

A8180SLU/SLT Series

A8184SLT, A8187SLT are product of Allegro Microsystems, INC.

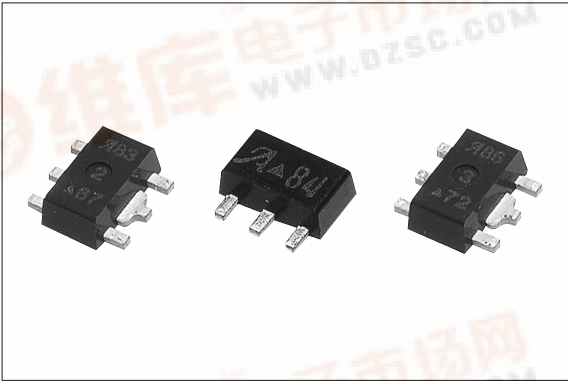
Surface-Mount, Low Quiescent Current, Low Dropout Voltage Dropper Type

Features

- Compact surface-mount package (equivalent to SOT-89)
- Output current: 0.15A
- Low circuit current
Iq≤60μA (Output ON: VIN=6V, Io=0 to 0.1A)
Iq(off)≤5μA(Output OFF: A8183SLU,A8186SLU)
- Low dropout voltage: VDI≤150mV (Io=60mA)
- Output ON/OFF control terminal is compatible with LS-TTL.
(A8183SLU, A8186SLU)
- Built-in thermal protection circuit

Applications

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



Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Input Voltage	VIN	10	V
DC Output Current	Io	0.15	A
Power Dissipation	Pd	0.5(Tc=25°C)	W
Junction Temperature	Tj	150	°C
Ambient Operating Temperature	Top	−30 to +85	°C
Storage Temperature	Tstg	−40 to +150	°C

■Electrical Characteristics

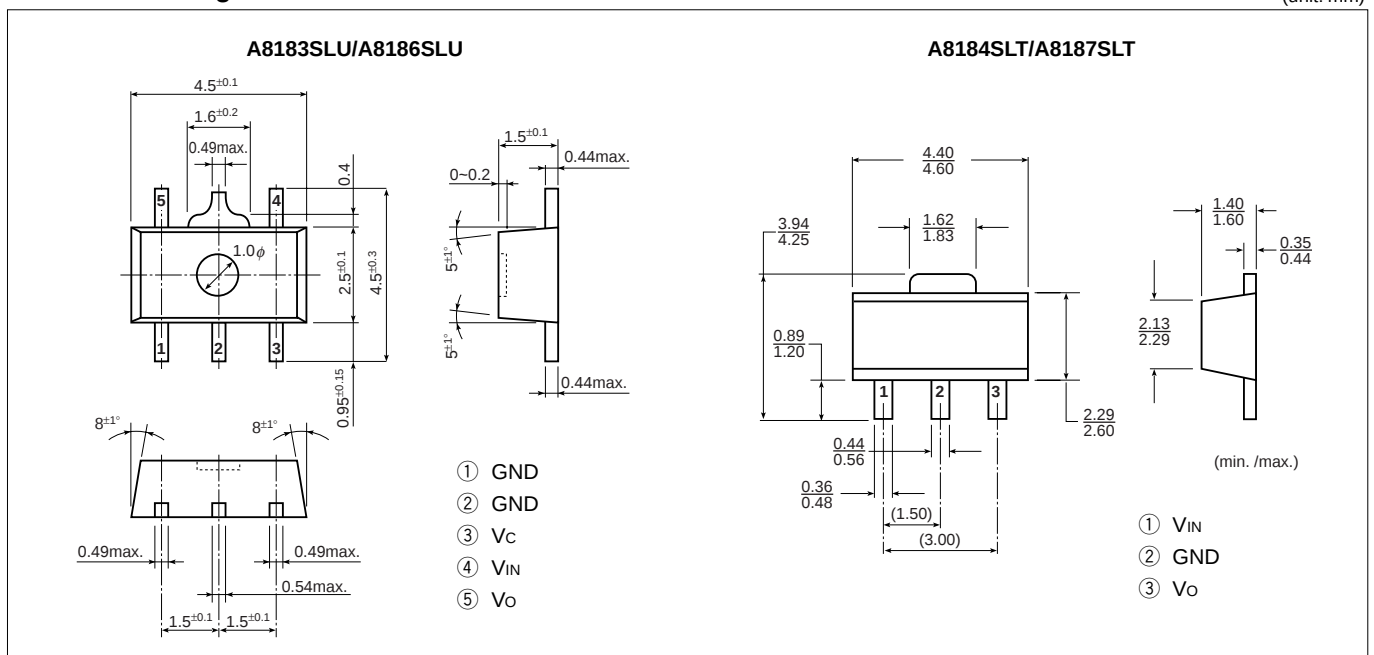
($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter		Symbol	Ratings											Unit	
			A8183SLU			A8184SLT			A8186SLU			A8187SLT			
			min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.		max.
Input Voltage		V _{IN}			8			8			8			8	V
Output Voltage		V _O	2.9	3.0	3.1	2.9	3.0	3.1	3.2	3.3	3.4	3.2	3.3	3.4	V
		Conditions	V _{IN} =4 to 8V, I _O =0 to 0.1A						V _{IN} =4.5 to 8V, I _O =0 to 0.1A						
Dropout Voltage		V _{DIF}			0.15			0.15			0.15			0.15	V
		Conditions	I _O =60mA												
Line Regulation		ΔV _{OLINE}		7	20		7	20		7	20		7	20	mV
		Conditions	V _{IN} =4.5 to 6V, I _O =0A												
Load Regulation		ΔV _{OLOAD}		30	90		30	90		30	90		30	90	mV
		Conditions	V _{IN} =6V, I _O =0 to 0.1A												
Temperature Coefficient of Output Voltage		ΔV _O /ΔT _a	−1.0		1.0	−1.0		1.0	−1.0		1.0	−1.0		1.0	mV/°C
		Conditions	T _J =−30 to +85°C												
Circuit Current		I _q		45	60		45	60		45	60		45	60	μA
		Conditions	V _{IN} =6V, I _O =0 to 0.1A												
Quiescent Circuit Current		I _{q(off)}			5	—					5	—			μA
		Conditions	V _{IN} =4.5 to 8V, V _C =0.4V					—			V _{IN} =4.5 to 8V, V _C =0.4V			—	
V _C Terminal*	Control Voltage (Output ON)	V _{O(off)}	2.0			—			2.0			—			V
		Conditions	V _{IN} =6V					—			V _{IN} =6V			—	
	Control Voltage (Output OFF)	V _{C.OL}			0.8	—					0.8	—			V
		Conditions	V _{IN} =6V					—			V _{IN} =6V			—	
	Input Current	I _C	−1.0		1.0	—			−1.0		1.0	—			μA
Conditions		V _{IN} =6V					—			V _{IN} =6V			—		

*Output is OFF when output ON/OFF terminal (V_c terminal) is open.

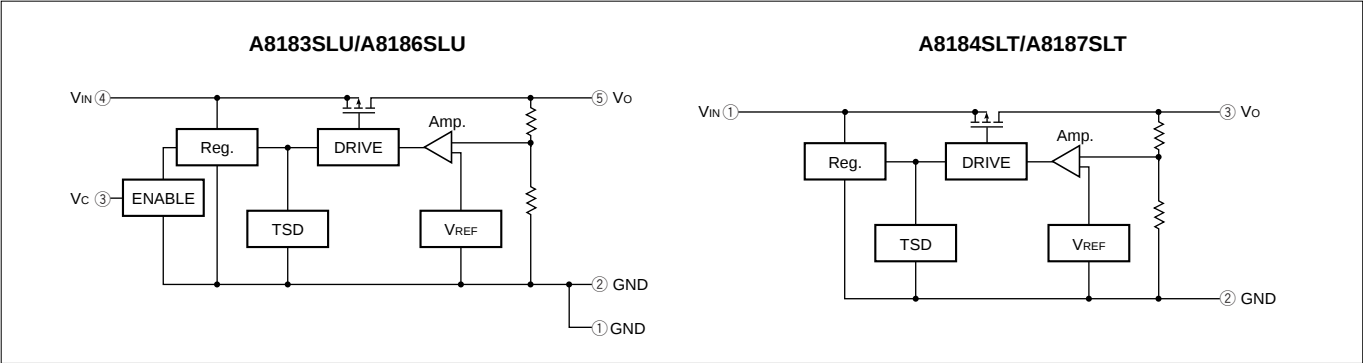
■Outline Drawing

(unit: mm)

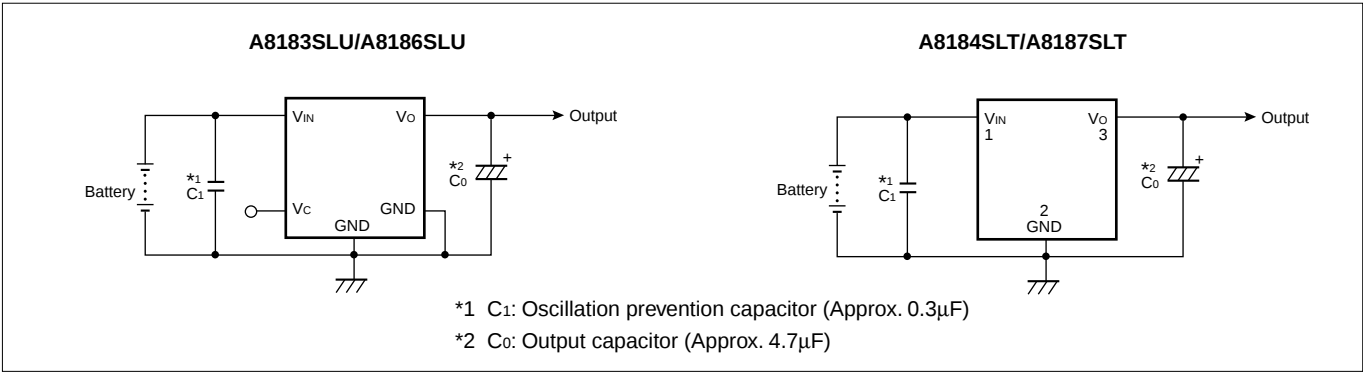


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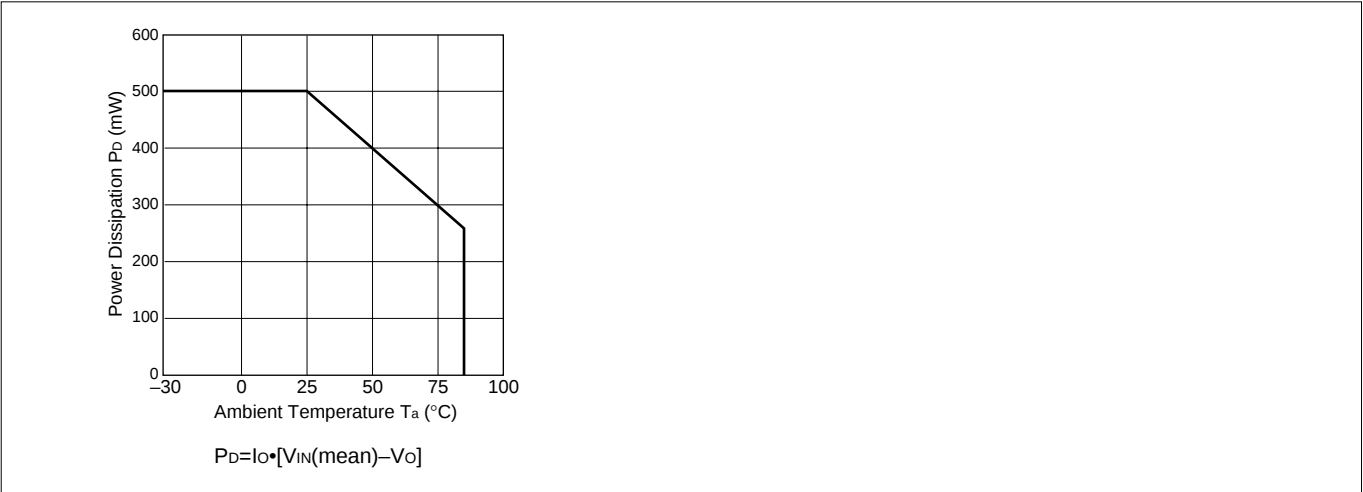
Block Diagram



Standard External Circuit



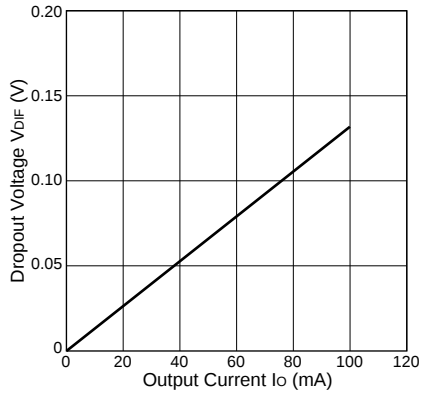
Ta-PD Characteristics



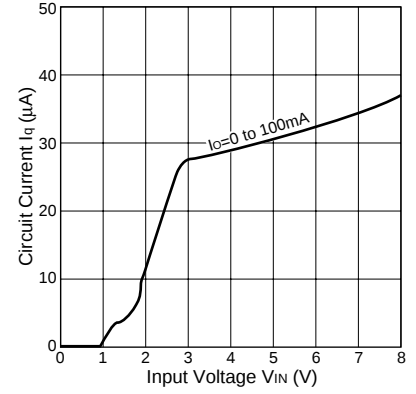
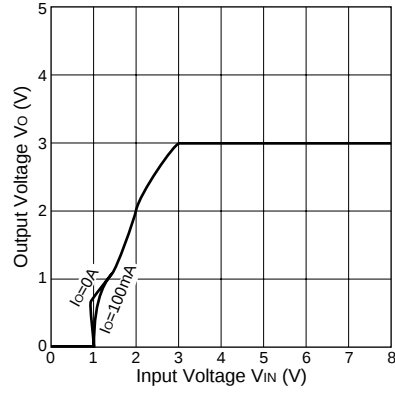
■Typical Characteristics

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

I_o vs. V_{DIF} Characteristics



Rise Characteristics (A8183SLU/A8184SLT) Circuit Current



Output ON/OFF Control (A8183SLU)

