Application

Copying machine, printer, etc. for office use

Features

- Forward, reverse, and braking operations can be controlled with external input signals.
- Provides a startup output current of 4.2 A and supports a peak braking output current of 8 A.
- Built-in current detection resistor (0.1 - current control.
- Does not require design of a dead time period in which the high and low side devices are turned off when switching between the forward and reverse directions.

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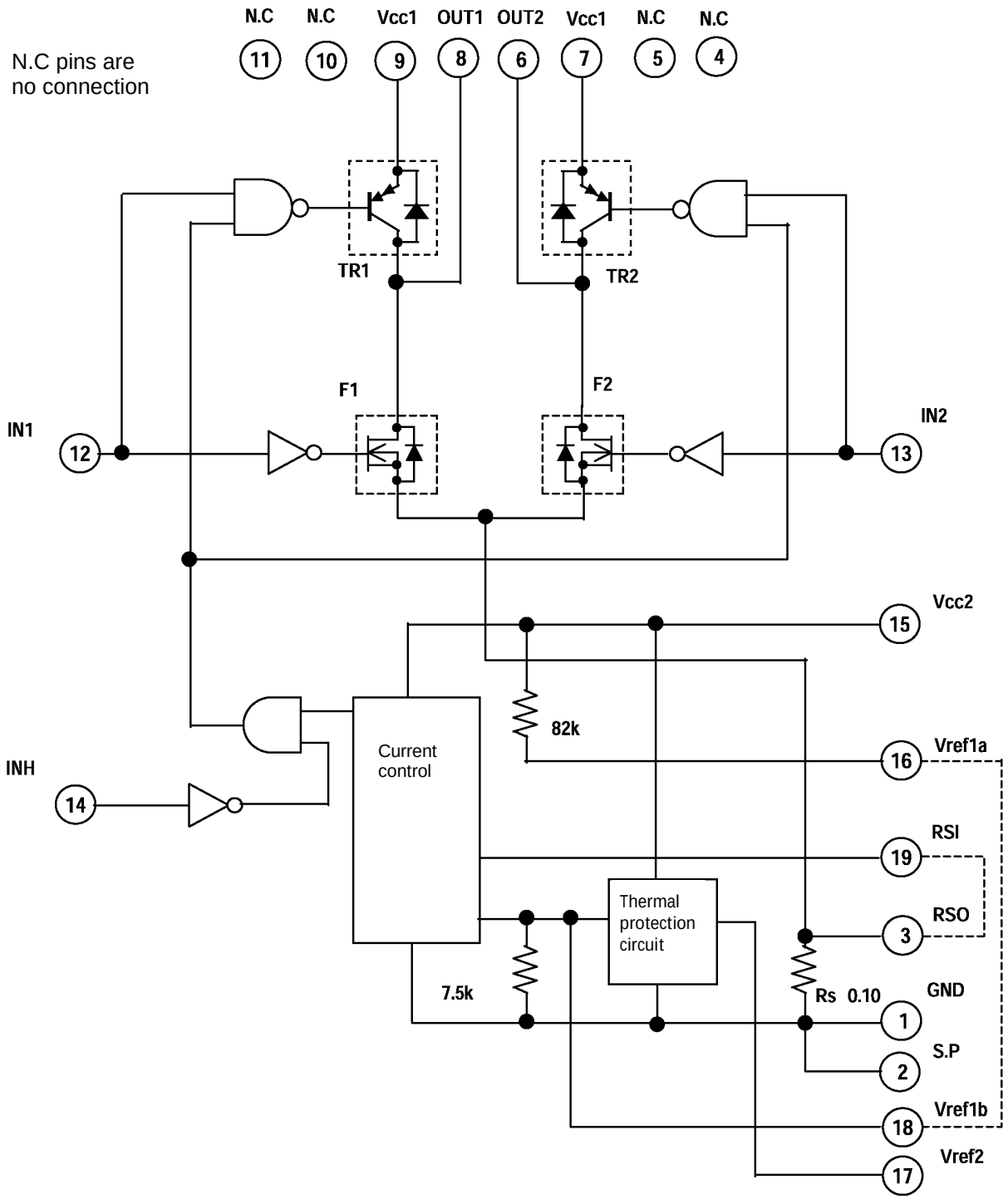
PACKAGE PICTURE

MARKING DIAGRAM

STK681-310N = Type name

Block Diagram



Absolutely Maximum Ratings at Ta = 25°C, Tc = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage 1	$V_{CC}1$ max	$V_{CC}2$ = 0 V	52	V
Maximum supply voltage 2	$V_{CC}2$ max	No signal	−0.3 to +7.0	V
Input voltage	Vin max	At logic input pin	−0.3 to +7.0	V
Output current 1	IO max	$V_{CC}2$ = 5.0 V, DC current		

Coution

・Motor current Io shown above is the range for chopping operation when $V_{CC}1$ is under 28 V

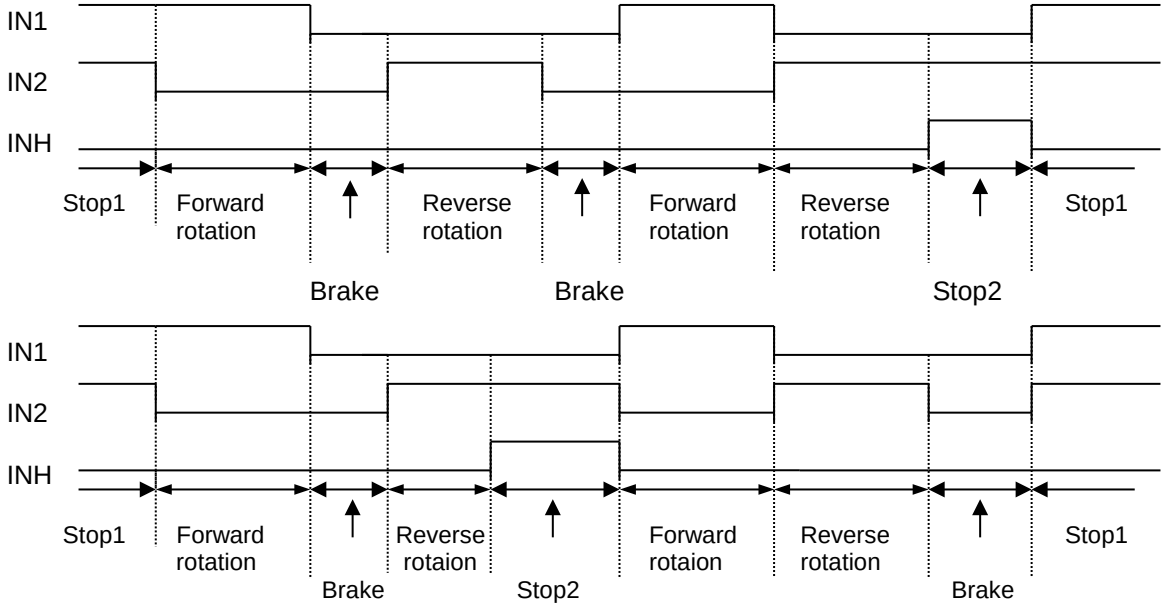
・Substrate temperatures in the figure above are values measured when the motor is operating.

Application Circuit

Motor Drive Conditions (H : high-level input, L : low-level input) 310N

(5) Since the response time of the ground side drive element during forward/reverse direction switching is a few tens of microseconds, this product is not appropriate for H bridge applications. This device should only be used as a DC motor driver.

(6) Timing Charts



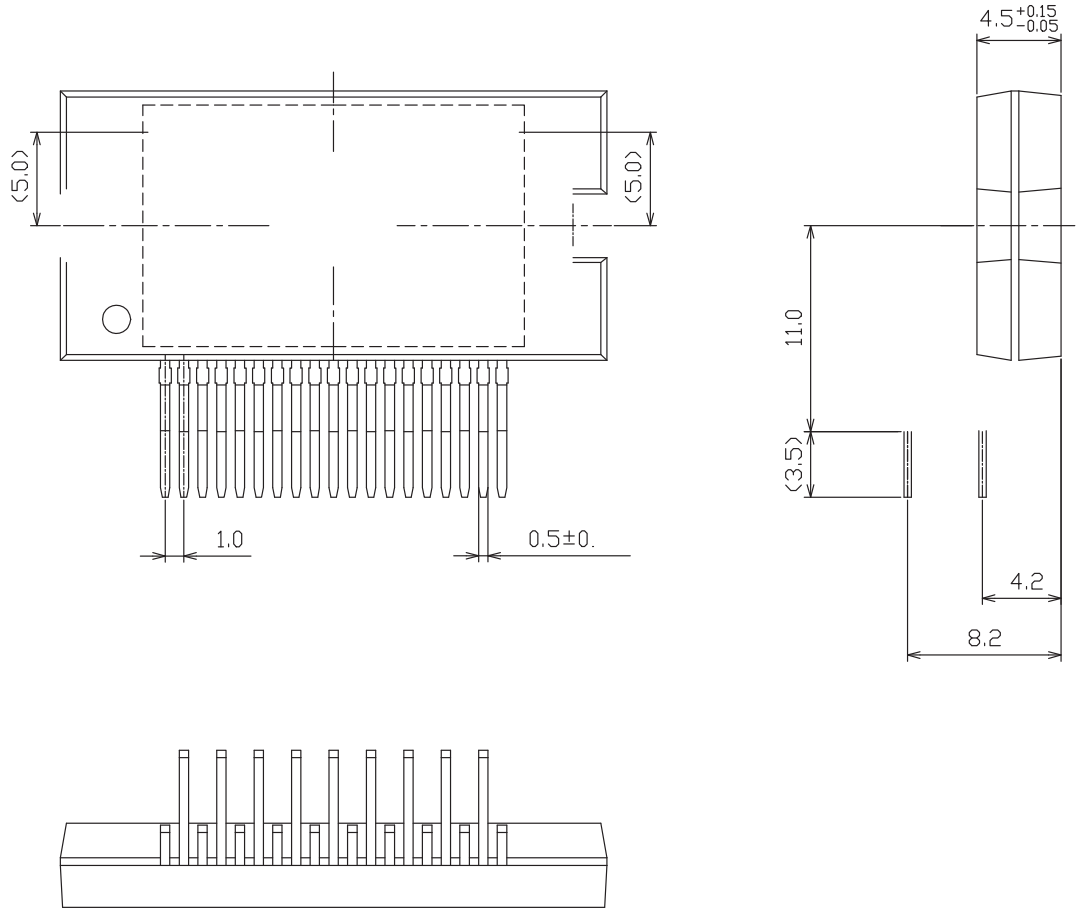
(7) Smoke Emission precautions : There is a possibillty of smoke emission if the IPM is subjected to physical or electrical damage as the result of being used without compliance with specifications.

Pin Functions

Pin Name	Pin Number	Functiuon
IN1	12	Input pin for turming TR1 and F1 ON/OFF at high level,TR1 : ON and F1 : OFF ; at low level TR1 : OFF and F1 : ON.
IN2	13	Input pin for turming TR2 and F2 ON/OFF at high level, TR2 : ON and F2 : OFF ; at low level TR2 : OFF and F2 : ON.
INH	14	Pin for turning TR1 and TR2 OFF ; at high level TR1 and TR2 : OFF This pin is usualy low or open
OUT1	8	This pin connects to the motor and outputs source/sync current depending on conditions at IN1 and IN2.
OUT2	6	This pin connects to the motor and outputs source/sync current depending on conditions at IN1 and IN2.
		This pin is used for curruse<1/ue5 (ondi)1- [(T48 e24 >>.5 (ondi)585 (ondi) (ent1 (u)14.7 (s)-11.hi)-5.9 (s)3
Vref1a	16	
Vref1b	18	

Package Dimensions
unit : mm

SIP19 29.2x14.4
CASE 127CF
ISSUE O



Technical data

– Internal average power dissipation, PD

2. Internal average power dissipation, Pd,in the DC current-motor current, Io, characterristics

STK681

STK681-310N-E

6. TR1, TR2 A.S.O, F1, F2 A.S.O