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

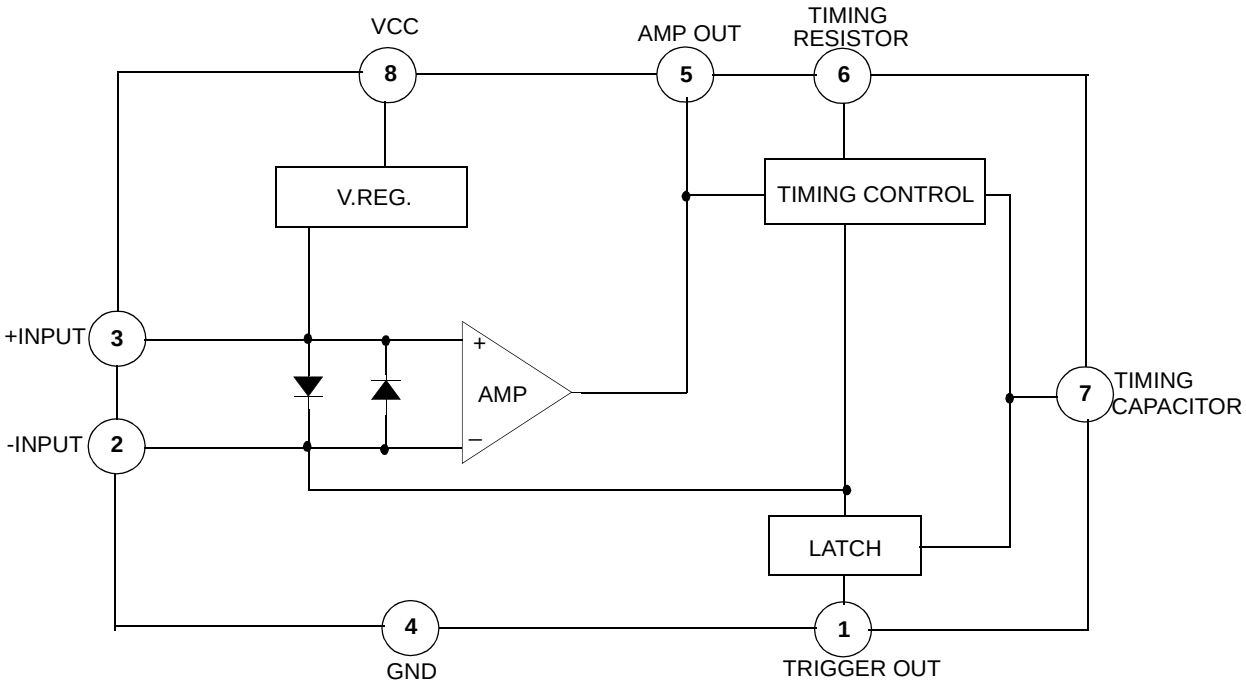
Description

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.

8-DIP

8-SOP

Internal Block Diagram



Rev. 1.0.0

Absolute Maximum Ratings

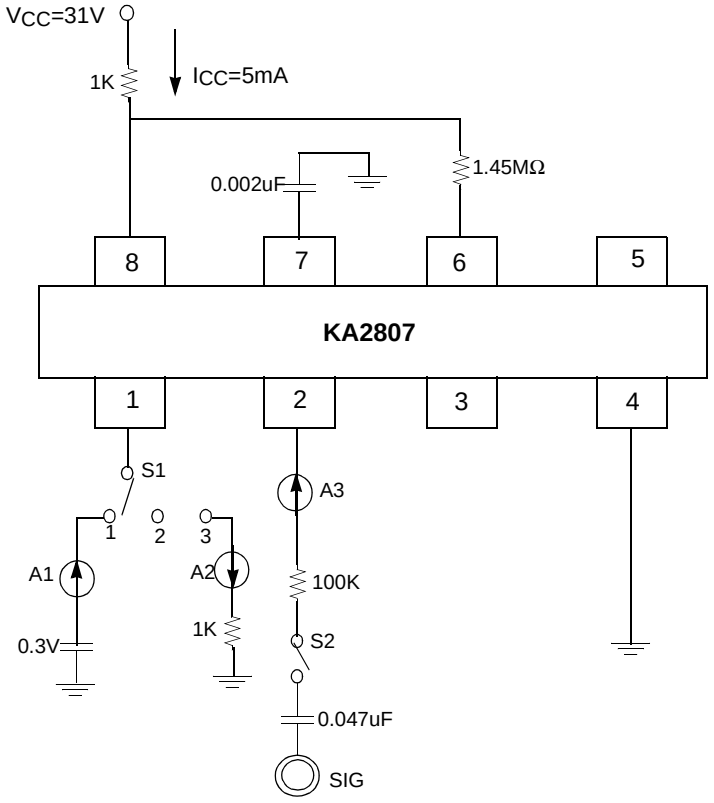
Parameter	Symbol	Value	Unit
Supply Current	I_{CC}	19	mA
Power Dissipation 8-DIP 8-SOP	P_D	 1.25 0.41	W
Operating Temperature Range	T_{OPR}	-40 ~ +70	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics

(T_A = 25°C, I_{CC} = 5mA)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Shunt Regulator Voltage	V_{REG}	Pin8, S1:2, S2:OFF	23	26	29	V
Amp Reference Voltage	V_{REF}	Pin3, S1:2, S2:OFF	9.5	10.5	11.5	V
Amp High Output Voltage	V_{OH}	Pin5, S1:3, S2:ON Sig: 800Hz, 3.0V_{P-P} Sinewave	17	19	21	V
Amp Low Output Voltage	V_{OL}	Pin5, S1:3, S2:ON Sig: 800Hz, 3.0V_{P-P} Sinewave	1.5	2.5	3.5	V
Amp Sensitivity Current	I_{SEN}	Pin2, S1:3, S2:ON Sig: 800Hz, 1.0V_{P-P} ~ 2.5V_{P-P} Sinewave	3.5	5	6.5	μArms
Latch On Voltage	$V_{ON(LATCH)}$	Pin7, S1:3, S2:ON Sig: 800Hz, 3.0V_{P-P} Sinewave	16.5	17.5	19.5	V
SCR Trigger Current	I_{TR}	Pin1, S1:3, S2:ON Sig:800Hz, 3.0V_{P-P} Sinewave	0.5	1	2.0	mA
Output Low Voltage	V_S 1	Pin1, S1:2, S2:OFF	-	100	240	mV
Output Impedance	Z_O	Pin1, S1:2, S2:OFF	-	100	250	Ω
Output Sink Current	I_{SINK}	Pin1, S1:2, S2:OFF	2.0	6.0	-	mA

Test Circuit

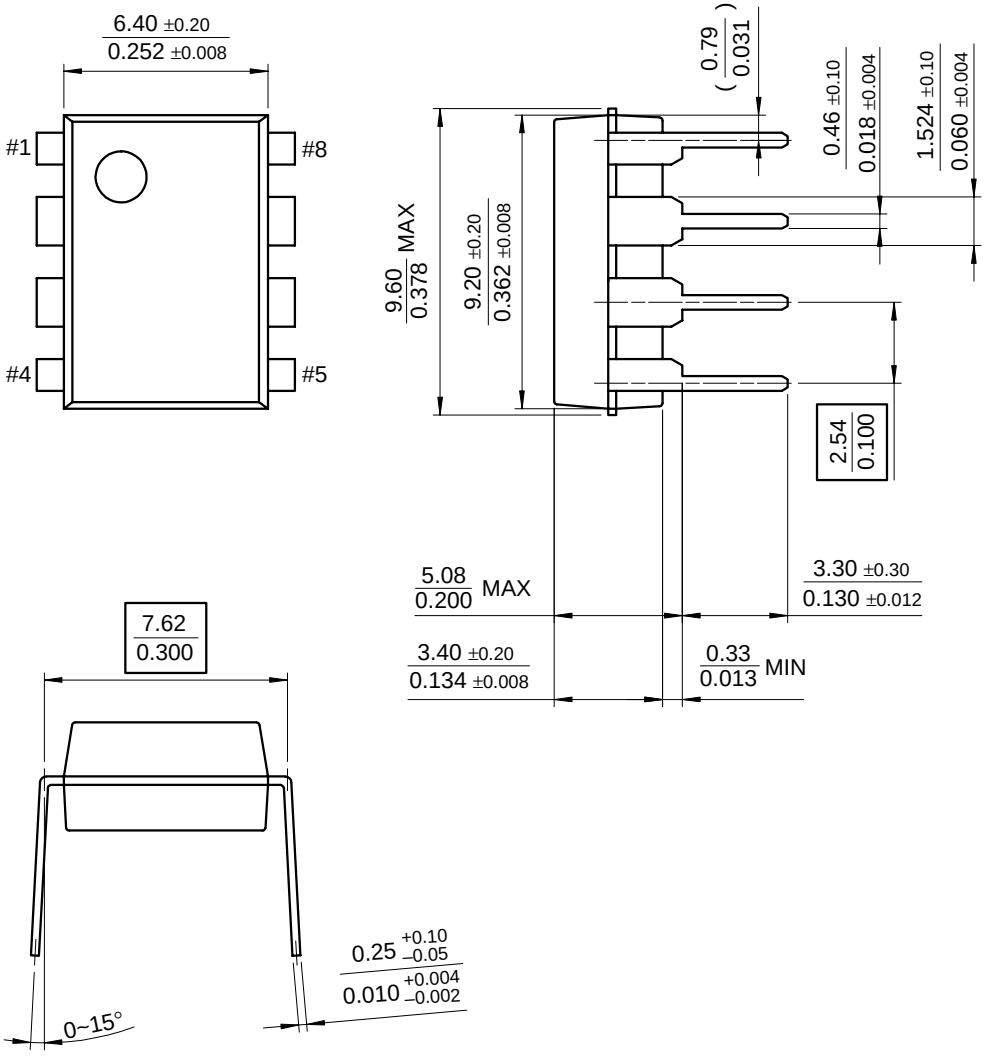


Mechanical Dimensions

Package

Dimensions in millimeters

8-DIP

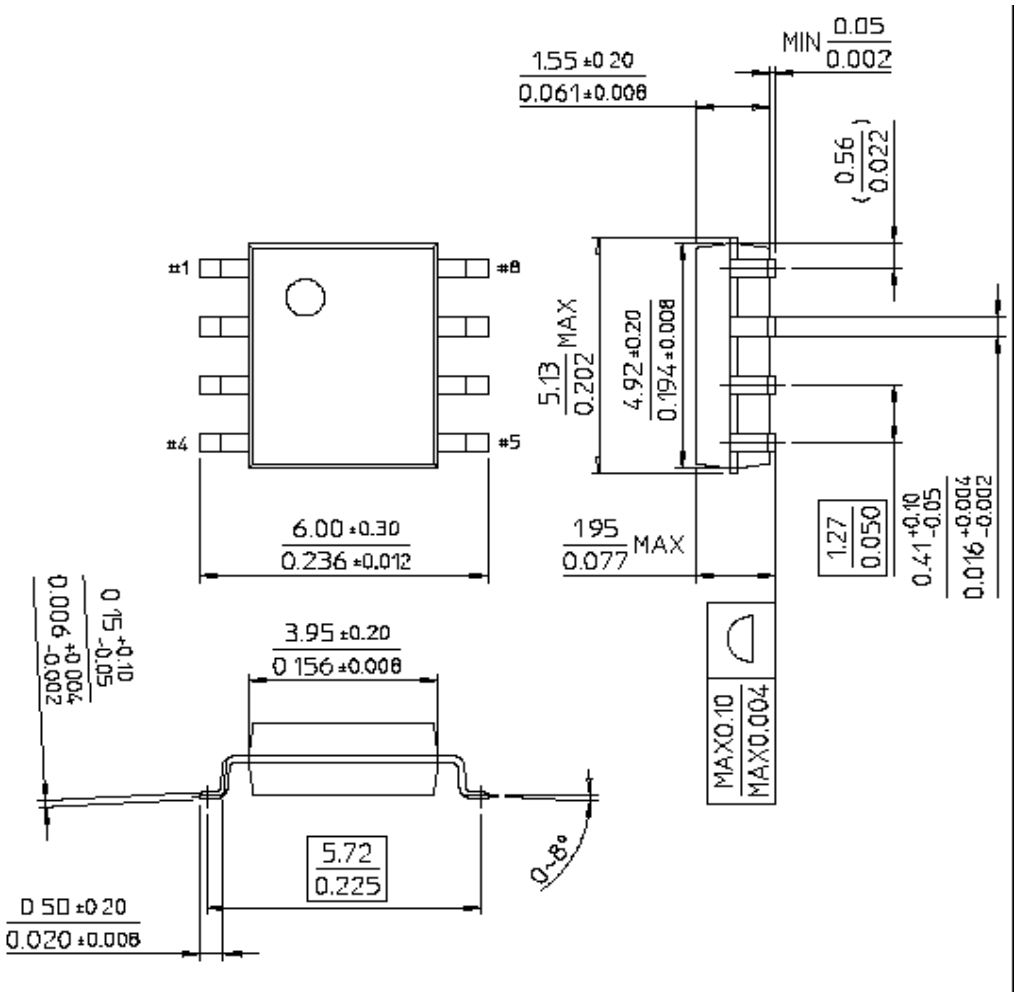


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

8-SOP



Ordering Information

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