

A8181SLB Series

Surface-Mount, Low Circuit Current, Low Dropout Voltage Dropper Type

■Features

- Surface-mount package
- Output current: 0.5A
- Low circuit current
 $I_{q} \leq 120\mu\text{A}$ (Output ON)
 $I_{q(\text{off})} \leq 20\mu\text{A}$ (Output OFF)
- Low dropout voltage: $V_{DIF} \leq 0.3\text{V}$ (at $I_o = 0.5\text{A}$)
- Output ON/OFF control terminal is compatible with LS-TTL.
- Built-in thermal protection circuit

■Applications

- Portable phones and PHS telephones
- Battery-driven electronic equipment



■Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
DC Input Voltage	V_{IN}	10	V
DC Output Current	I_o	0.6	A
Power Dissipation	P_D	1.9($T_c = 25^\circ\text{C}$)	W
Junction Temperature	T_j	+150	$^\circ\text{C}$
Ambient Operating Temperature	T_{op}	-20 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +150	$^\circ\text{C}$

■Electrical Characteristics

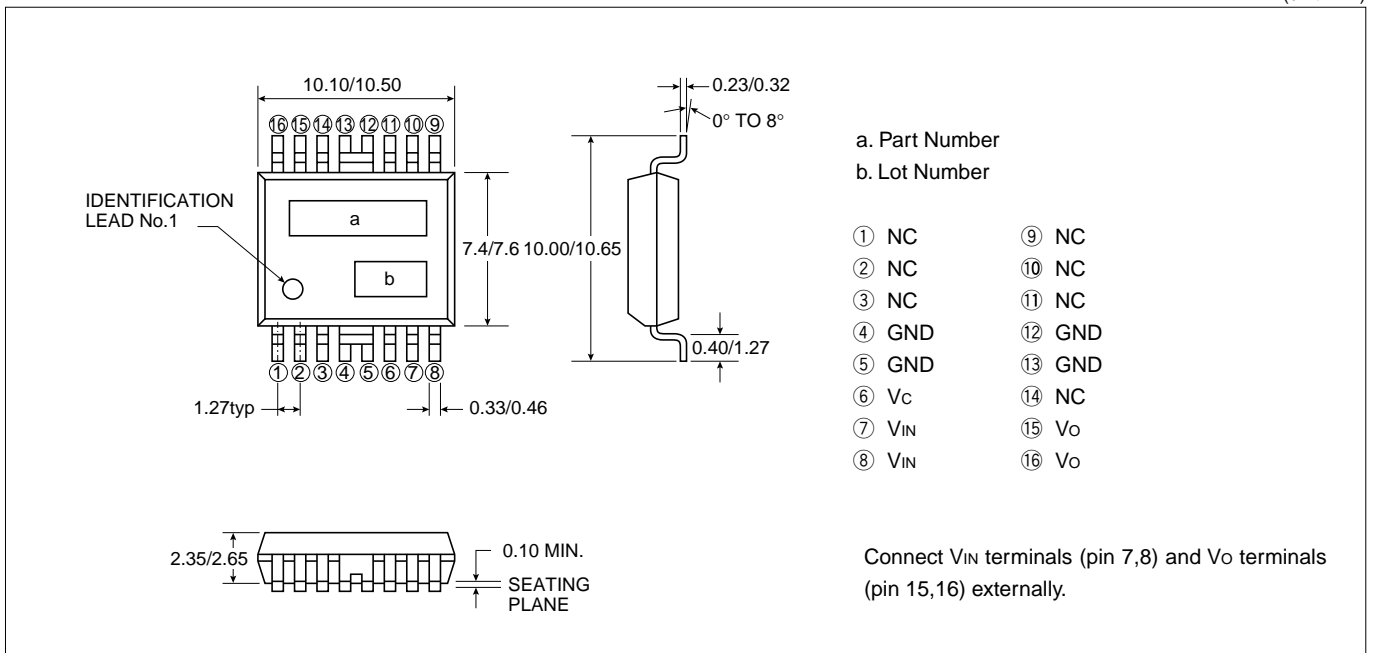
(T_a=25°C unless otherwise specified)

Parameter	Symbol	Ratings			Unit	
		A8181SLB				
		typ.	min.	max.		
Input Voltage	V _{IN}			10	V	
Output Voltage	V _O	4.85	5.00	5.15	V	
	Conditions	V _{IN} =5.5 to 10V, I _o =0 to 0.5A, T _a =-20 to +85°C				
Dropout Voltage	V _{DIF}			0.3	V	
	Conditions	I _o =0.5A				
Line Regulation	ΔV _{OLINE}		10	30	mV	
	Conditions	V _{IN} =5.5 to 10V, I _o =0A				
Load Regulation	ΔV _{OLOAD}		50	100	mV	
	Conditions	V _{IN} =6V, I _o =0 to 0.5A				
Temperature Coefficient of Output Voltage	ΔV _o /ΔT _a		±0.5	±1.0	mV/°C	
	Conditions	T _j =-20 to +85°C				
Circuit Current	I _q		92	120	μA	
	Conditions	V _{IN} =10V, I _o =0 to 0.5A				
Quiescent Circuit Current	I _{q(off)}		10	20	μA	
	Conditions	V _{IN} =10V, I _o =0A, V _C =0.4V				
V _C Terminal*	Control Voltage (Output ON)	V _{O(off)}	2.4		V	
		Conditions	V _{IN} =10V, T _a =-20 to +85°C			
	Control Voltage (Output OFF)	V _{C.OL}			0.4	V
		Conditions	V _{IN} =10V, T _a =-20 to +85°C			
Input Current	I _C	-0.1		+0.1	μA	
	Conditions	T _a =25°C				
		I _C	-1.0	+1.0	μA	
		Conditions	T _a =85°C			

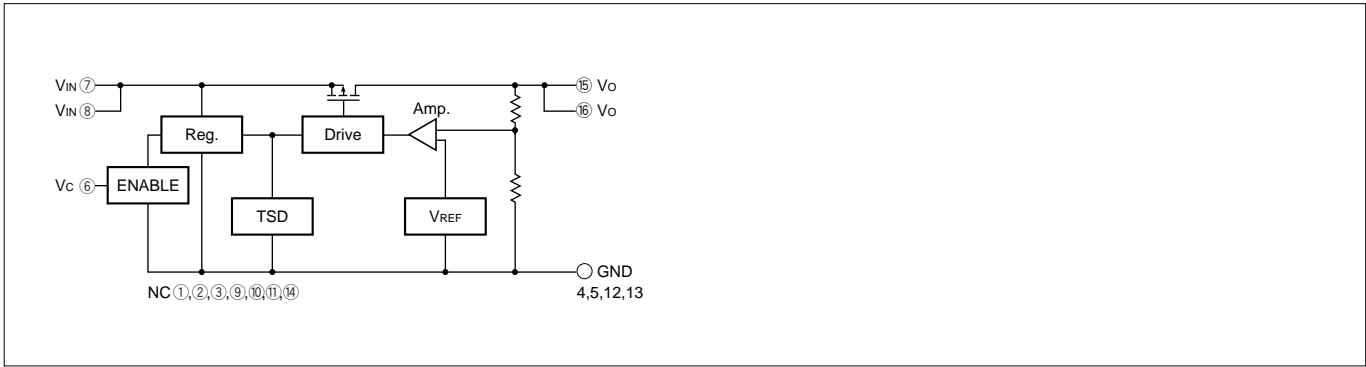
* Output is OFF when output ON/OFF terminal is open.

■Outline Drawing

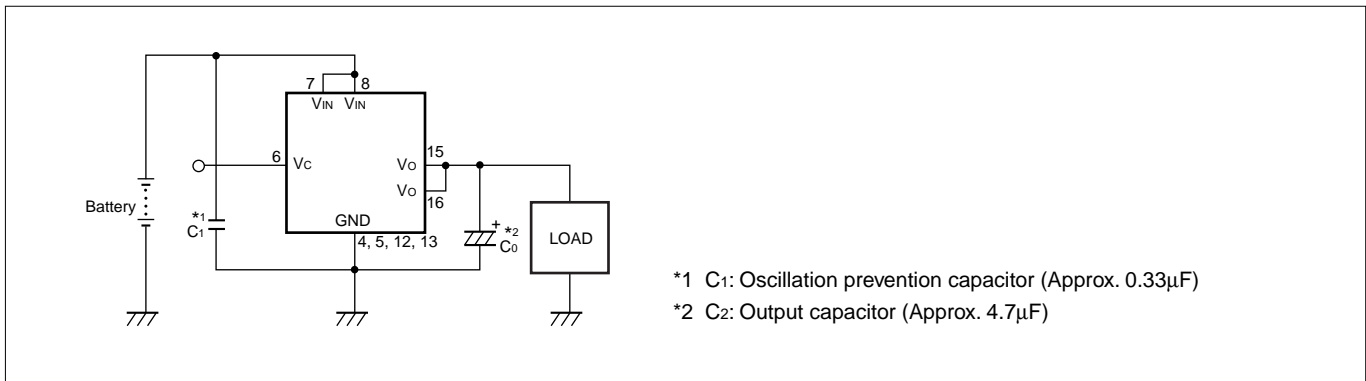
(unit: mm)



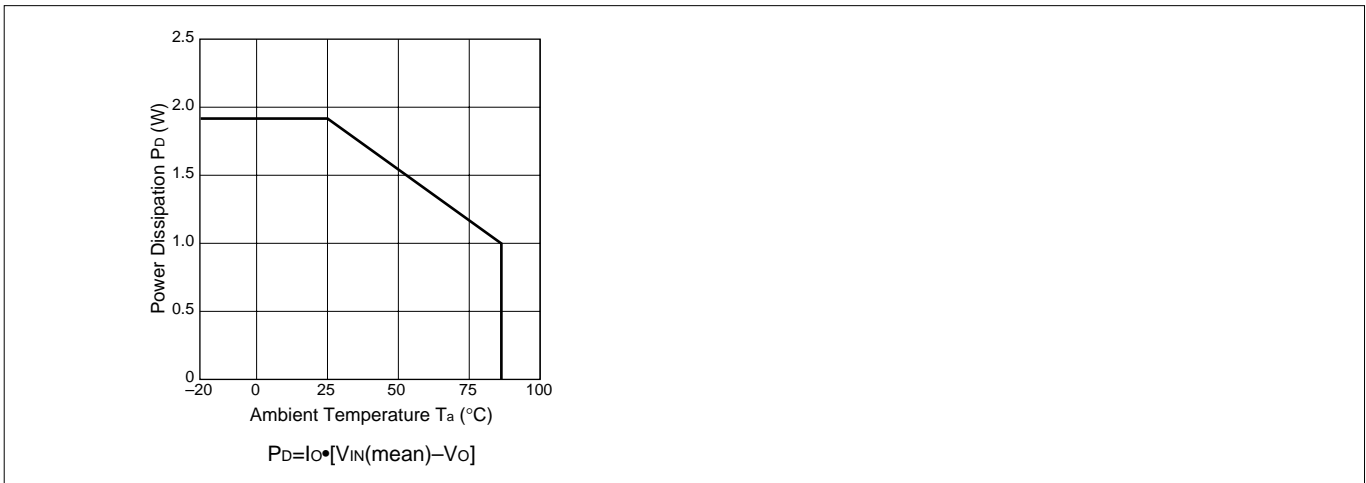
■Block Diagram



■Standard External Circuit



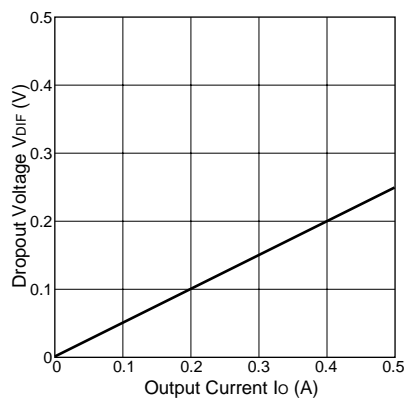
■Ta-Pd Characteristics



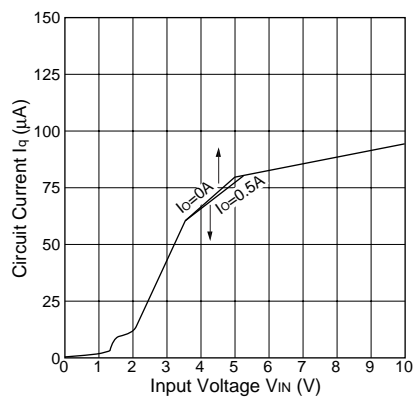
■Typical Characteristics

($T_a=25^\circ\text{C}$)

I_o vs. V_{DIF} Characteristics



Circuit Current



Rise Characteristics

