

# LB1933M

## Allowable Operating Ranges at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage range	V <sub>CC</sub>		2.2 to 7.5	V
	V <sub>S</sub>		1.8 to 7.5	V
Input high-level voltage	V <sub>IH</sub>		1.8 to 7.5	V
Input low-level voltage	V <sub>IL</sub>		-0.3 to +0.7	V

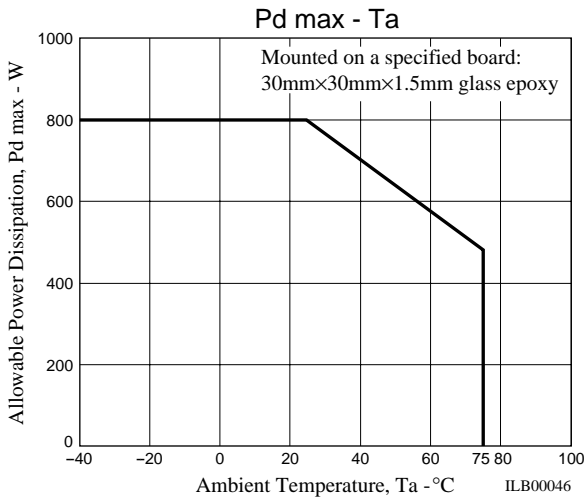
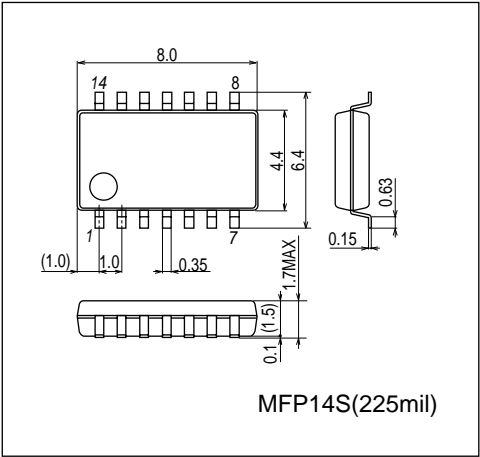
## Electrical Characteristics at Ta = 25°C, V<sub>S1</sub>=V<sub>S2</sub>=V<sub>CC</sub>=3V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Power current	I <sub>CCO</sub>	TOTAL, ENA=0V, V <sub>IN</sub> =0V		0.1	10	μA
	I <sub>CC</sub>	V <sub>CC</sub> , ENA=3V, V <sub>IN</sub> =3V		5	7	mA
	I <sub>S</sub>	V <sub>S1</sub> +V <sub>S2</sub> , ENA=3V, V <sub>IN</sub> =3V		16	25	mA
Output saturation voltage	V <sub>OSat1</sub>	ENA=3V, V <sub>IN</sub> =3V or 0V, I <sub>OUT</sub> =300mA		0.30	0.45	V
	V <sub>OSat2</sub>	ENA=2.2V, V <sub>IN</sub> =2.2V or 0V, V <sub>CC</sub> =2.2V, V <sub>S</sub> =2.0V, I <sub>OUT</sub> =150mA			0.20	V
Input current	I <sub>IN</sub>	V <sub>IN</sub> =3V			80	μA
	I <sub>ENA</sub>	V <sub>ENA</sub> =3V			80	μA
<b>Spark killer diode</b>						
Reverse current	I <sub>S</sub> (leak)	V <sub>CC</sub> =V <sub>S</sub> =7V			30	μA
Forward voltage	V <sub>SF</sub>	I <sub>OUT</sub> =400mA			1.7	V

## Package Dimensions

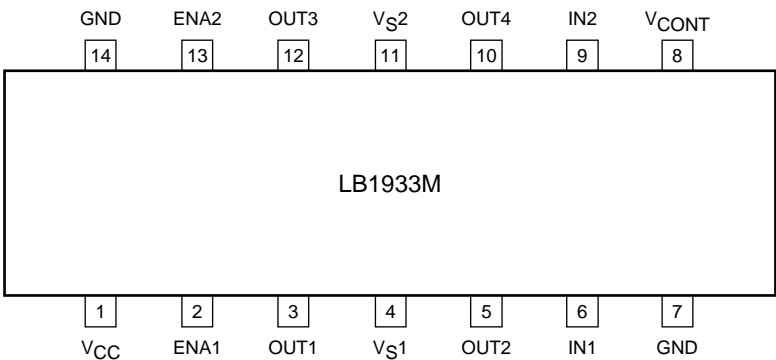
unit : mm (typ)

3111A



LB1933M

Pin Assignment



Note: Connect both ground pins.

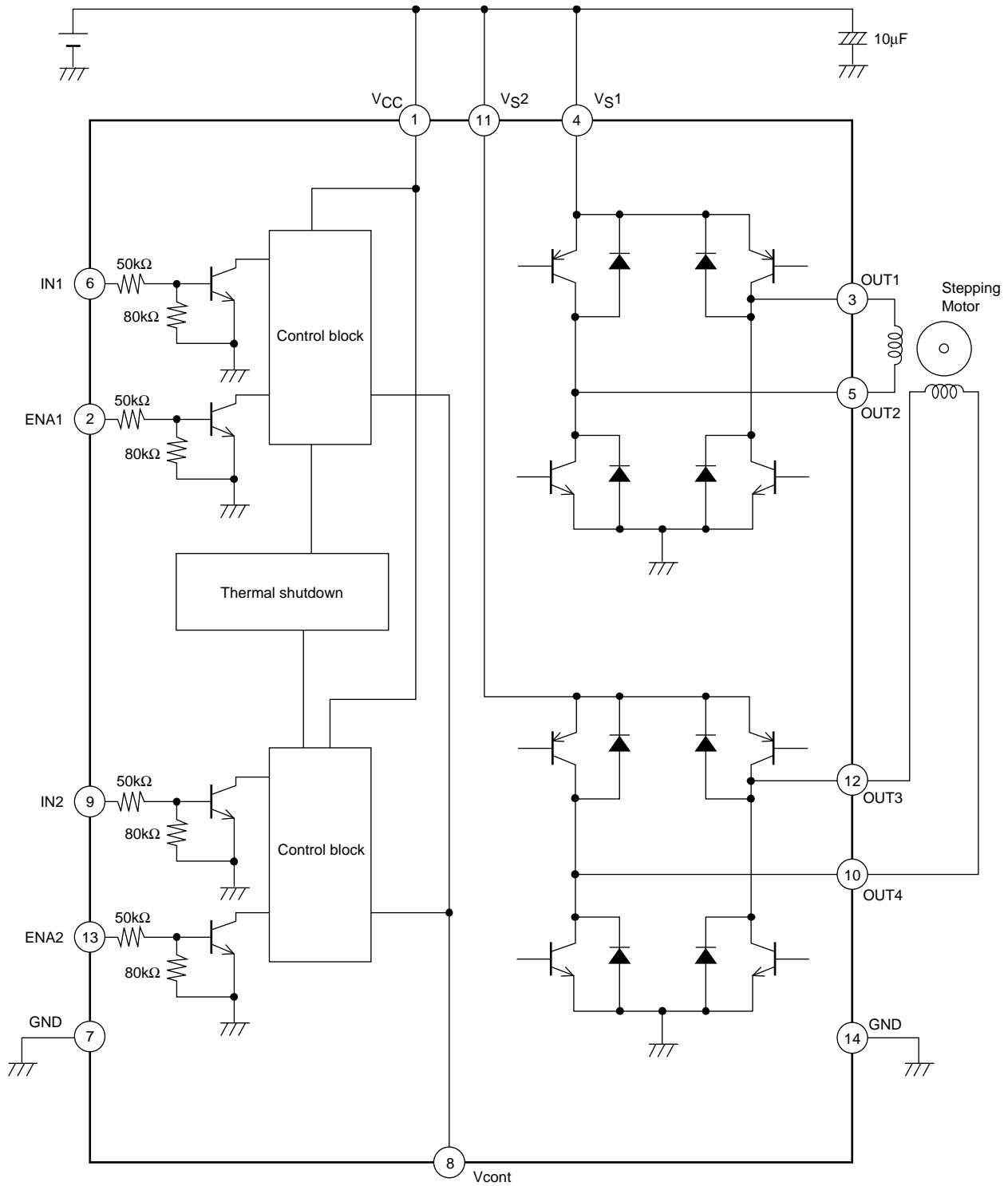
Top view

ILB00047

Truth Table

IN 1/2	ENA 1/2	OUT 1/3	OUT 2/4	Mode
L	H	H	L	Forward
H	H	L	H	Reverse
L	L	OFF	OFF	Standby
H	L	OFF	OFF	Standby

# Equivalent Circuit Block Diagram



\* There are no constraints on the relationship between the applied voltage to VCC, VS1, VS2, ENA1, ENA2, IN1, and IN2 within the absolute maximum ratings (For example, this IC can be used at VCC=3V, VS1=VS2=2V, and ENA=IN=5V)

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