



### INTRODUCTION

The AA51880 is a BJT integrated circuit for use in servo motor control applications. The built-in voltage regulator provides the AA51880 with extremely stable output voltage.

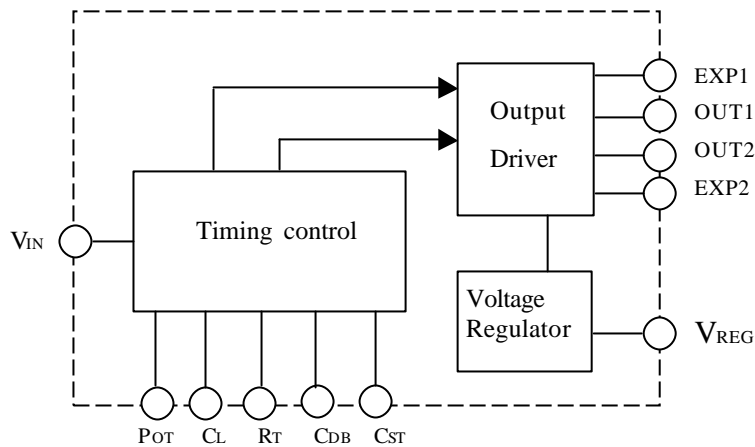
### FEATURES

- Built-in voltage regulator.
- Larger driving capability.
- Small outline package.

### APPLICATIONS

- Servo motor control.
- Radio controlled car, boat, airplane.
- IA products (such as air-condition).

### BLOCK DIAGRAM

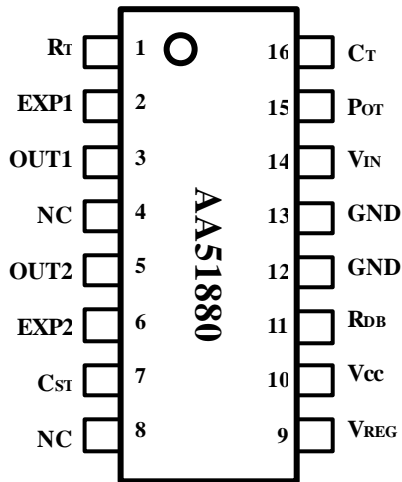


### FUNCTION DESCRIPTION

- Timing control block detects the motor position and adjust dead band.
- Output driver circuit control the servo motor current direction.
- The voltage regulator supports the application reference voltage.



**PIN ASSIGNMENT**



(Top View)

**PIN DESCRIPTION**

Pin No	Symbol	Name & Function
1	R <sub>T</sub>	Timing Resistor
2	EXP1	External PNP Transistor 1 output
3	OUT1	Output Driver 1
4	NC	No Connection
5	OUT2	Output Driver 2
6	EXP2	External PNP Transistor 2 output
7	C <sub>ST</sub>	Stretcher capacitor
8	NC	No Connection
9	V <sub>REG</sub>	Regulated Voltage output
10	V <sub>CC</sub>	Power pin
11	R <sub>DB</sub>	Error pulse output
12	GND	Ground pin
13	GND	Ground pin
14	V <sub>IN</sub>	Input signal
15	POT	Servo position voltage
16	C <sub>T</sub>	Timing Capacitor



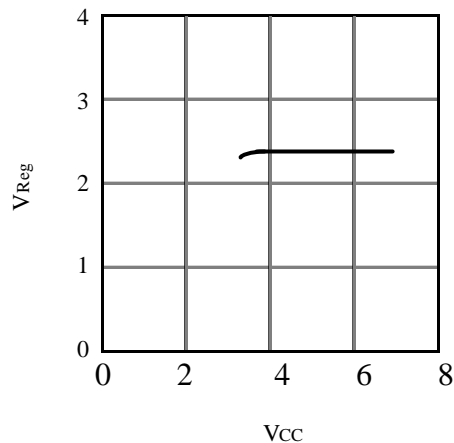
**RATINGS** (Ta=25 , unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V <sub>cc</sub>	Supply voltage		9	V
P <sub>d</sub>	Power dissipation		300	mW
T <sub>stg</sub>	Storage temperature		-25~125	

**ELECTRICAL CHARACTERISTICS** (Ta=25 and V<sub>cc</sub>=4.8V, unless otherwise noted)

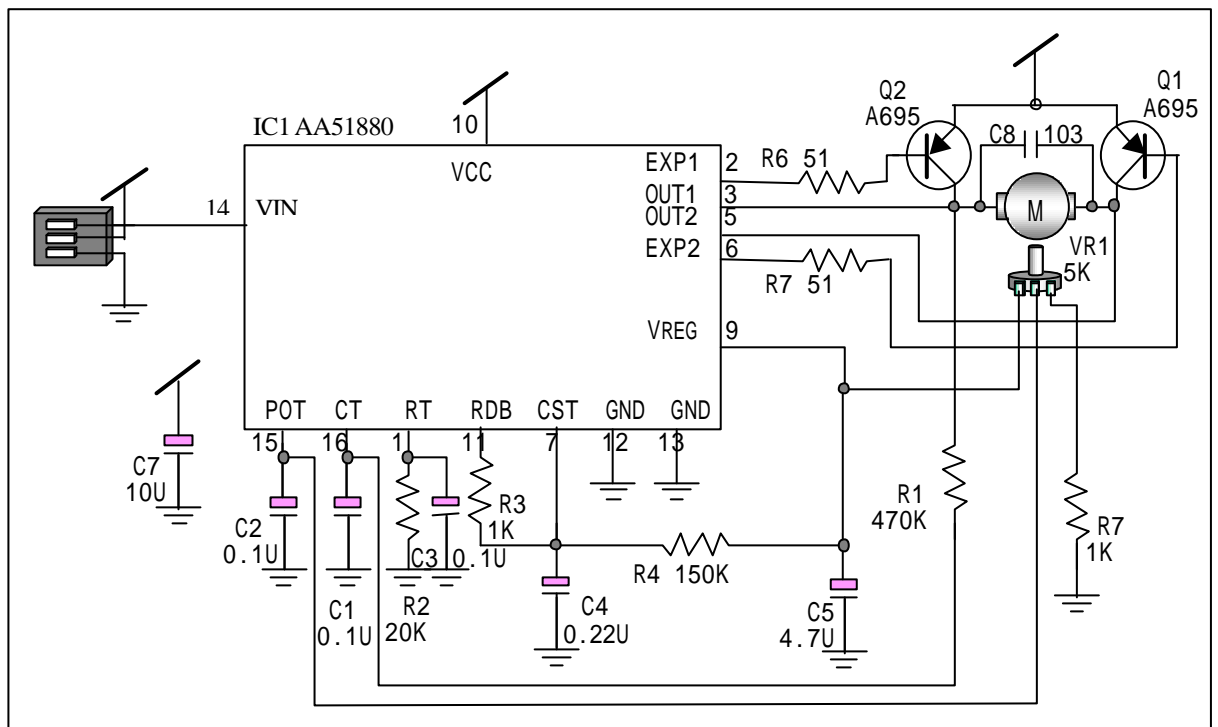
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I <sub>cc</sub>	Operating current	When output is OFF		5	8	mA
		When output is ON		25	28	mA
V <sub>OL</sub>	Output voltage"L"	Load resistor 20 ohm		0.1	0.2	V
V <sub>OH</sub>	Output voltage"H"	Load resistor 240 ohm	3.5			V
I <sub>PNP</sub>	External PNP transistor drive current	Load resistor 240 ohm	30			mA
V <sub>Reg</sub>	Regulator output voltage	Load capacitor 0.1μF	2.3	2.45	2.6	V
I <sub>Reg</sub>	Regulator output current	Load resistor 500 ohm	4			mA

**VOLTAGE REGULATOR OUTPUT VOLTAGE CHARACTERISTIC** (Ta=25 )



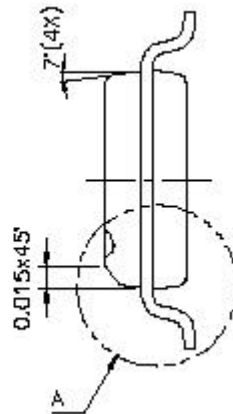
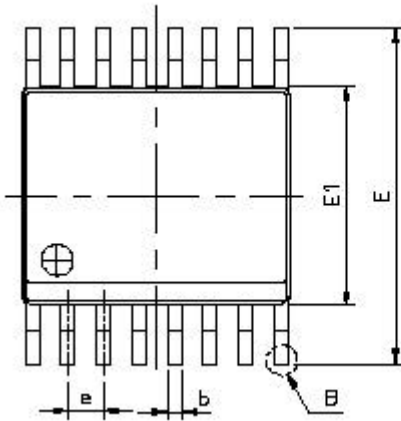


APPLICATION CIRCUIT





SSOP PACKAGE DIMENSION



SYMBOLS	MIN.	MAX.
A	0.053	0.069
A1	0.004	0.010
A2	—	0.059
b	0.008	0.012
b1	0.008	0.011
c	0.007	0.010
c1	0.007	0.009
D	0.189	0.197
E1	0.150	0.157
E	0.228	0.244
L	0.016	0.050
e	0.025 BASIC	
$\theta^{\circ}$	0	B

UNIT : INCH

NOTES:

1. JEDEC OUTLINE : M0-137 AB
2. DIMENSIONS "D" DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS AND GATE BURRS SHALL NOT EXCEED .15mm (.006in) PER SIDE.
3. DIMENSIONS "E" DOES NOT INCLUDE INTER-LEAD FLASH, OR PROTRUSIONS. INTER-LEAD FLASH AND PROTRUSIONS SHALL NOT EXCEED .25mm (.010in) PER SIDE.

