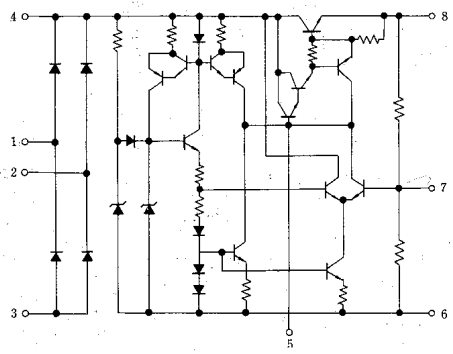
HYBRID RECTIFIER VOLTAGE REGULATOR
SERIES SI-3000G
SI-3050G(5V, 2A) SI-3120G(12V, 1.5A)
SI-3150G(15V, 1.5A) SI-3240G(24V, 1.5A)

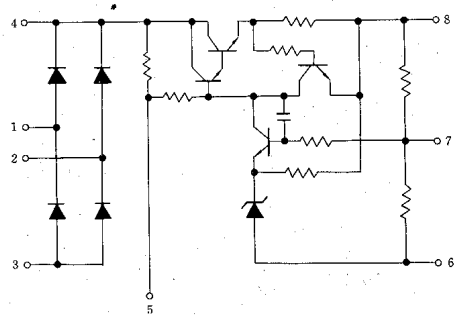
* High power hybrid voltage regulator incorporating bridge rectifier circuit inside.
* Incorporate a power transistor and flip-chip structure devices requiring few external components and no adjustment.
* Built-in circuit protection against overload and short circuit.
* Can provide production cost economy and assembly simplicity.

EQUIVALENT CIRCUIT

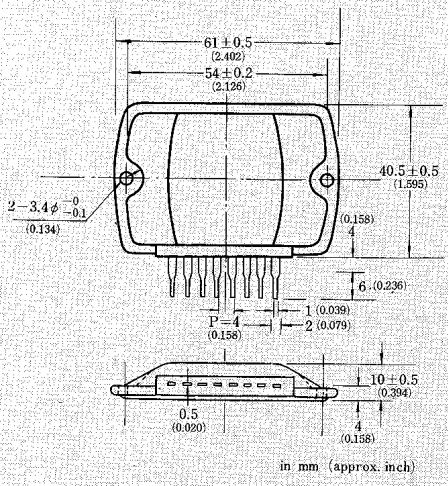
SI-3050G



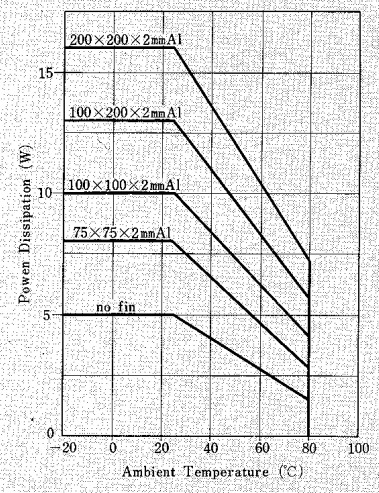
SI-3120G, SI-3150G, SI-3240G



OUTLINE DRAWING



DARATING



ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

Parameter	Unit	SI-3050G	SI-3120G	SI-3150G	SI-3240G	Conditions
AC Input Voltage	Vrms	25	35	40	45	
Output Current	A	3.5	3.5	3.5	3.5	
Power Dissipation	W	40	40	40	40	T_C=25℃
		5	5	5	5	No Fin
Thermal Resistance (Junction to Case)	℃/W	2.5	2.5	2.5	2.5	
Allowable Surge Current for Built-in Rectifier Diode	Apeak	50	50	50	50	Sine half wave 10 msec
Operating Temperature	℃	−20 to +80	−20 to +80	−20 to +80	−20 to +80	
Storage Temperature	℃	−30 to +100	−30 to +100	−30 to +100	−30 to +100	

ELECTRICAL CHARACTERISTICS (Ta=25℃)

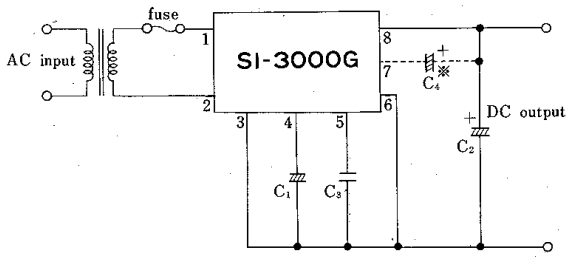
Type Number		SI-3050G			SI-3120G			SI-3150G			SI-3240G		
Parameter	Unit	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX
AC Input Voltage *1	Vrms	10	—	20	14.5	—	30	17	—	35	24	—	40
	Conditions	I_o=1.5A			I_o=1A			I_o=1A			I_o=1A		
Output Voltage	V_{DC}	4.9	5.0	5.1	11.8	12.0	12.2	14.8	15.0	15.2	23.8	24.0	24.2
	Conditions	V_{AC}=12V, I_o=1.5A			V_{AC}=17V, I_o=1A			V_{AC}=20V, I_o=1A			V_{AC}=28V, I_o=1A		
Output Current *1	A	0	—	2	0	—	1.5	0	—	1.5	0	—	1.5
Line Regulation	mV	—	10	30	—	100	200	—	100	200	—	200	300
	Conditions	V_{AC}=10~14V, I_o=1.5A			V_{AC}=14.5~19.5V I_o=1A			V_{AC}=17~23V I_o=1A			V_{AC}=24~32V, I_o=1A		
Load Regulation	mV	—	30	60	—	80	160	—	90	180	—	100	200
	Conditions	V_{AC}=12V, I_o=0~2A			V_{AC}=17V, I_o=0~1.5A			V_{AC}=20V, I_o=0~1.5A			V_{AC}=28V, I_o=0~1.5A		
Temperature Coefficient	mV/℃	—	±0.5	—	—	±1.5	—	—	± 2	—	—	± 3	—
Output Ripple Voltage	mV_{P-P}	—	2	5	—	4	8	—	4	8	—	5	10
	Conditions	V_{AC}=12V, I_o=1.5A			V_{AC}=17V, I_o=1A			V_{AC}=20V, I_o=1A			V_{AC}=28V, I_o=1A		
Output Current Llmiting	A	2.7	—	3.5	1.7	—	3.5	1.7	—	3.5	1.7	—	3.5
	Conditions	V_{AC}=12V			V_{AC}=17V			V_{AC}=20V			V_{AC}=28V		

*1 Do not exceed the power dissipation shown in the power derating.

*2 Capactiors

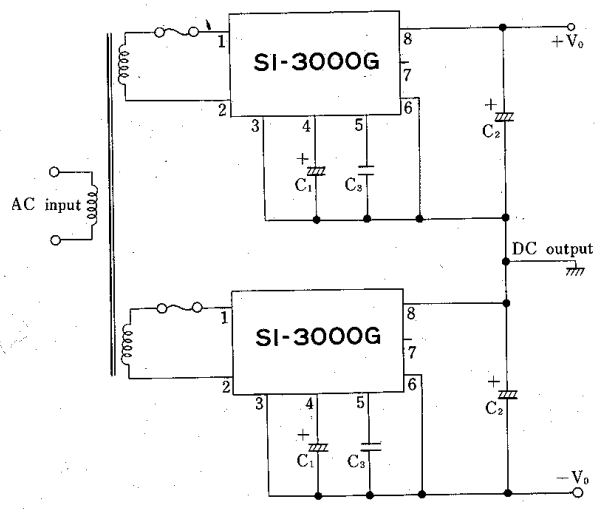
	C_1	C_2	C_3
SI−3050G	3300μF	47μF	0.001μF
SI−3120G	2200μF	47μF	10μF
SI−3150G	2200μF	47μF	10μF
SI−3240G	2200μF	47μF	10μF

CONNECTIONS



※C_4 can be connected to SI-3120G, SI-3150G, and SI-3240G to reduce output ripple voltage.

CONNECTIONS FOR DUAL POWER SUPPLY (POSITIVE AND NEGATIVE)



C4 VS. RIPPLE VOLTAGE