



GF2140

LINEAR INTEGRATED CIRCUIT

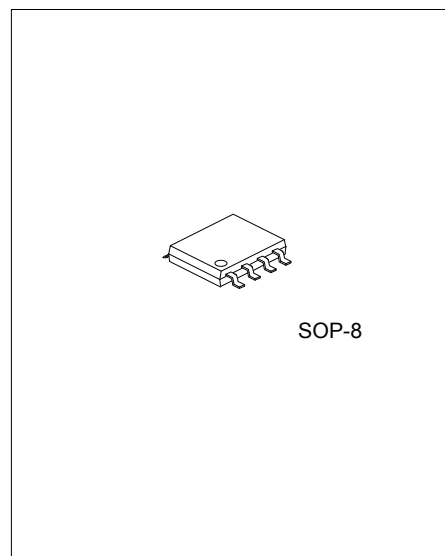
LOW POWER TWO-WIRE GROUND FAULT INTERRUPTER

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



SOP-8

Lead-free: GF2140L

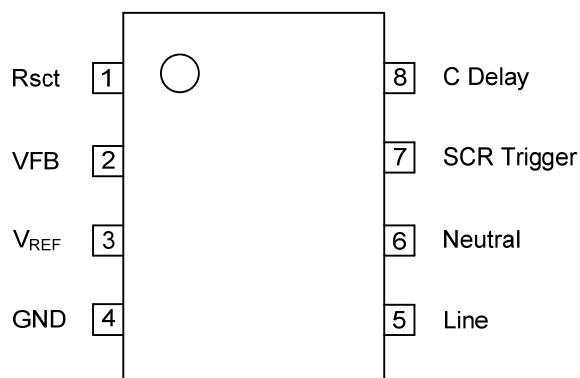
Halogen-free: GF2140G

ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
GF2140-S08-R	GF2140L-S08-R	GF2140G-S08-R	SOP-8	Tape Reel
GF2140-S08-T	GF2140L-S08-T	GF2140G-S08-T	SOP-8	Tube

GF2140L-S08-R	(1)Packing Type	(1) R: Tape Reel, T: Tube
	(2)Package Type	(2) S08: SOP-8
	(3)Lead Plating	(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ PIN CONNECTIONS



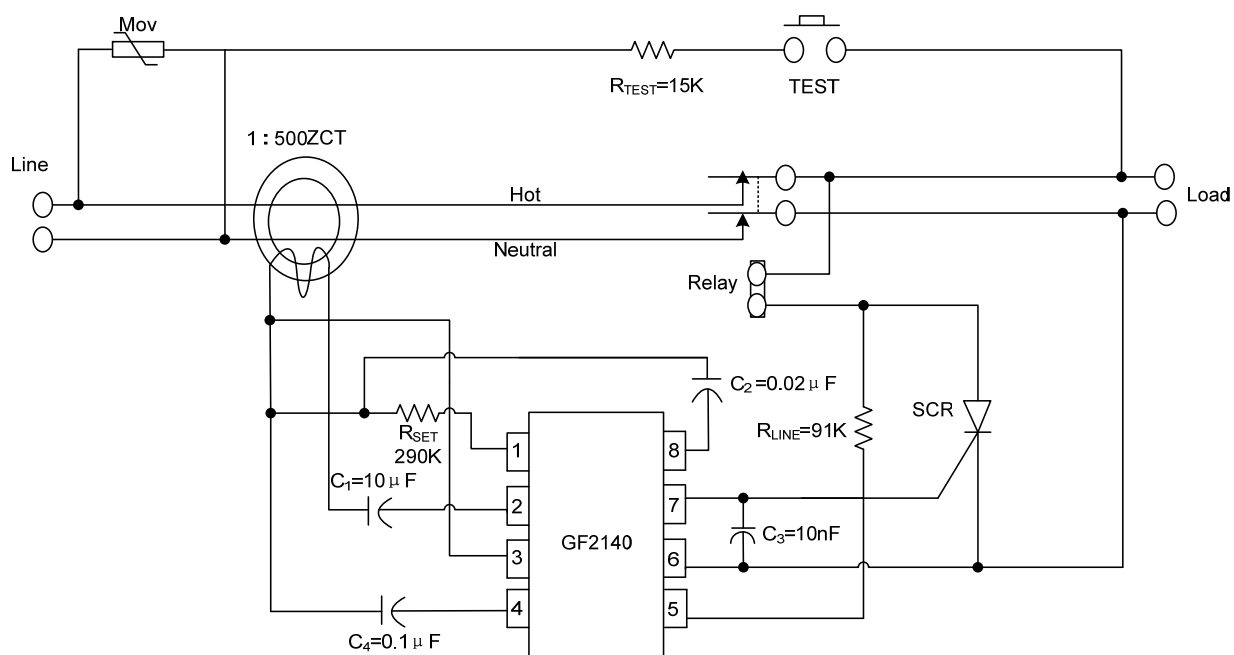
■ PIN DESCRIPTION

PIN #	PIN NAME	I/O	PIN FUNCTION
1	Rscf	O	Output of Leakage current first
2	VFB	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

■ 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 =11μA	6.1	6.5	7.5	V
		I _{LINE} =700μA, I ₂₋₃ =9μA	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 =9μA	0	0.1	10	mV
		I ₂₋₃ =11μA	1.4	2.0	2.6	V
Output Current	I _{OUT}	V ₇₋₆ =0V, I ₂₋₃ =11μA	300	420	600	μA
Output Resistance	Z _O	V ₅₋₆ =open, I ₂₋₃ =0	4.0	4.7	5.4	KΩ
Reference Voltage (PIN 3-4)						
Reference Voltage	V _{REF}	I _{LINE} =700μA	2.6	2.9	3.4	V
Delay Time (PIN 8-4)						
Delay Current	I _D	I ₂₋₃ =11μA	23	30	43	μA
Delay Time	t _D	C ₈₋₄ =20nF		2.0		ms

■ TYPICAL APPLICATION CIRCUIT



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