GENERAL DESCRIPTION

The C1932 is an integrated circuit fabricated in Polysilicon-Gate CMOS technology for application in bipolar stepping motor driven analog timepieces. It consists of a 32 KHz oscillator, frequency divider , voltage regulator, push-pull motor driver and motor pulse chopping. Low current consumption and high oscillator stability are achieved by an on-chip voltage regulator.

FEATURES

- Built-in 32768Hz crystal oscillator.
- Single battery power supply
- 1.3 ~ 1.8V operating voltage range.
- Motor pulse chopping
- Built-in voltage regulator enables low current consumption.
- Low resistance push-pull motor output drivers.
- Motor fast testing function

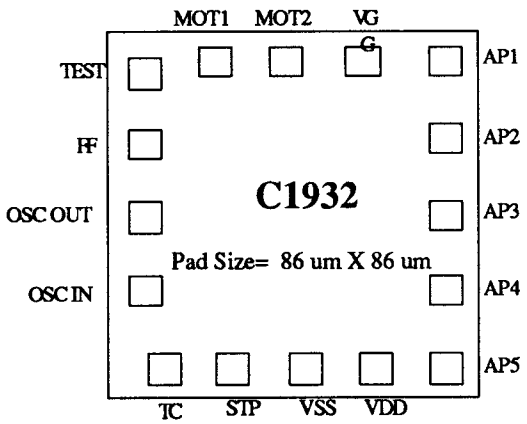
ELECTRICAL CHARACTERISTICS

(VDD = 0V; VSS = -1.5V; Ta = +25°C; unless otherwise specified)
All voltage levels are measured with reference to VDD.

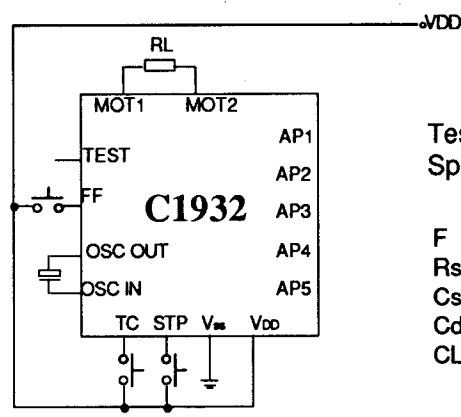
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Operating voltage	VDD	-1.3	-1.5	-1.8	V	Functional test (Fig.1)
Operating current	Iss	-	250	-	nA	$R_L = \infty$
Motor Outputs						
Motor output current	I_M	±0.7	-	–	mA	R_L= 2KΩ, V_{SS}=-1.55V
Cycle time	T_M		2		s	–
Oscillator						
start-up voltage	V_{st}	-1.3	–	–	V	within 2 second

Note 1 : Typical parameters represent the statistical mean values.

PAD CONFIGURATION



APPLICATION DIAGRAM

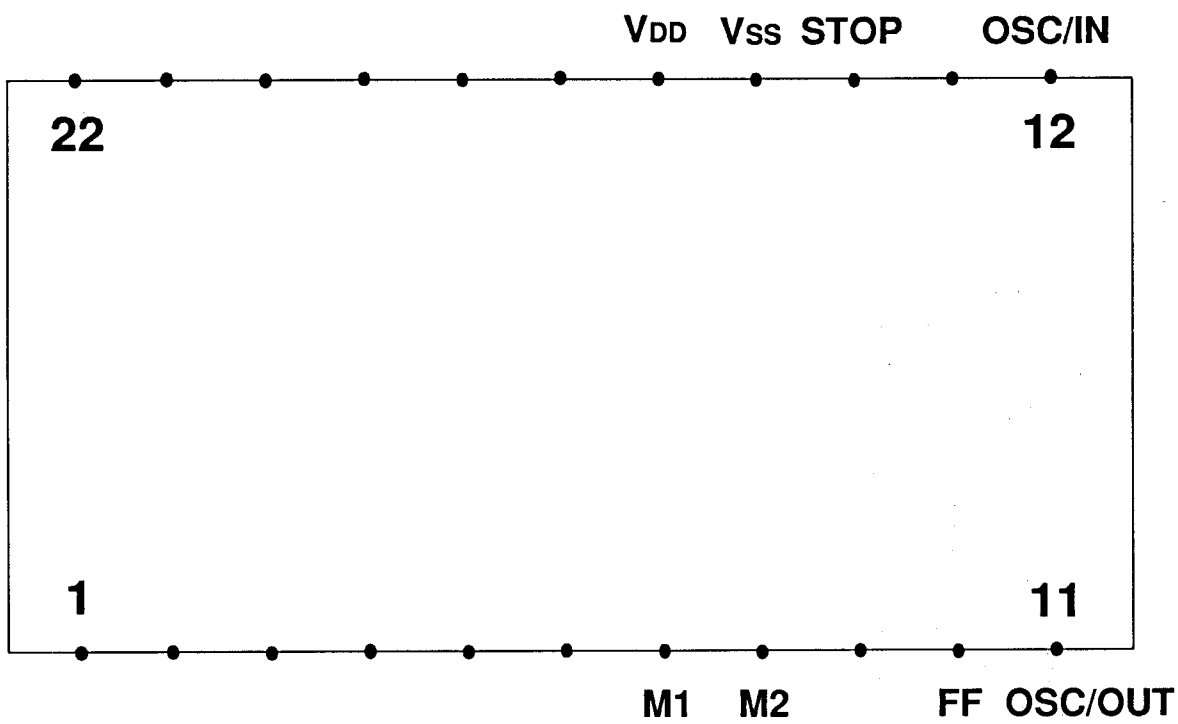


Testing crystal Specification

F = 32768 Hz
Rs = 30 kΩ
Csta. = 1.5 PF
Cdyn. = 3 PF
CL = 10 PF

Note:Substrate should be either left open or connected to VDD

C1932 COB (For trail) PIN DIAGRAM



FF: FAST FORWARD