

KA2807

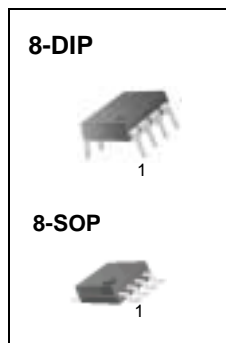
Earth Leakage Detector

Features

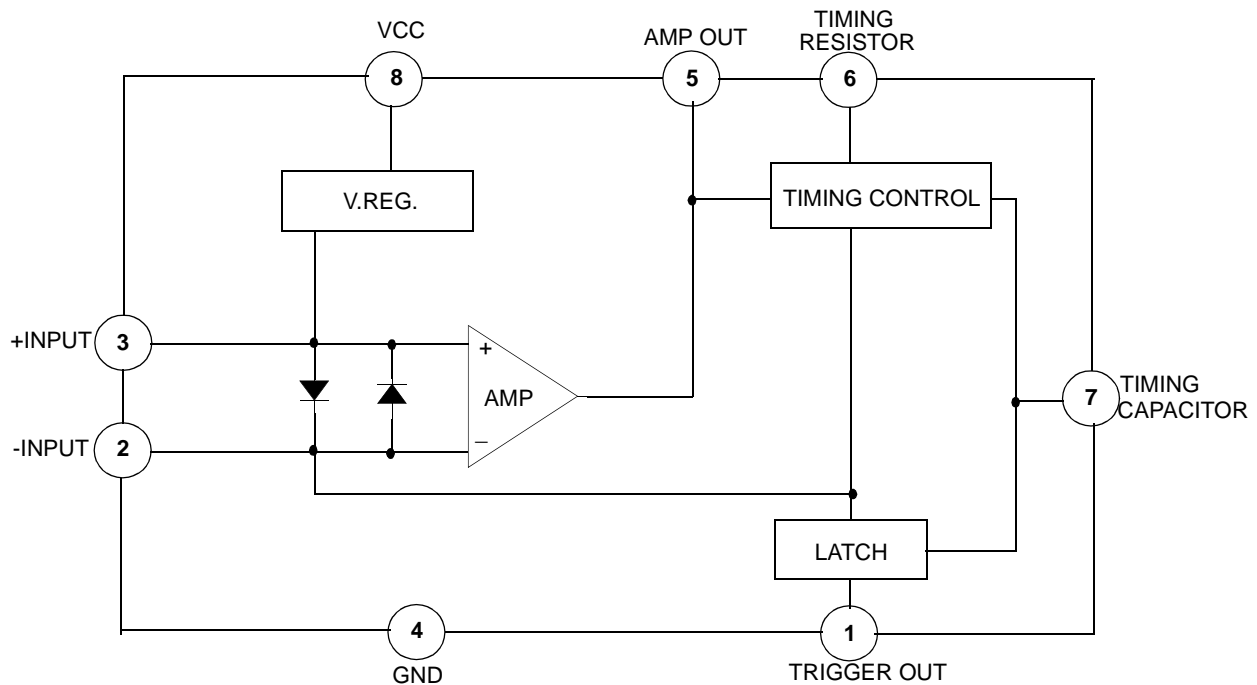
- Full Advantage of the UL943
- Built-In Voltage Regulator
- Sense Coil: 1000:1
- GND/Neutral Coil: 200:1
- Trip Time in Normal Fault and Ground Neutral Fault is 18ms Typ
- Wide Operating Temperature Range
- Excellent ESD Characteristic
- 1mA Output Current Pulse to Trigger SCR

Description

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



Internal Block Diagram



Absolute Maximum Ratings

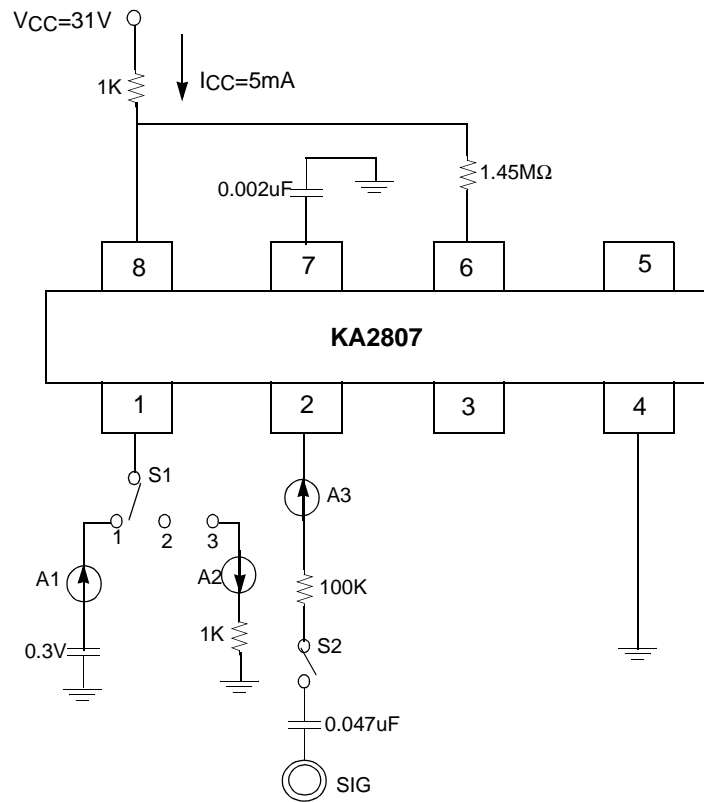
| Parameter | Symbol | Value | Unit |
|-------------------------------------|--------|--------------|------|
| Supply Current | ICC | 19 | mA |
| Power Dissipation 8-DIP 8-SOP | PD | 1.25 0.41 | W |
| Operating Temperature Range | TOPR | -40 ~ +70 | °C |
| Storage Temperature Range | TSTG | -55 ~ +150 | °C |

Electrical Characteristics

(T_A = 25°C, I_{CC} = 5mA)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|----------------|--|------|------|------|-------|
| Shunt Regulator Voltage | VREG | Pin8, S1:2, S2:OFF | 23 | 26 | 29 | V |
| Amp Reference Voltage | VREF | Pin3, S1:2, S2:OFF | 9.5 | 10.5 | 11.5 | V |
| Amp High Output Voltage | VOH | Pin5, S1:3, S2:ON Sig: 800Hz, 3.0VP-P Sinewave | 17 | 19 | 21 | V |
| Amp Low Output Voltage | VOL | Pin5, S1:3, S2:ON Sig: 800Hz, 3.0VP-P Sinewave | 1.5 | 2.5 | 3.5 | V |
| Amp Sensitivity Current | ISEN | Pin2, S1:3, S2:ON Sig: 800Hz, 1.0VP-P ~ 2.5VP-P Sinewave | 3.5 | 5 | 6.5 | μArms |
| Latch On Voltage | VON(LATCH) | Pin7, S1:3, S2:ON Sig: 800Hz, 3.0VP-P Sinewave | 16.5 | 17.5 | 19.5 | V |
| SCR Trigger Current | ITR | Pin1, S1:3, S2:ON Sig:800Hz, 3.0VP-P Sinewave | 0.5 | 1 | 2.0 | mA |
| Output Low Voltage | VS 1 | Pin1, S1:2, S2:OFF | - | 100 | 240 | mV |
| Output Impedance | Z _O | Pin1, S1:2, S2:OFF | - | 100 | 250 | Ω |
| Output Sink Current | ISINK | Pin1, S1:2, S2:OFF | 2.0 | 6.0 | - | mA |

Test Circuit

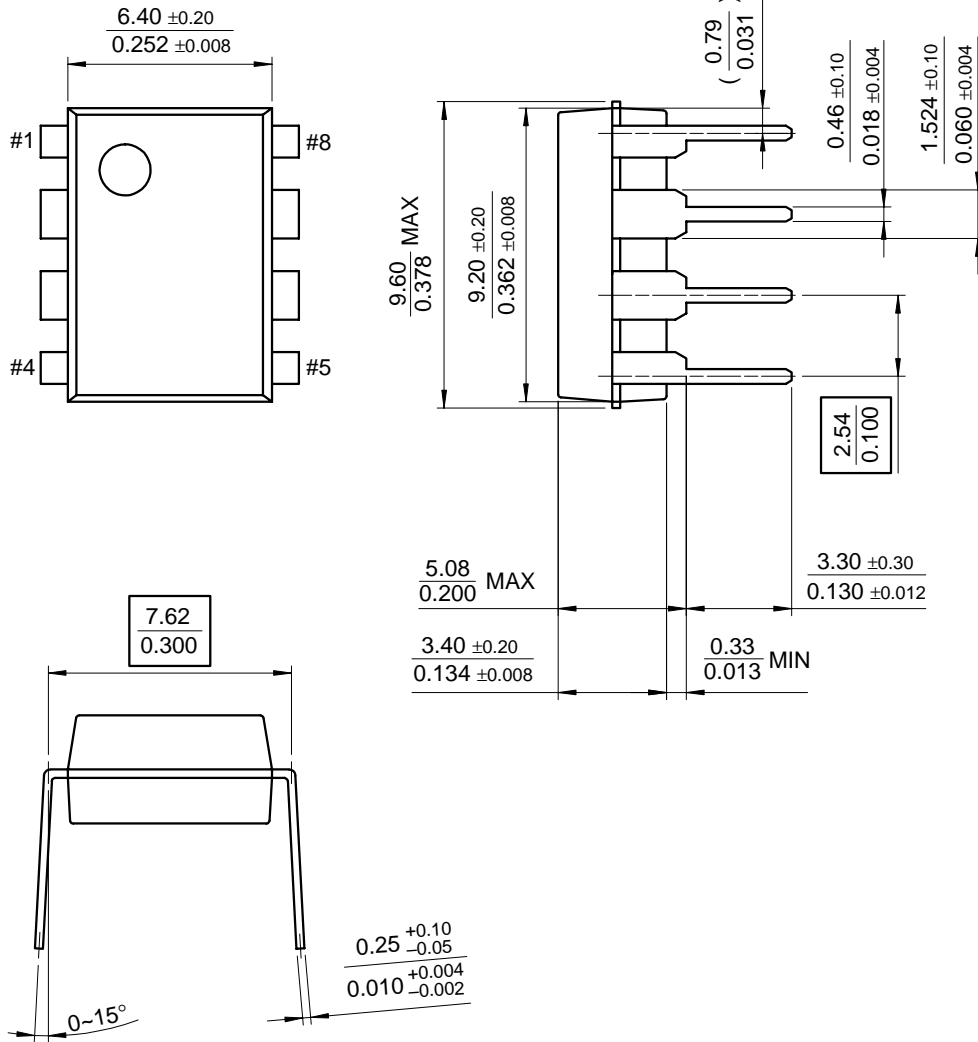


Mechanical Dimensions

Package

Dimensions in millimeters

8-DIP

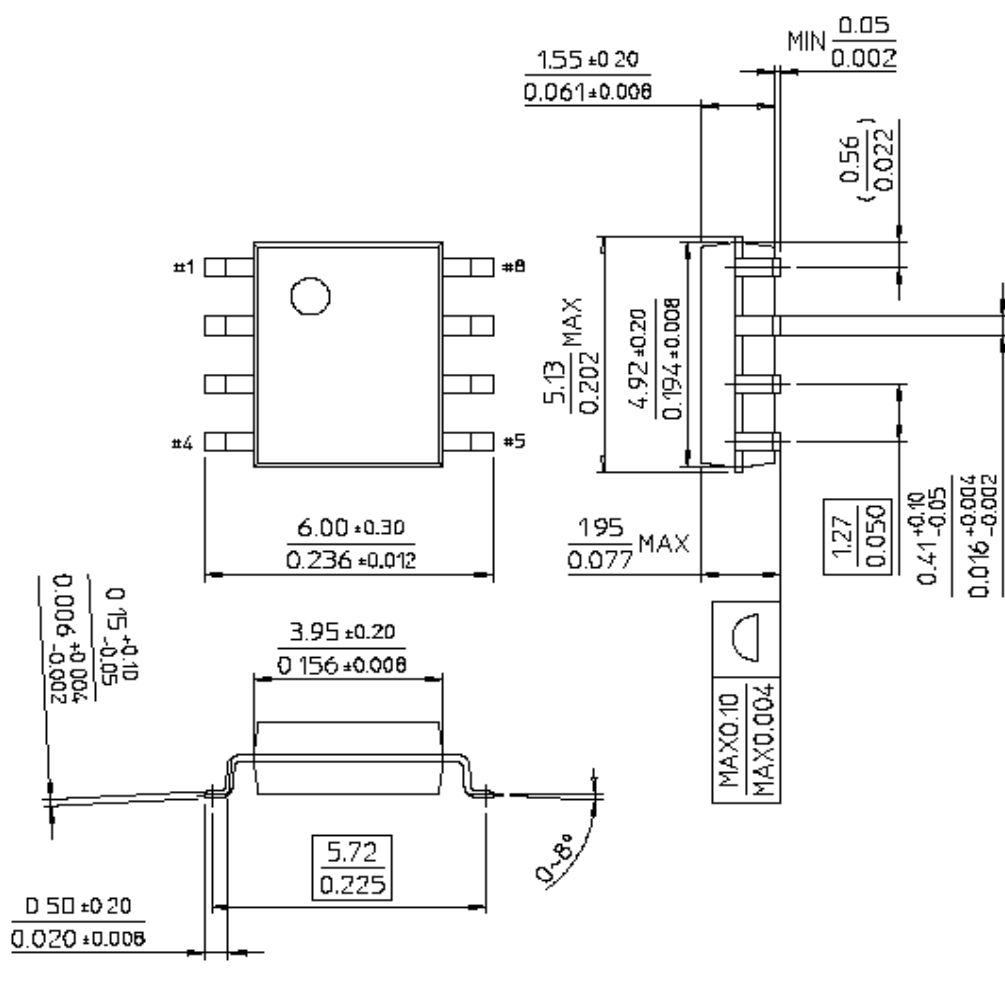


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

8-SOP



Ordering Information

| Product Number | Package | Operating Temperature |
|----------------|---------|-----------------------|
| KA2807 | 8-DIP | -40 ~ +70°C |
| KA2807D | 8-SOP | |

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