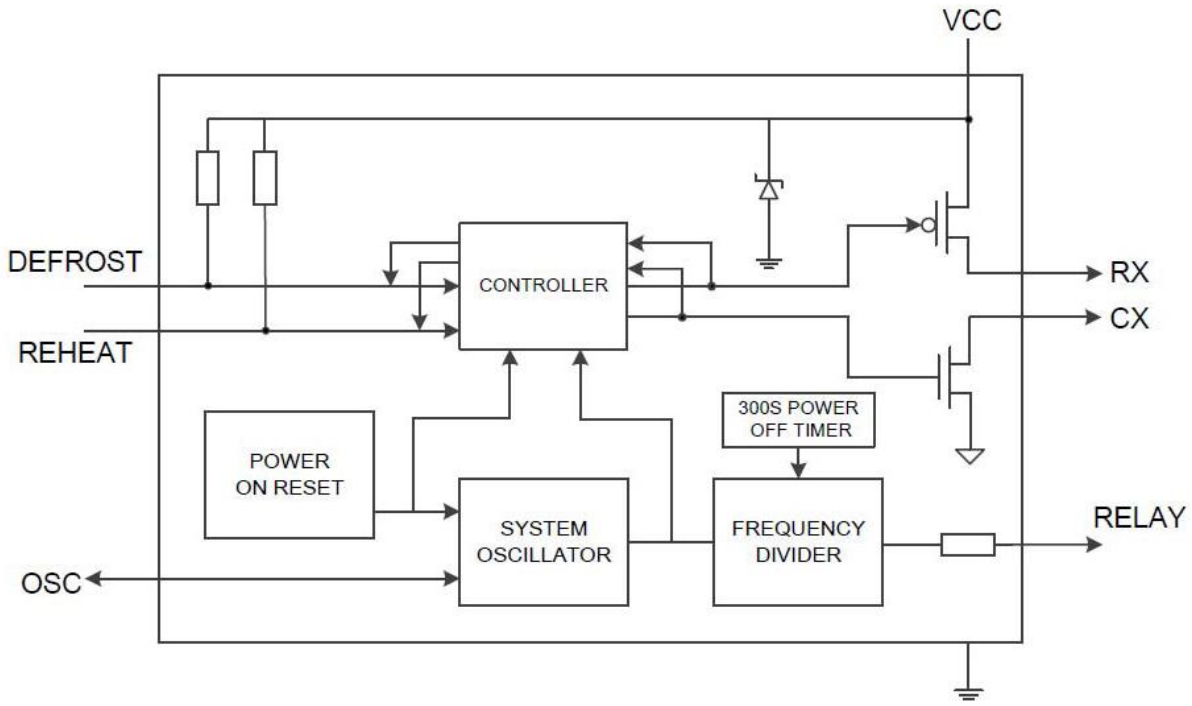
Applications

- Toaster

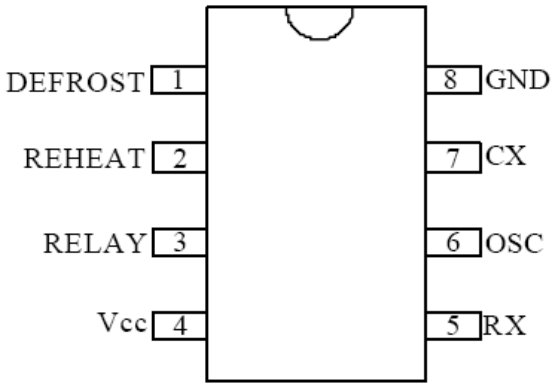
Ordering Information

Part Number	Package
BCT5511PE	8 - Pin PDIP
BCT5511WE	8 - Pin SOP

Block Diagram



Pin Assignment



Pin Description

Pin	Name	Type	Description
1	DEFROST	I/O	As input, requires a low pulse to active "Defrost" function. As output, gives a "Defrost" function indication
2	REHEAT	I/O	As input, requires a low pulse to active "Defrost" function. As output, gives a "Defrost" function indication
3	RELAY	O	RELAY drive output. High active
4	VCC	P	Power supply
5	RX	O	Will be high, once an active low pulse appears at Reheat
6	OSC	I/O	Oscillator input/output, frequency depends on external RC
7	CX	O	Shorts to GND once an active when low pulse appears at Defrost
8	GND	P	Ground

Recommended Operation Conditions

Symbol	Description	Min	Typ	Max	Units
VCC	Supply Voltage	4.0	5.0	5.5	V
VIH	Input High Voltage	0.8VCC	-	-	V
VIL	Input Low Voltage	0	-	0.35VCC	V
TA	Operation Temperature	0	25	85	℃

Electrical Characteristics

(T_A = 0 ~ 85℃)

Symbol	Parameter	Test Condition		Min	Typ	Max	Units
		VCC	Condition				
VIL	Input Low Voltage (DEFROST, REHEAT)	4V	-	-	-	2.0	V
IOH	Output Source Current (DEFROST, REHEAT)	4V	VOH=3.0V	-0.25	-	-	mA
IOL	Output Sink Current (DEFROST, REHEAT)	4V	VOL=0.5V	3	-	-	mA
IOH	Output Source Current (RELAY)	4V	VOH=2.0V	-1	-	-	mA
IOL	Output Sink Current (RELAY)	4V	VOL=0.5V	0.2	-	-	mA
I IH	Input high leakage current	4V	VIH=4.0V	-	-	-1	uA
I IL	Input low leakage current	4V	VIL=0.5V	-	-	1	uA
OSC	Frequency of normal oscillator	4V	R7=56k,C2=223	952	1024	1096	Hz
ICC	Power supply current	4V	VCC=4V,R1=56 k,C1=223,all output floating	-	-	100	uA

ABSOLUTE MAXIMUM RATINGS(1)

Supply Voltage VCC.....–0.5V to + 6V

DC Switch Voltage (VS).....–0.5V to VCC +0.5V

DC Input Voltage (VIN).....–0.5V to + 6V

Storage Temperature Range (TSTG) ..... –65°C to +150°C

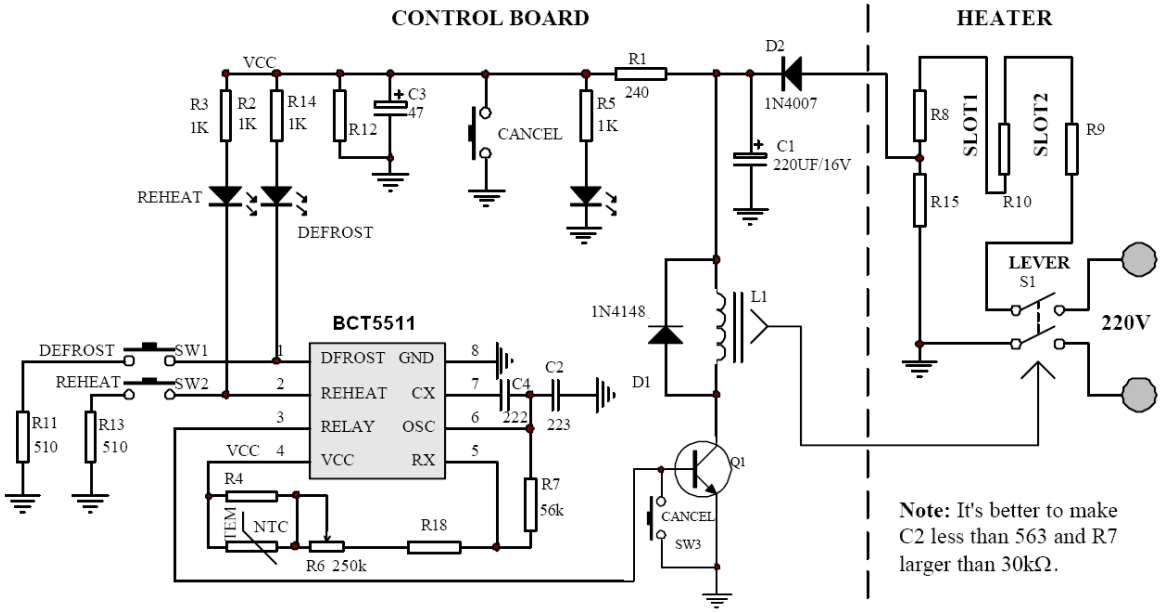
Junction Temperature under Bias (TJ) .....+150°C

Junction Lead Temperature (TL) (Soldering, 10 seconds) ..... 260°C

Power Dissipation (PD) @ +85°C 180mW

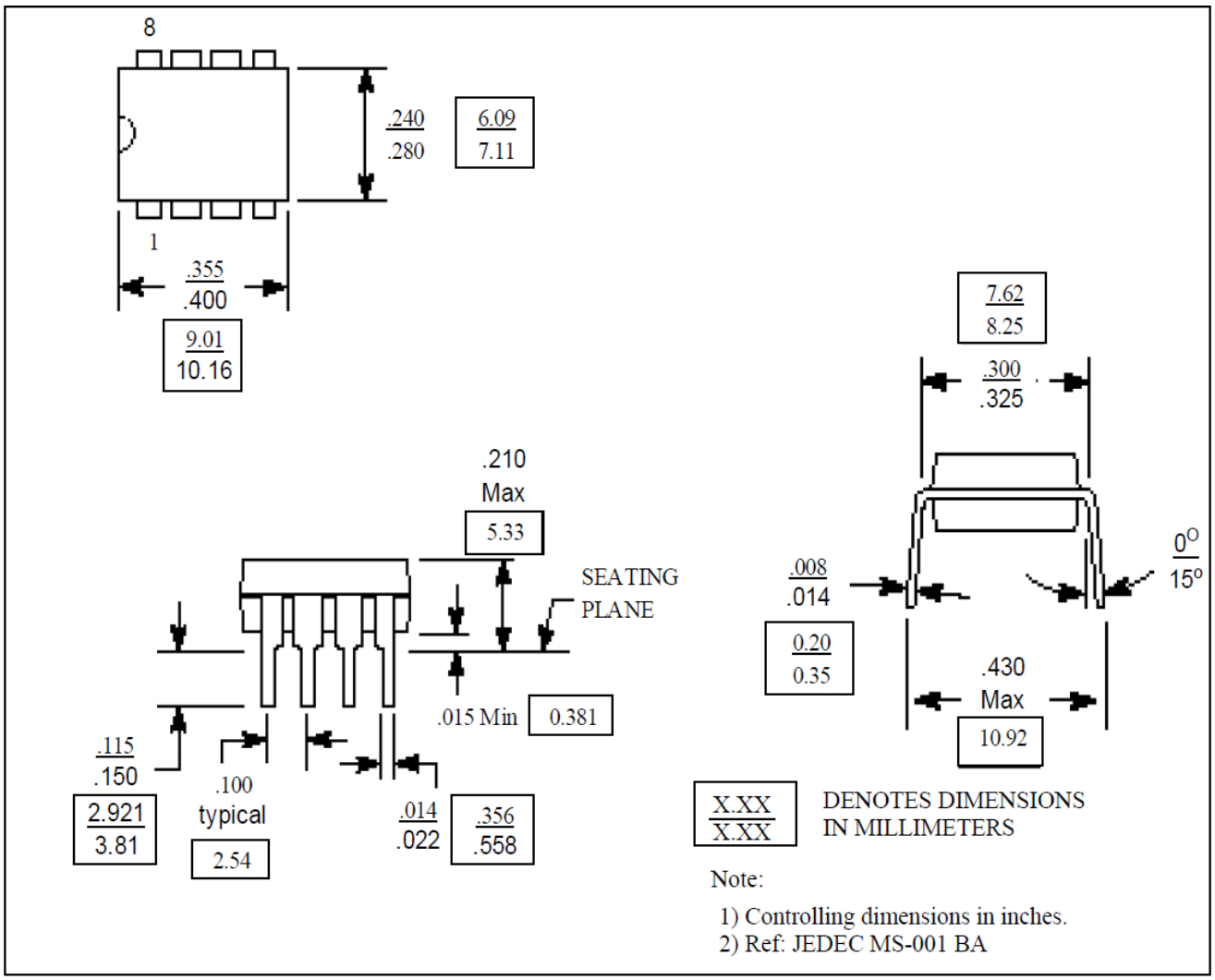
Note 1: Absolute Maximum Ratings may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions beyond those indicated in the operational sections of this specification is not implied.

Application Circuit



Package Information

PE(DIP-8)



Note:

1) Controlling dimensions in inches.
2) Ref: JEDEC MS-001 BA

WE(SOIC-8)