

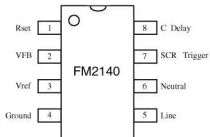


FM2140 is a low power controller for AC output appliance leakage current interrupters. This device detects hazardous current paths to ground, and trigger SCR to protect.

FEATURES

- ◆ powered from the AC line
- ◆ Build-in bridge rectifier
- ◆ Direct interface to SCR
- ◆ Adjustable trip current
- ◆ Adjustable time delay
- ◆ Minimum external components
- ◆ Meets UL 943 requirements
- ◆ Specifically for two-wire system
- ◆ For use with 110V or 220V system
- ◆ DIP8 or SOP8 Package

PIN ASSIGNMENTS



PIN FUNCTIONS

Pin	Symbol	Functions
1	Rset	Leakage current first output
2	VFB	Leakage current input
3	Vref (2.9V)	Reference voltage
4	Ground	Ground
5	Line	Line input
6	Neutral	Neutral input
7	SCR Trigger	SCR trigger
8	C Delay	Delay time

ELECTRICAL CHARACTERISTICS

$I_{line}=1.2mA$ $T_a=+25^{\circ}C$ $R_{set}=290k\Omega$

Parameter	Test conditions	Min	Typ	Max	Unit
Shunt regulator					
Regulated voltage	$I_2=3=11\mu A$	6.1	6.5	6.9	V
Regulated voltage	$I_{line}=700\mu A$, $I_2=3=9\mu A$	6.1	6.5	6.9	V
Sense amplifier					
Offset voltage	Design value	-3.0	0	+3.0	mV
Gain bandwidth	Design value	-	3.44	-	MHz
Input bias current	Design value	-	15	30	nA
SCR Trigger					
Output resistance	$V_5=6=open$, $I_2=3=0\mu A$	4.2	4.7	5.2	K Ω
Output voltage	$I_2=3=9\mu A$	0	0.1	10	mV
Output voltage	$I_2=3=11\mu A$	1.4	2.0	2.6	V
Output current	$V_7=6=0V$, $I_2=3=11\mu A$	300	420	600	μA
Reference voltage					
Reference voltage	$I_{line}=700\mu A$	2.6	2.9	3.2	V
Delay timer					
Delay time	$C_8=4=20nF$	-	2.0	-	mS
Delay current	$I_2=3=11\mu A$	25	30	36	μA

APPLICATION CIRCUIT

