

Circuit description

1. AC power source/EMI filter

Including C0,L7,C1,C2---C3,when the unit operation ,it may cause unstable on the AC source , and some of magnetic field may influence other electric appliance , the CKT will minimize this effect , and R3 is the discharge resistor while remove the AC power cord , it can prevent electric shock.

2.DC power supply

Transfer the 208-230VAC to a lower AC voltage (T1) and use D3,D5---D9 and some capacitor to get a stable DC voltage , this is for FANS , and other control CKT.

3.Heating coil, H.V switching circuit

With IGBT (Q1) and C1 for current switching and driving the heating coil (20---30KHz) to produce the magnetic flux for heating the pot (pan) above the heating coil.

4.Maximum current detector

Compare with Q1's emitter and U4 to control the maximum current.

5.Current limit

Compare with the voltage for U2B and U2A to control the U1 to limiting the current.

6.Clock CKT (120Hz)

Use the AC source to get the 120Hz pulse for zero cross operation.

7.Under ACV Protector

Avoid the lower AC voltage may cause unstable operation .

8.Fan delay control CKT

For minimize the inner temperature while turn off the unit (AC power cord plug still remain on the wall-let).

9.High voltage protection CKT

While remove the pan (pot) or any AC noise occurred , it may cause over voltage (H.V) on the collector pin of the IGBT (Q1) , this CKT will minimize the voltage to protect Q1.

10.Control CKT

Including P/F controller and op's , oscillator , softstart , Zero cross , comparators , over voltage protect---etc.

11.Temperature detector

With a NTC of the heating coil and CPU , comparing with voltage difference to keep the constant temperature for setting , (warm , heat) including the maximum temperature of the protection (for cookware , heating coil).

12.CPU Unit

To control the function for power , temperature setting , display , interface operation---etc.