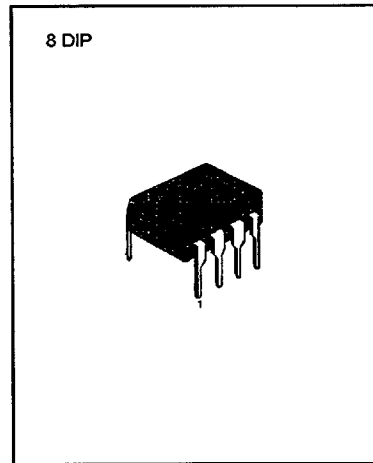


EARTH LEAKAGE DETECTOR

KA2807 is a IC for ground fault circuit interrupters which are intended to provide electrical shock hazard protection from line-to-ground fault currents on grounded circuits of 120V supplies.

FEATURES

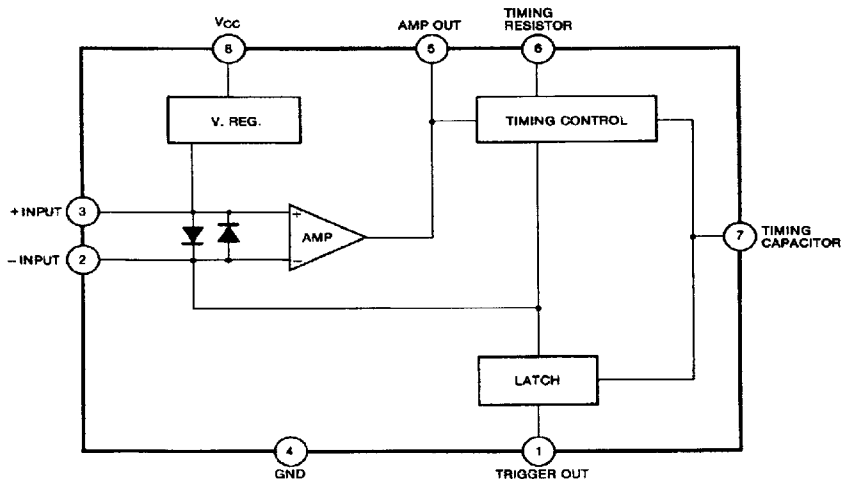
- Full Advantage Of The UL943
- Built-In Voltage Regulator
- Sense Coil: 1000:1
- GND/Neutral Coil: 200:1
- Normal Fault Sensitivity Current Is 5mA Typical
- Trip Time In Normal Fault And Ground Neutral Fault Is 18ms Typical
- Wide Operating Temperature Range
- Excellent ESD Characteristic
- 1mA Output Current Pulse To Trigger SCR



BLOCK DIAGRAM

ORDERING INFORMATION

| Device | Package | Operating Temperature |
|--------|---------|-----------------------|
| KA2807 | 8 DIP | -40 ~ + 70°C |



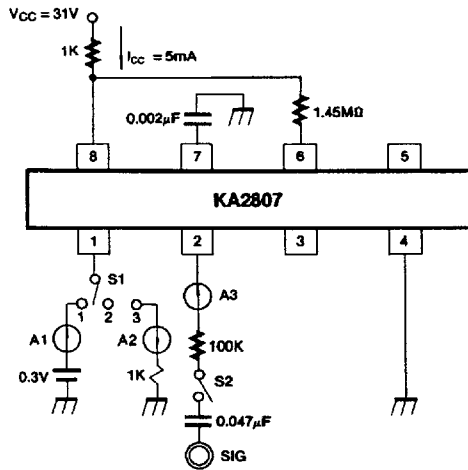
ABSOLUTE MAXIMUM RATINGS

| Characteristic | Symbol | Value | Unit |
|-----------------------------|-----------|--------------|------|
| Supply Current | I_{CC} | 19 | mA |
| Power Dissipation | P_D | 1250 | mW |
| Operating Temperature Range | T_{OPR} | - 40 ~ + 70 | °C |
| Storage Temperature Range | T_{STG} | - 55 ~ + 150 | °C |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, $I_{CC} = 5\text{mA}$)

| Characteristics | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-------------------------|-----------------|---|------|------|------|------------------|
| Shunt Regulator Voltage | V_{REG} | Pin 8, S1:2, S2:OFF | 23 | 26 | 29 | V |
| Amp Reference Voltage | V_{REF} | Pin 3, S1:2, S2:OFF | 9.5 | 10.5 | 11.5 | V |
| Amp High Output Voltage | V_{OH} | Pin 5, S1:3, S2:ON Sig: 800Hz, 3.0V _{P-P} Sinewave | 17 | 19 | 21 | V |
| Amp Low Output Voltage | V_{OL} | Pin 5, S1:3, S2:ON Sig: 800Hz, 3.0V _{P-P} Sinewave | 1.5 | 2.5 | 3.5 | V |
| Amp Sensitivity Current | I_{SEN} | Pin 2, S1:3, S2:ON Sig: 800Hz, 1.0V _{P-P} ~ 2.5V _{P-P} Sinewave | 3.5 | 5 | 6.5 | μArms |
| Latch On Voltage | $V_{ON(LATCH)}$ | Pin 7, S1:3, S2:ON Sig: 800Hz, 3.0V _{P-P} Sinewave | 16.5 | 17.5 | 19.5 | V |
| SCR Trigger Current | I_{TR} | Pin 1, S1:3, S2:ON Sig:800Hz, 3.0V _{P-P} Sinewave | 0.5 | 1 | 2.0 | mA |
| Output Low Voltage | $V_S 1$ | Pin 1, S1:2, S2:OFF | | 100 | 240 | mV |
| Output Impedance | Z_O | Pin 1, S1:2, S2:OFF | | 100 | 250 | Ω |
| Output Sink Current | I_{SINK} | Pin 1, S1:2, S2:OFF | 2.0 | 6.0 | | mA |

TEST CIRCUIT



Dimensions in Millimeters

