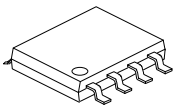
CMOS LEAKAGE PROTECTION CIRCUIT



SOP-8

■ DESCRIPTION

The UTC **M54147** is a high performance electric leakage protector special circuit. Including the internal voltage regulator, amplifier, comparator, driver and controller circuit of trip. The peripheral decoupling coil, voltage sensitive resistor, zener diode, diode, resistors, capacitors and other components.

■ FEATURES

* AC power supply
* Drive SCR, the output pulse width greater than 30ms
* Used to detect the A and AC signal
* Same higher accuracy for different leakage signal
* Excellent immunity to EMC
* 110V~220V(50~60Hz)

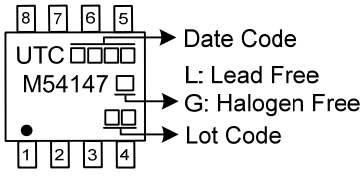
■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
M54147L-S08-R	M54147G-S08-R	SOP-8	Tape Reel

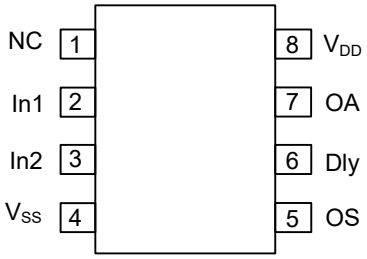
M54147G-S08-R
(1)Packing Type
(2)Package Type
(3)Green Package

(1) R: Tape Reel
(2) S08: SOP-8
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



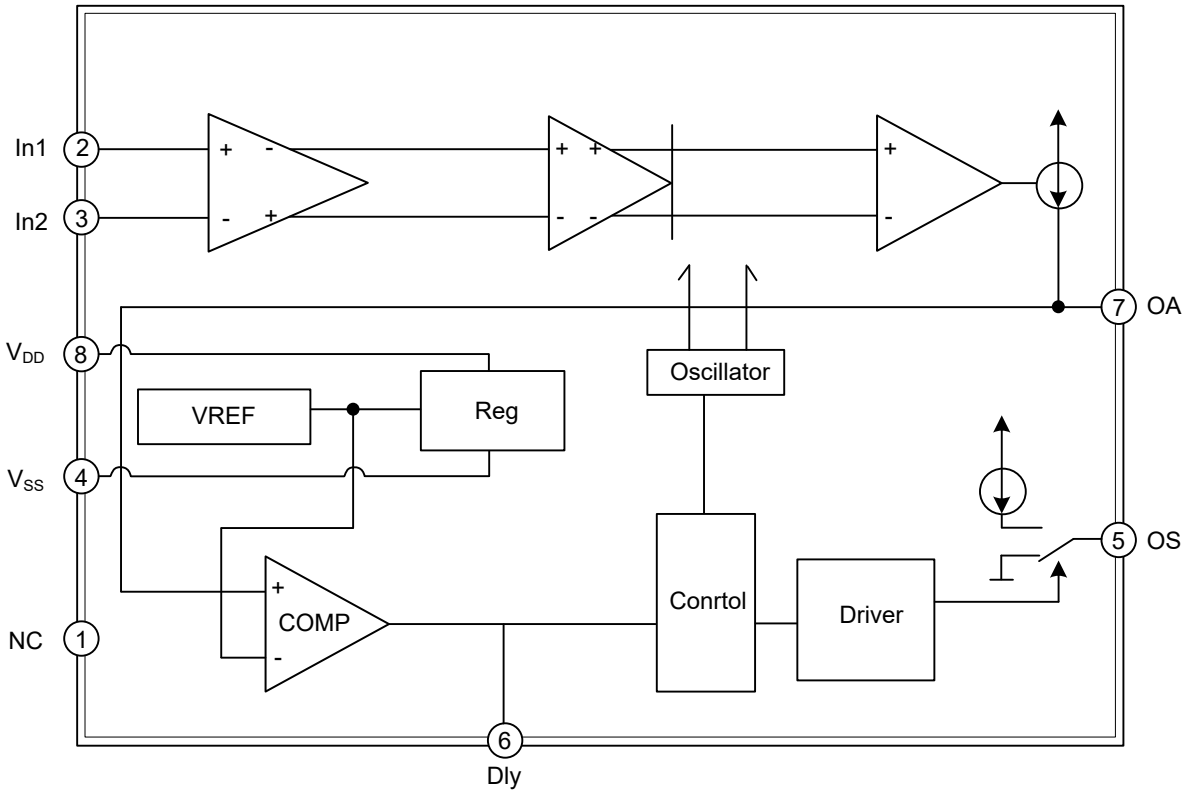
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	NC	No Connection
2	In1	Input. Amplifier input terminal 1
3	In2	Input. Amplifier input terminal 2
4	V_{SS}	GND
5	OS	Output. Drive SCR
6	Dly	Output. External delay capacitor
7	OA	Output. The output of the amplifier
8	V_{DD}	V_{DD}

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{DD}	8.5	V
Any pin to V_{SS}		-1 ~ 7	V
Junction Temperature	T_J	140	°C
Operating Temperature	T_{OPR}	-30 ~ +85	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

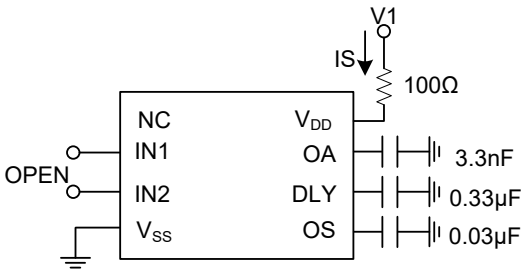
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current	I_{S1}	V1+5V (TEST 1)	1		2.7	mA
Supply Voltage	V_{DD}	V1+5V (TEST 2)	4.7	4.8	4.9	V
PIN6 Output High Current	I_{6H}	V1=5.5V, V_{IN1}-V_{IN2}=30mV (TSET 3)	50		70	μA
PIN6 Output Low Current	I_{6L}	V1=5.5V, V_{IN1}-V_{IN2} =0V, V_{DLYL}=1.5V (TEST 4)	2.0		4.0	μA
PIN5 Output High Current	I_{5H}	V1=5.5V, V_{IN1}-V_{IN2}=30mV (TEST 5)	1.6		3.0	mA
PIN5 Output Low Current	I_{5L}	V1=5.5V, V_{IN1}-V_{IN2}=0V , V_{OSL}=0.2V (TSET 6)	11.3		30	mA
Positive Action Voltage	V_{PT}	V1=5.5V, V_{IN1}-V_{IN2} (TEST 7)		5		mV
Negative Action Voltage	V_{NT}	V1=5.5V, V_{IN1}-V_{IN2} (TEST 8)		5		mV
Lock Time	T_{ON}	V1=5.5V, V_{IN1}-V_{IN2}=30mV (TEST 9)	28		120	ms

■ TEST CIRCUIT

(1)



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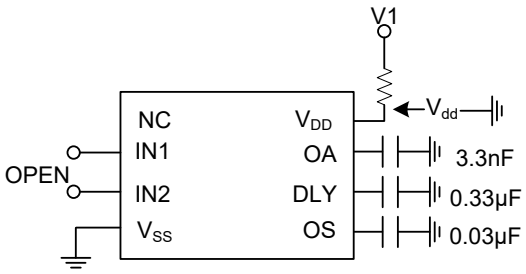

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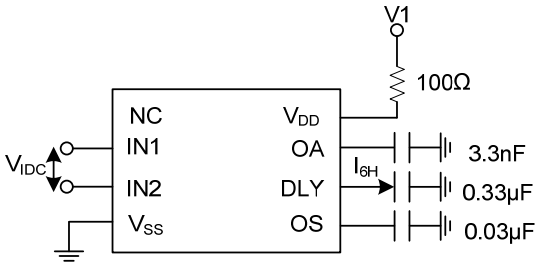

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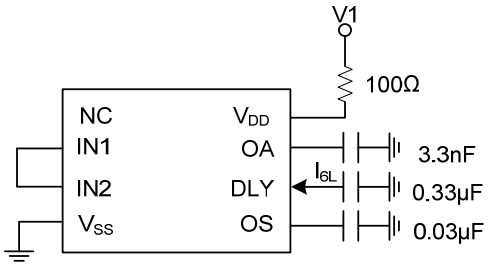

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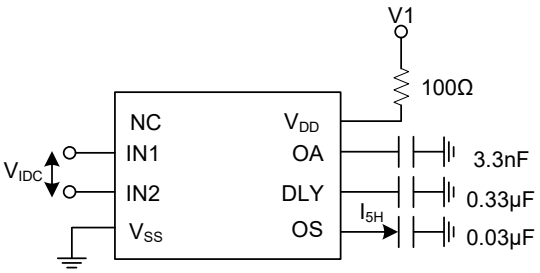

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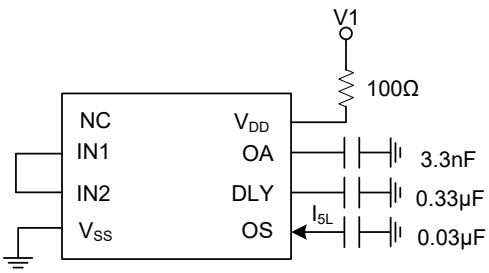

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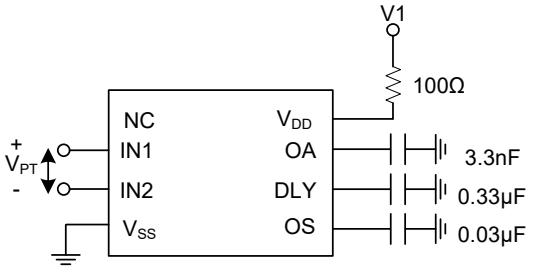

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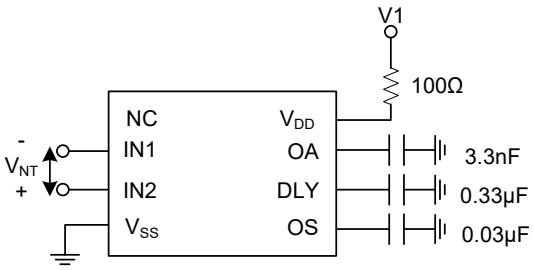

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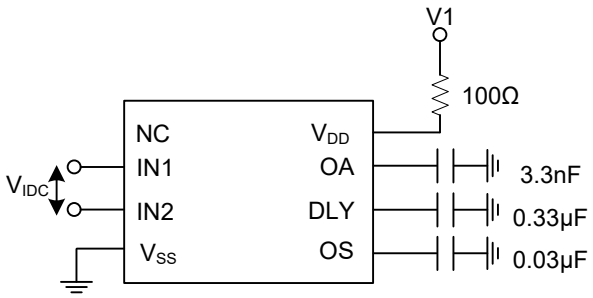

■ TYPICAL APPLICATION CIRCUIT