Allowable Operating Range at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		2.2 to 10	V
Input high-level voltage	V_IH		2.0 to 9.5	V
Input low-level voltage	V_IL		-0.3 to +0.3	V

Electrical Characteristics at Ta = 25°C, V_{CC} = 3V

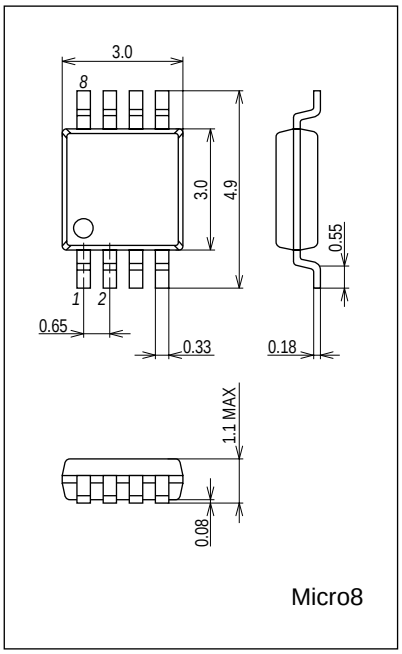
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Circuit current	$I_{CC}1$	Standby		0.1	5	μA
	$I_{CC}2$	Forward/reverse drive		14	19	mA
	$I_{CC}3$	Brake		20	29	mA
Output saturation voltage	$V_O$sat1	Upper+lower I_O = 100mA for forward/reverse rotation		0.15	0.2	V
	$V_O$sat2	Upper+lower I_O = 300mA for forward/reverse rotation		0.35	0.5	V
	$V_O$sat3	Upper I_O = 100mA for braking		0.1	0.15	V
Spark killer diode forward voltage	V_{SF}	I_O = 300mA		0.9	1.7	V
Spark killer diode inverse current	I_{RS}	V_{OUT} = 10V		0.1	5	μA
Input current	I_{IN}	V_{IN} = 5V		75	98	μA
Thermal protection operating temperature	TSD	Design target value *		180		°C

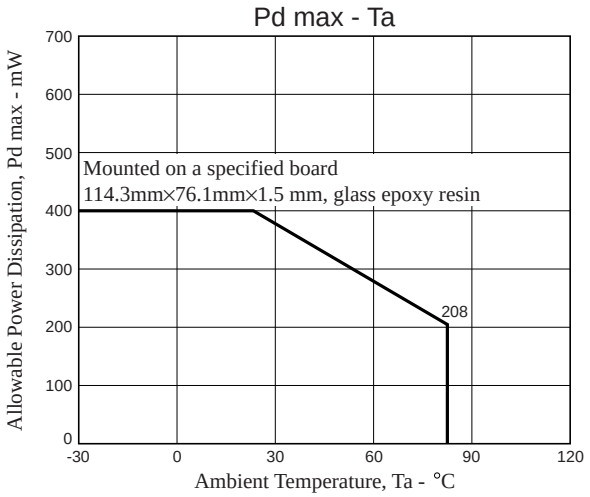
Note *: Design target value: Measurement with a single unit not made.

Package Dimensions

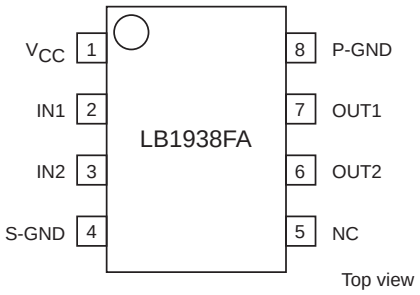
unit : mm (typ)

3427





Pin Assignment

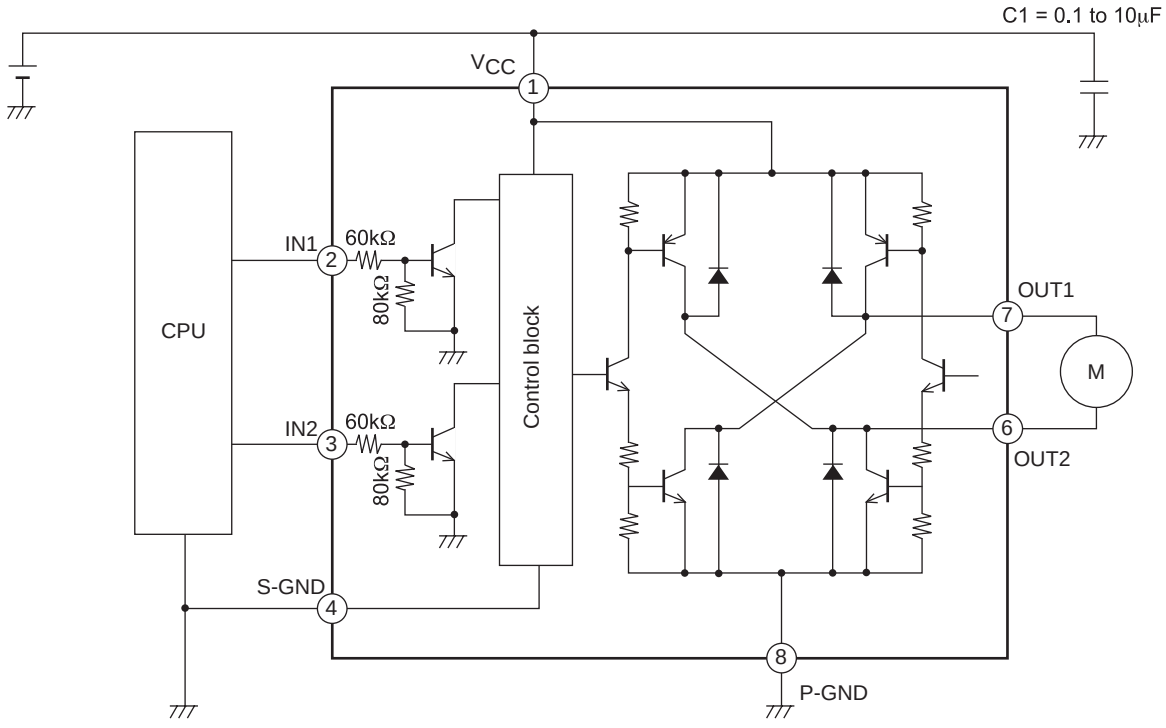


S-GND: GND for the control system
P-GND: GND for the power system

Truth Table

IN1	IN2	OUT1	OUT2	Mode
L	L	OFF	OFF	Standby
H	L	H	L	Forward rotation
L	H	L	H	Reverse rotation
H	H	H	H	Brake

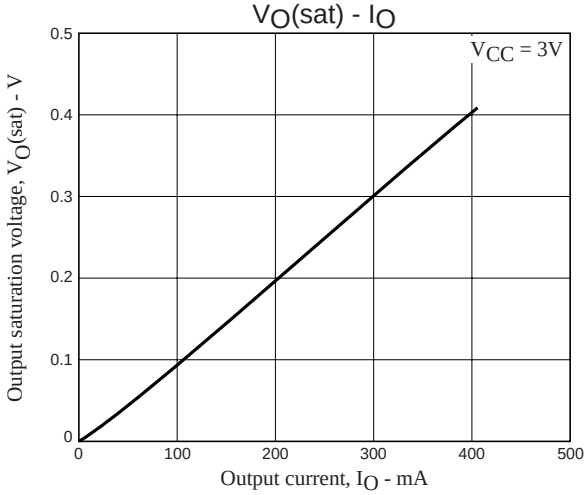
Sample Application Circuit



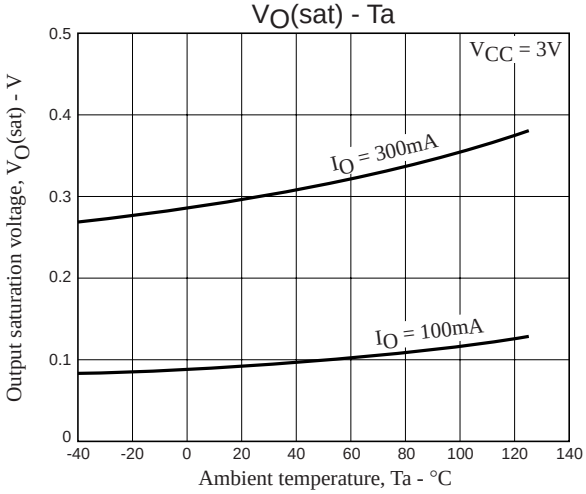
Cautions:

- V_{CC} and GND lines suffer substantial fluctuation in the current quantity, causing a problem of line oscillation in certain cases. In this case, take following points into account:
  (1) Use a thick and short wiring to reduce the wiring inductance.
  (2) Insert a capacitor with satisfactory frequency characteristics near IC.
  (3) Connect S-GND to the control system GND on the CPU side and P-GND to the power system GND.

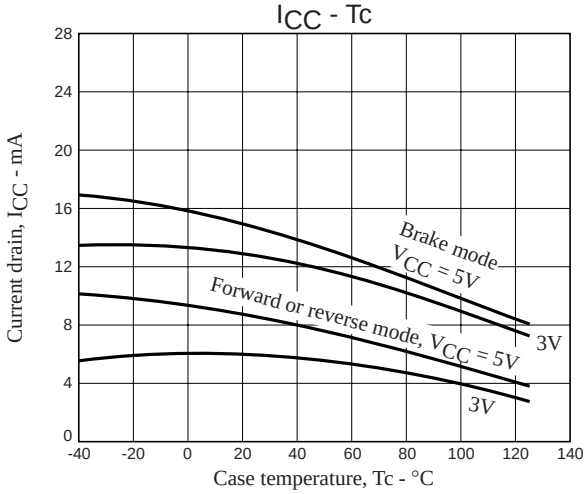
$V_O(sat) - I_O$



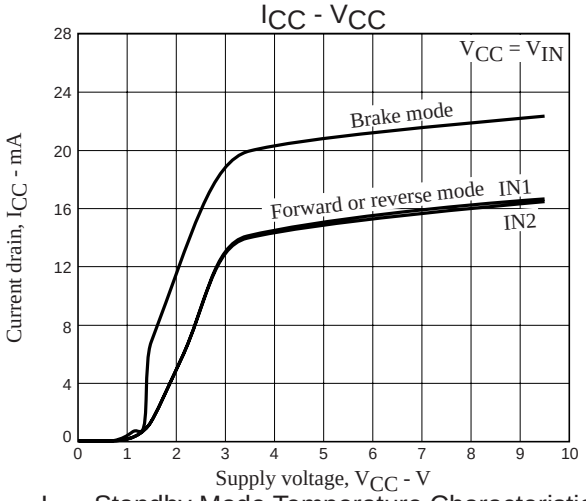
$V_O(sat) - Ta$



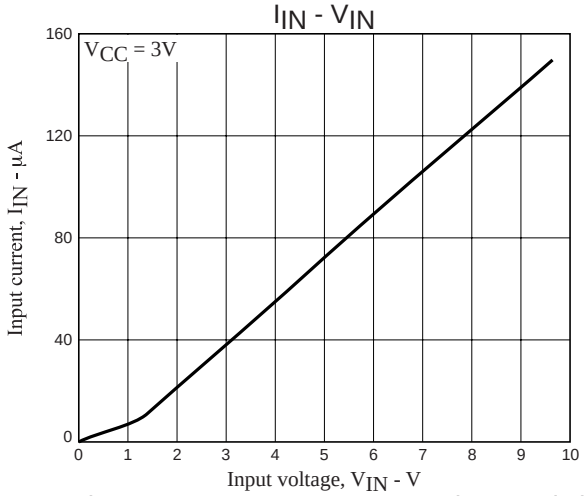
$I_{CC} - Tc$



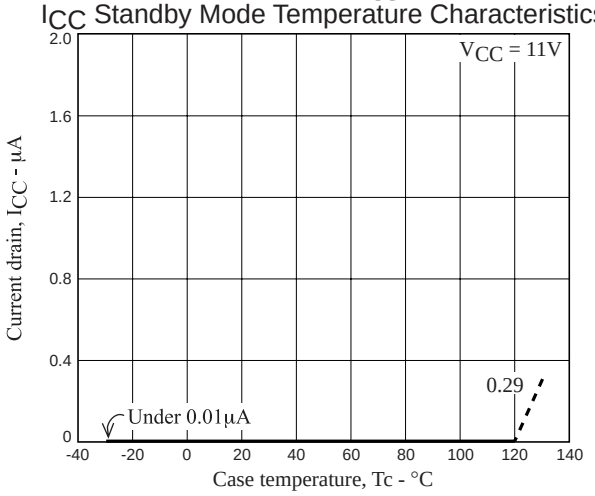
$I_{CC} - V_{CC}$



$I_{IN} - V_{IN}$



I_{CC} Standby Mode Temperature Characteristics



IN Pin Input Current Temperature Characteristics