



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SI-8000W Series Surface-Mount, Separate Excitation Step-down Switching Mode

■ Features

- Surface-mount package (SOP8)
- Output current: 0.6A
- High efficiency: 75 to 80%
- Requires only 4 discrete components
- Internally-adjusted phase correction and output voltage adjustment performed internally
- Built-in reference oscillator (60kHz)
- Built-in overcurrent and thermal protection circuits

■ Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
DC Input Voltage	V_{IN}	35	V
Power Dissipation	P_D	1	W
Junction Temperature	T_j	-30 to +125	°C
Storage Temperature	T_{stg}	-40 to +125	°C
Thermal Resistance (Junction to 7-Pin Lead)	θ_{j-L}	22	°C/W
Thermal Resistance (Junction to Ambient Air) ^{*1}	θ_{j-a}	100	°C/W

*1: Glass-epoxy board of 40 × 40mm (copper laminate area 4.3%)

■ Applications

- Power supplies for telecommunication equipment
- Onboard local power supplies

■ Recommended Operating Conditions

Parameter	Symbol	Ratings		Unit
		SI-8033W	SI-8050W	
DC Input Voltage Range	V_{IN}	5.3 to 28	7 to 33	V
Output Current Range	I_O	0 to 0.6		A
Operating Junction Temperature Range	T_{jop}	-30 to +125		°C

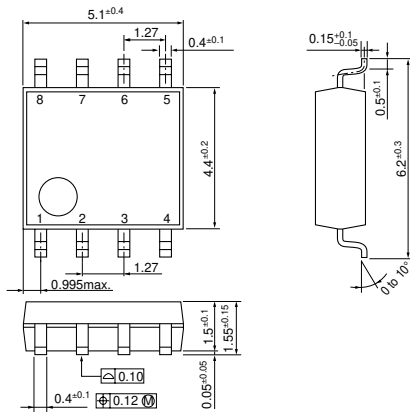
■ Electrical Characteristics

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

Parameter	Symbol	Ratings						Unit
		SI-8033W			SI-8050W			
		min.	typ.	max.	min.	typ.	max.	
Output Voltage	V_O	3.17	3.30	3.43	4.80	5.00	5.20	V
	Conditions	$V_{IN}=15\text{V}, I_O=0.3\text{A}$			$V_{IN}=20\text{V}, I_O=0.3\text{A}$			
Efficiency	η	75			80			%
	Conditions	$V_{IN}=15\text{V}, I_O=0.3\text{A}$			$V_{IN}=20\text{V}, I_O=0.3\text{A}$			
Oscillation Frequency	f	60			60			kHz
	Conditions	$V_{IN}=15\text{V}, I_O=0.3\text{A}$			$V_{IN}=20\text{V}, I_O=0.3\text{A}$			
Line Regulation	ΔV_{OLINE}	60			80			mV
	Conditions	$V_{IN}=8\text{ to }28\text{V}, I_O=0.3\text{A}$			$V_{IN}=10\text{ to }30\text{V}, I_O=0.3\text{A}$			
Load Regulation	ΔV_{OLOAD}	20			30			mV
	Conditions	$V_{IN}=15\text{V}, I_O=0.1\text{ to }0.4\text{A}$			$V_{IN}=20\text{V}, I_O=0.1\text{ to }0.4\text{A}$			
Temperature Coefficient of Output Voltage	$\Delta V_O/\Delta T_a$	± 0.5			± 0.5			mV/°C
Ripple Rejection	R_{REJ}	45			45			dB
	Conditions	$f=100\text{ to }120\text{Hz}$			$f=100\text{ to }120\text{Hz}$			
Overcurrent Protection Starting Current	I_{S1}	0.61			0.61			A
	Conditions	$V_{IN}=15\text{V}$			$V_{IN}=20\text{V}$			

External Dimensions (SOP8)

(Unit : mm)

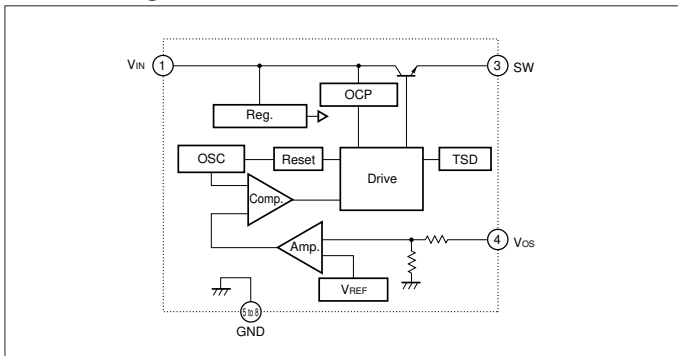


Pin Assignment

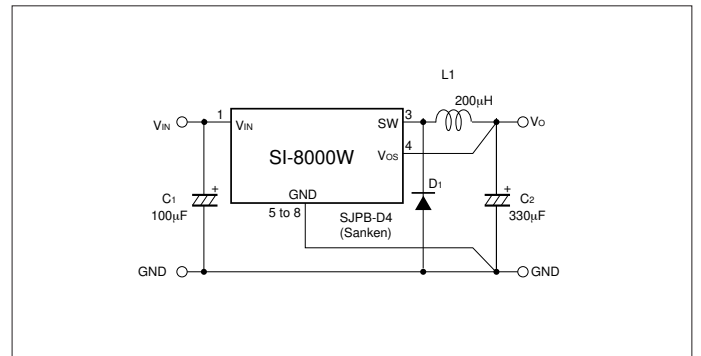
- ① VIN
- ② N.C
- ③ SW
- ④ V_{OS}
- ⑤ GND
- ⑥ GND
- ⑦ GND
- ⑧ GND

Plastic Mold Package Type
 Flammability: UL94V-0
 Product Mass: Approx. 0.1g

Block Diagram

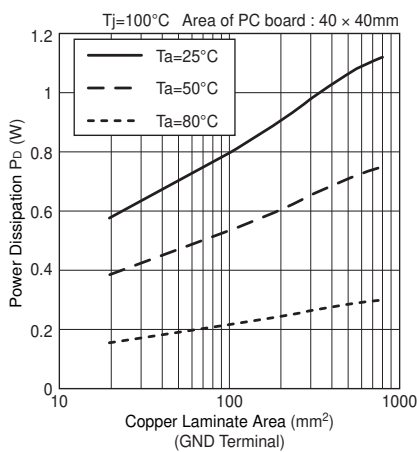


Typical Connection Diagram



Reference Data

Copper Laminate Area vs. Power Dissipation



Copper Laminate Area vs. Thermal Resistance θ_{j-a}

