



GF2140

LINEAR INTEGRATED CIRCUIT

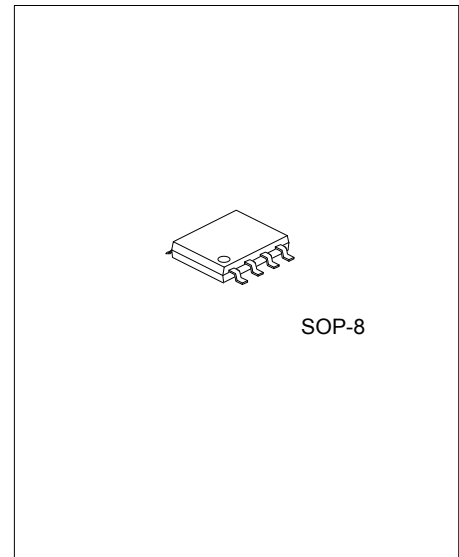
LOW POWER TWO-WIRE GROUND FAULT INTERRUPTER

DESCRIPTION

As a low power controller for AC output appliance leakage current interrupters, the UTC **GF2140** can detect hazardous current paths to ground, and trigger SCR to protect.

FEATURES

- * Directly powered from the AC line
- * Build-in bridge rectifier
- * Interface to SCR
- * Adjustable trip current and time delay
- * Minimum external components
- * For two-wire system
- * Be used in 110V or 220V system

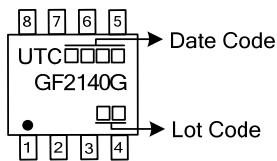


ORDERING INFORMATION

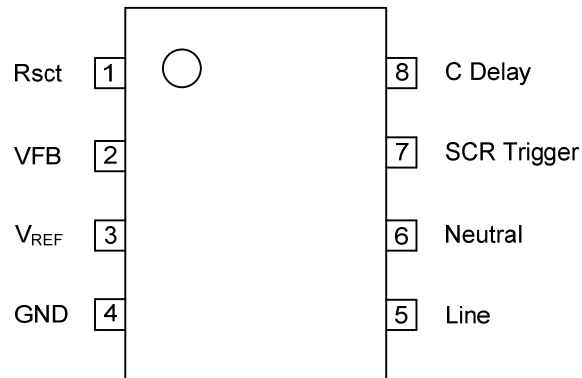
Ordering Number	Package	Packing
GF2140G-S08-R	SOP-8	Tape Reel

<p>GF2140G-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free
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MARKING



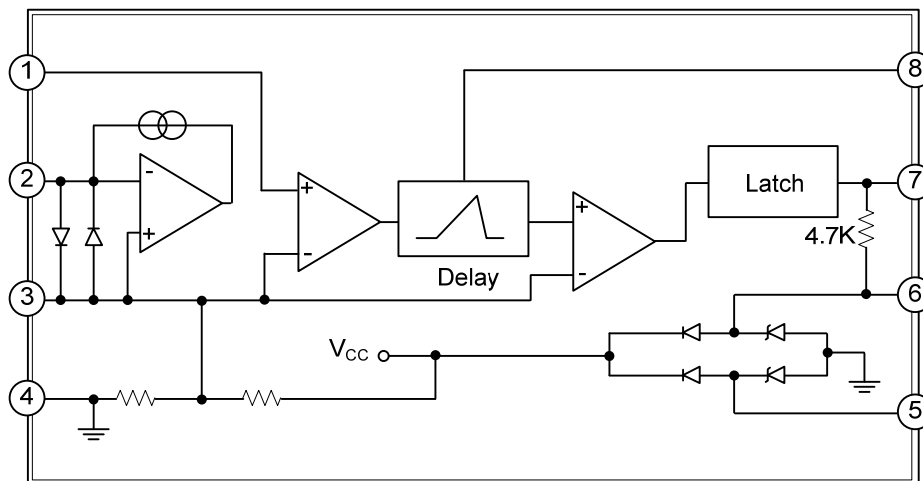
■ PIN CONNECTIONS



■ PIN DESCRIPTION

PIN	PIN NAME	I/O	PIN FUNCTION
1	Rscst	O	Output of Leakage current first
2	V _{FB}	I	Input of leakage current
3	V _{REF}	I	Reference voltage
4	GND		Ground
5	Line	I	Line input
6	Neutral	I	Neutral input
7	SCR Trigger		SCR Trigger
8	C Delay	O	The Delay time

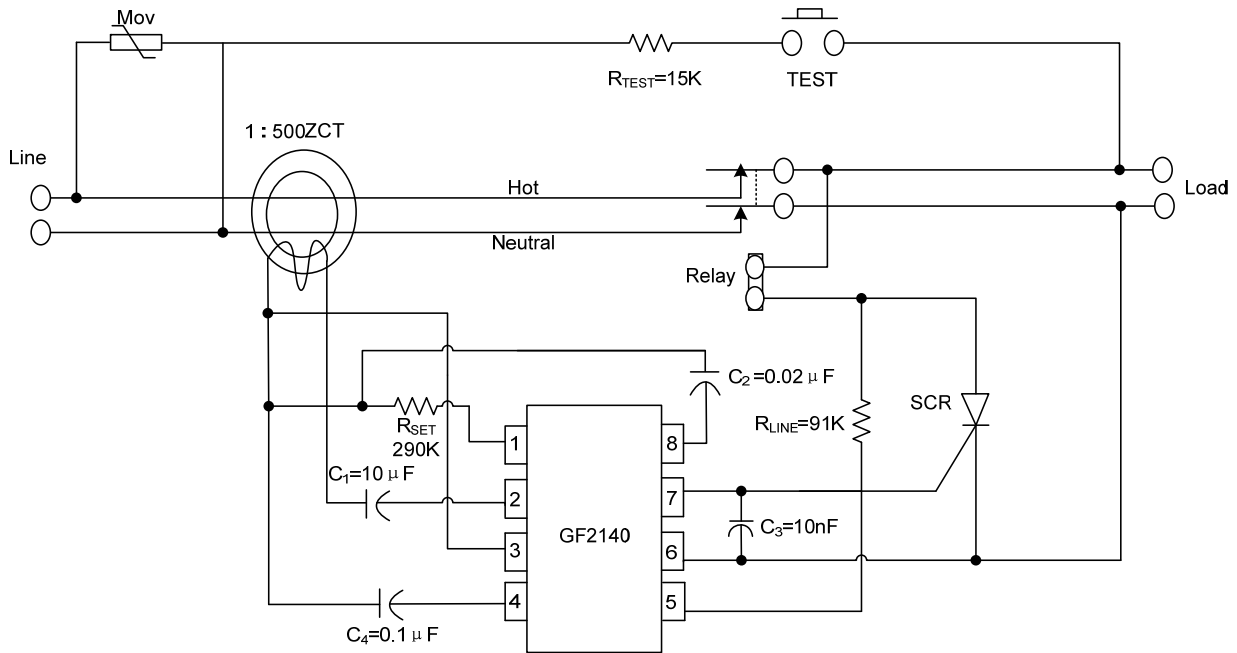
■ BLOCK DIAGRAM



■ ELECTRICAL CHARACTERISTICS ($I_{LINE}=1.2mA$, $T_A=25^{\circ}C$, $R_{SET}=290k\Omega$)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Shunt Regulator (PIN 5-4)						
Regulator Voltage	V_{REG}	$I_{2-3}=11\mu A$	6.1	6.5	7.5	V
		$I_{LINE}=700\mu A$, $I_{2-3}=9\mu A$	6.1	6.5	7.5	
Sense Amplifier (PIN 2-3)						
Offset Voltage	$V_{I(OFF)}$	Design Value	-3.0	0	+3.0	mV
Input Bias Current	$I_{I(BIAS)}$	Design Value		15	30	nA
Gain Bandwidth	f_T	Design Value		3.44		MHz
SCR Trigger (PIN 7-6)						
Output Voltage	V_{OUT}	$I_{2-3}=9\mu A$	0	0.1	10	mV
		$I_{2-3}=11\mu A$	1.4	2.0	2.6	V
Output Current	I_{OUT}	$V_{7-6}=0V$, $I_{2-3}=11\mu A$	300	420	600	μA
Output Resistance	Z_O	$V_{5-6}=open$, $I_{2-3}=0$	4.0	4.7	5.4	K Ω
Reference Voltage (PIN 3-4)						
Reference Voltage	V_{REF}	$I_{LINE}=700\mu A$	2.6	2.9	3.4	V
Delay Time (PIN 8-4)						
Delay Current	I_D	$I_{2-3}=11\mu A$	23	30	43	μA
Delay Time	t_D	$C_{8-4}=20nF$		2.0		ms

■ TYPICAL APPLICATION CIRCUIT



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