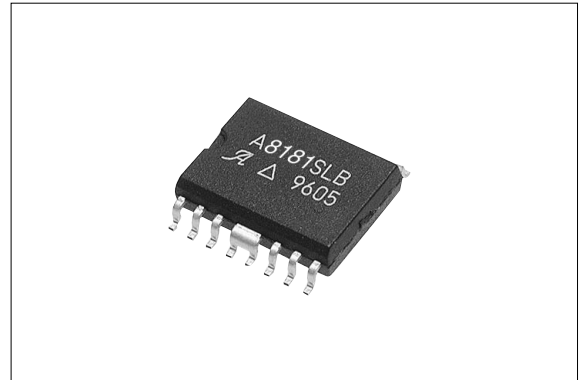


# A8181SLB Series

## 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

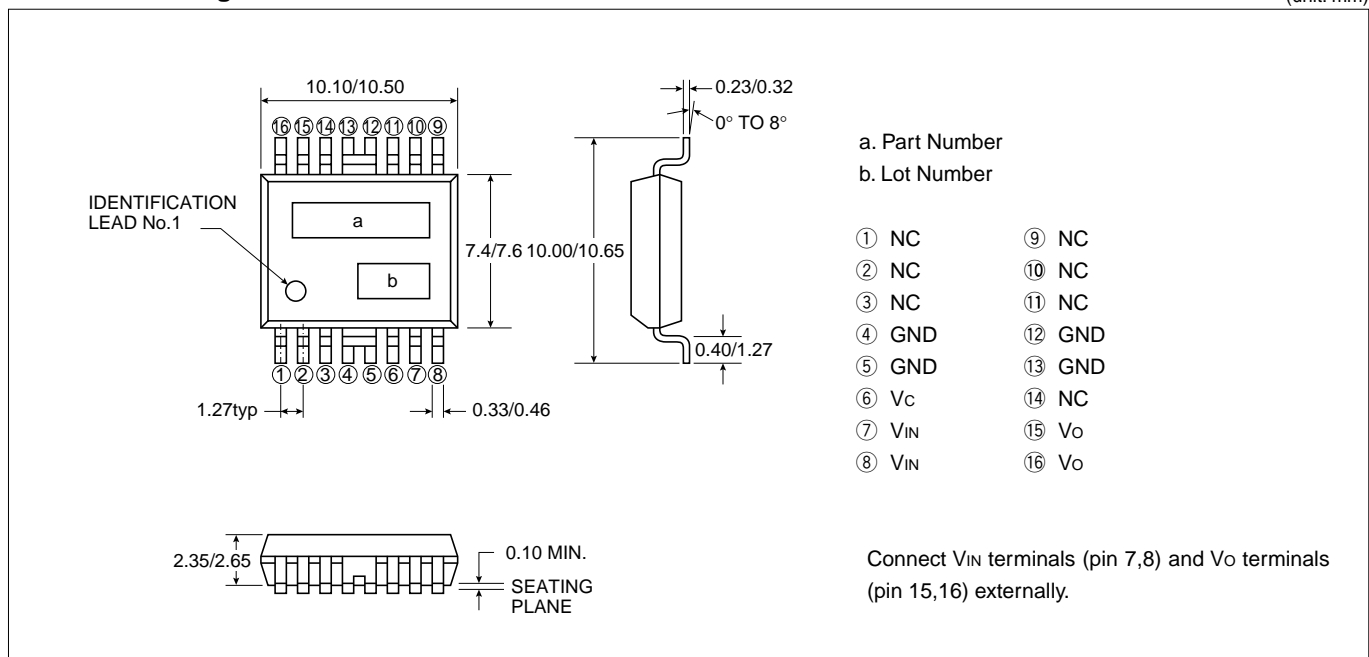
(T<sub>a</sub>=25°C unless otherwise specified)

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

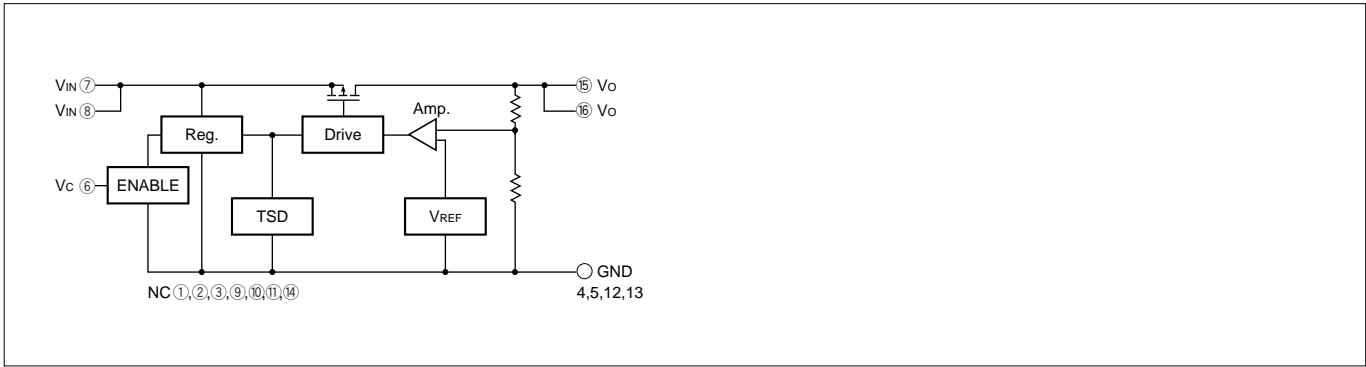
\* Output is OFF when output ON/OFF terminal is open.

■Outline Drawing

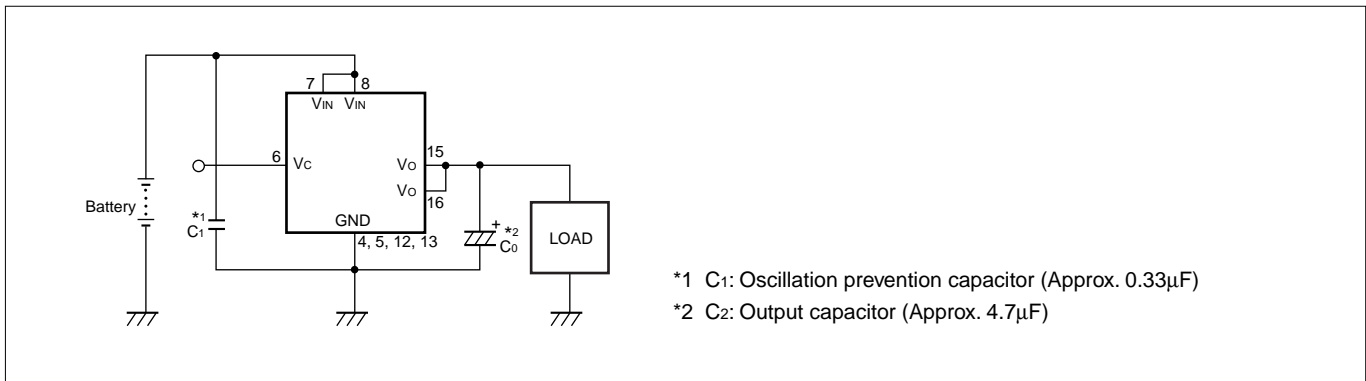
(unit: mm)



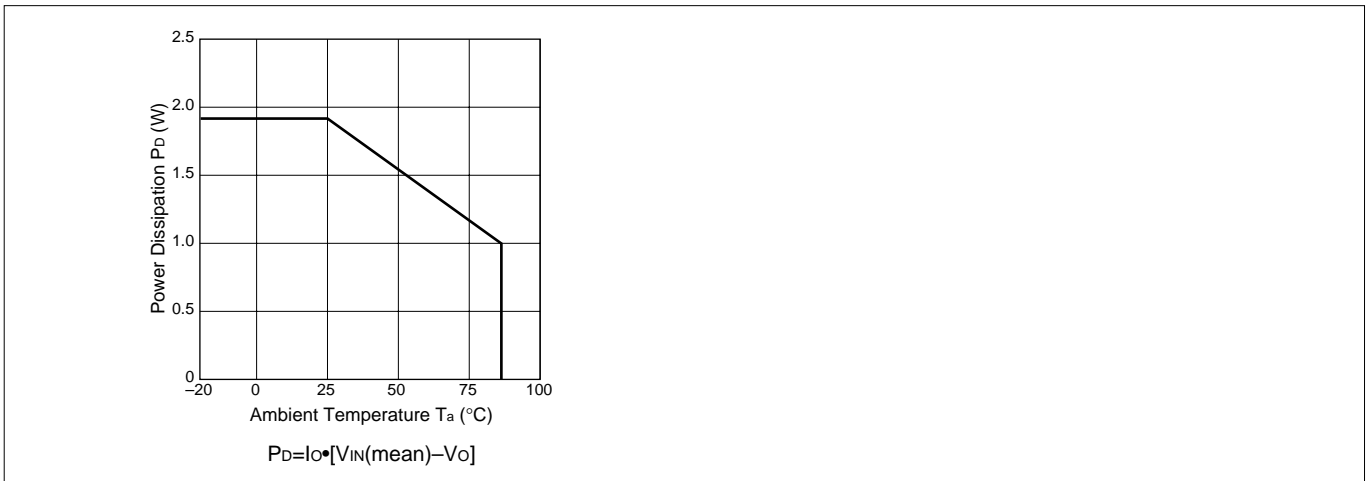
■Block Diagram



■Standard External Circuit



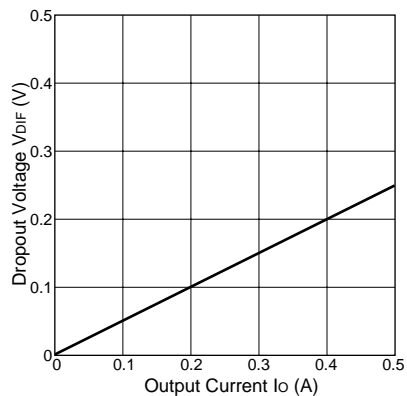
■Ta-Pd Characteristics



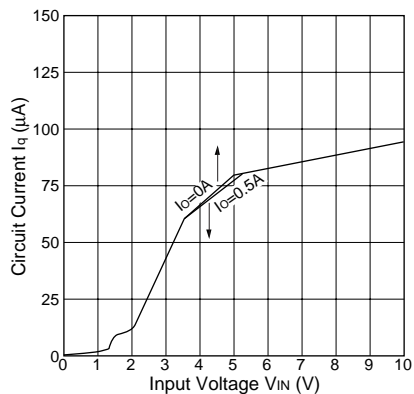
■Typical Characteristics

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

**$I_o$  vs.  $V_{DIF}$  Characteristics**



**Circuit Current**



**Rise Characteristics**

