

PT8A2544/PT8A2545 Universal Timer Application Note

Introduction

PT8A2544/PT8A2545 is a mixed signal CMOS IC designed for a fixed timer to drive RELAY to implement safety power control. It supports 120V/240V and 50/60Hz AC power supply. The device automatically shuts off load in order to prevent undesired condition of the system. Internal timer is capable of several timer settings, such as 15 minutes, 30 minutes, 45 minutes, 1 hour, 1.5 hours, 2 hours, etc.

Figure 1 shows a typical application diagram for 120V/60Hz power supply application, where U1 is the control IC PT8A2544/PT8A2545. Adjusting the TS0/1/2 input voltage level will result with different timer-out values.

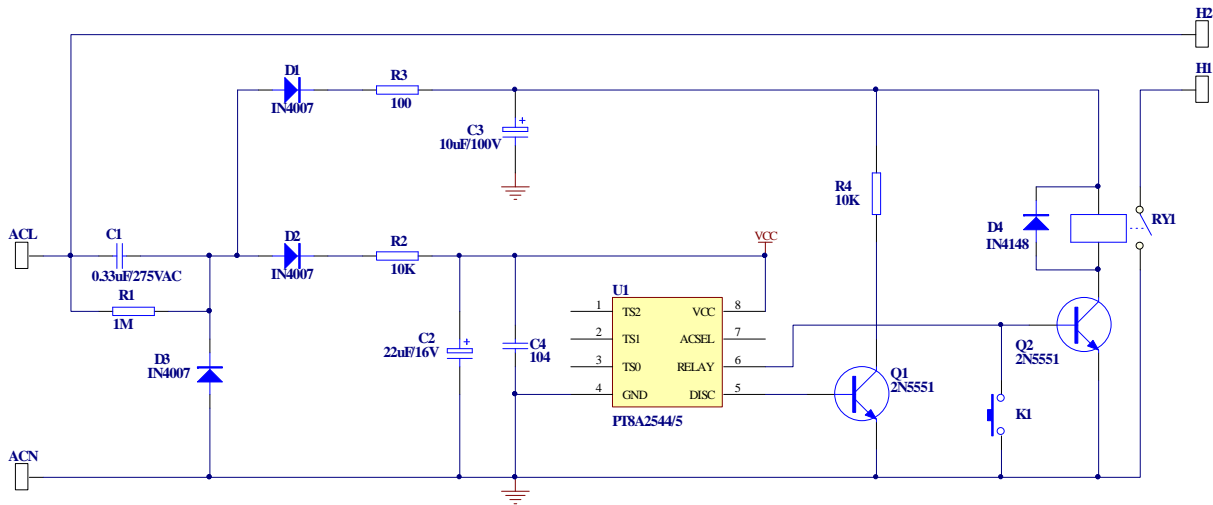


Figure 1: PT8A2544/PT8A2545 application diagram for 120V/60Hz

Figure 2 shows a typical application diagram for 240V/50Hz power supply application, where U1 is the control IC PT8A2544/PT8A2545. Adjusting the TS0/1/2 input voltage level will result with different timer-out values.

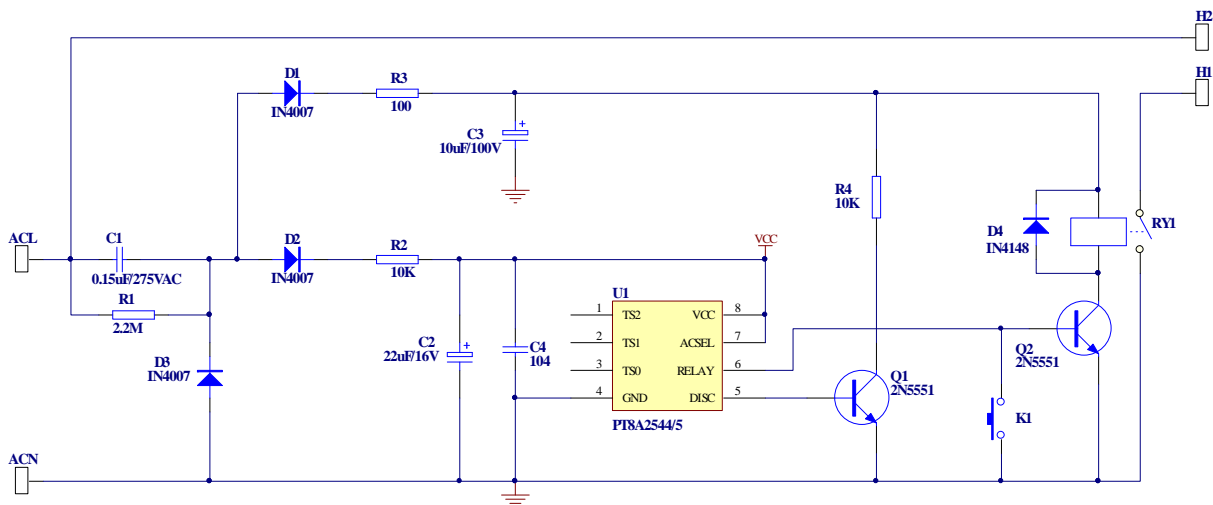


Figure 2: PT8A2544/PT8A2545 application diagram for 240V/50Hz

TS0/TS1/TS2 for Timer

Table 1: timer time out

	Timer time out							
	15min	30min	45min	1hour	90min	2hour	4hour	8hour
TS2	GND	GND	GND	GND	VCC	VCC	VCC	VCC
TS1	GND	GND	VCC	VCC	GND	GND	VCC	VCC
TS0	GND	VCC	GND	VCC	GND	VCC	GND	VCC

Note1: ACSEL pin is for 50/60Hz selection, default 60Hz by internal pull down, connecting to VCC will select 50Hz.

Note2: TS2 internal pull down, TS1 & TS0 internal pull up. The default timer is 60 minutes.

K1 function for Timer

Table 2: K1 function list

IC Part Number	Press K1 less than 1sec in normal mode	Press K1 over 3sec once power on
PT8A2544	Reset	QTM (quick test mode)
PT8A2545	On/Off	

Note3: IC will sample the button's operation during first 100ms after power on. If the button K1 is pressed over 3sec just after power on, chip will enter quick test mode as soon as the button K1 is released.

QTM mode for Timer

Table 3: QTM mode timer out

Real timer out	15min	30min	45min	1hour	90min	2hour	4hour	8hour
Timer in QTM mode	2sec	4sec	6sec	8sec	10sec	12sec	14sec	16sec

Quiescent Dissipation

Table4: Quiescent dissipation

Power Supply	Quiescent dissipation
240V/50Hz	0.25W
120V/60Hz	0.25W