

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	SI-3242P
Manufacturer:	Sanken Electric USA Inc.
Package:	Please confirm with sales
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/sanken-electric-usa-inc/si-3242p.html>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

SI-3000P Series

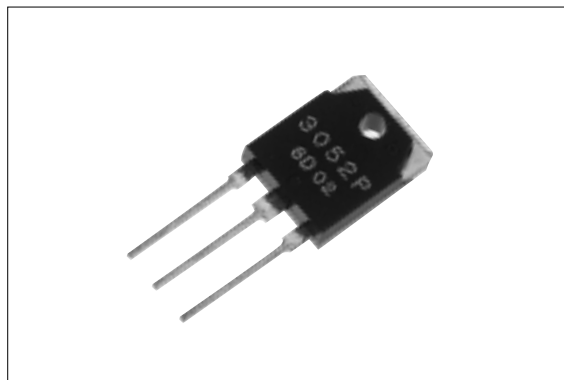
3-Terminal, Dropper Type

■Features

- TO-3P package 3-terminal regulator
- Output current: 2.0A
- Wide range of DC input voltage
- Built-in foldback overcurrent protection circuit

■Applications

- For stabilization of the secondary stage of switching power supplies
- Electronic equipment



■Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Input Voltage	V_{IN}	45	V
DC Output Current	I_O	2.0	A
Power Dissipation	P_{D1}	50(Tc=25°C)	W
	P_{D2}	2.0(Without heatsink, stand-alone operation)	W
Junction Temperature	T_j	-30 to +125	°C
Ambient Operating Temperature	T_{op}	-20 to +80	°C
Storage Temperature	T_{stg}	-30 to +125	°C
Thermal Resistance (junction to case)	$R_{th(j-c)}$	2.0	°C/W

■Electrical Characteristics

(Ta=25°C)

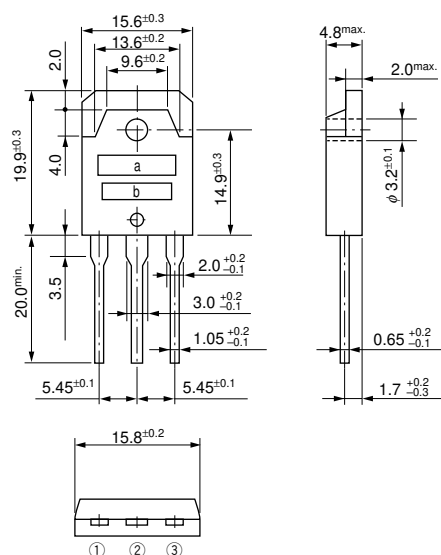
Parameter	Symbol	Ratings												unit
		SI-3052P			SI-3122P			SI-3152P			SI-3242P			
		min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	
Input Voltage	V _{IN}	8		30	15		35	18		40	27		40	V
Output Voltage	V _O	4.9	5.0	5.1	11.8	12.0	12.2	14.8	15.0	15.2	23.8	24.0	24.2	V
	Conditions													
Dropout Voltage	V _{DIF}			3			3			3			3	V
	Conditions													
Line Regulation	ΔV _{OLINE}		2	10		10	30		10	30		25	50	mV
	Conditions													
Load Regulation	ΔV _{OLOAD}		40	100		80	200		80	200		120	300	mV
	Conditions													
Temperature Coefficient of Output Voltage	ΔV _O /ΔT _a		±0.5			±1.5			±1.5			±2.5		mV/°C
Ripple Rejection	R _{REJ}													dB
	Conditions													
Overcurrent Protection Starting Current	I _{S1}	2.4			2.4			2.4			2.4			A
	Conditions													
Limited Current at Overcurrent Protection	I _{S2}			0.6			0.6			0.6			0.6	A
	Conditions													

A foldback type overcurrent protection circuit is built into the Ic regulator. Therefore, avoid using it for the following applications as it may cause starting errors:

- (1) Constant current load (2) Plus/minus power (3) Series power (4) V_O adjustment by raising ground voltage

■External Dimensions

(unit:mm)



a. Part Number

b. Lot Number

Pin Arrangement

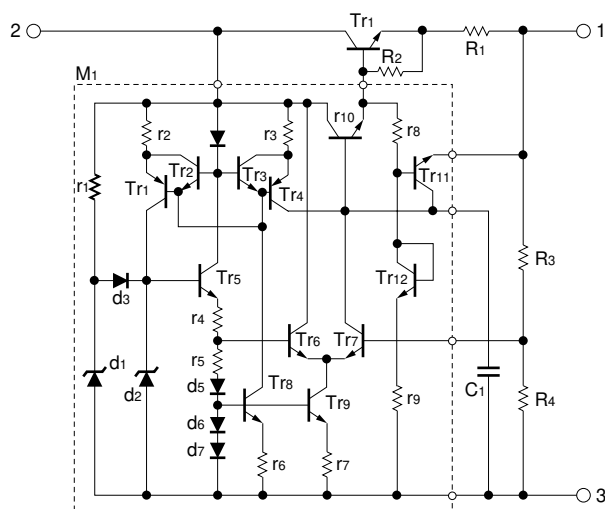
- ① V_O
- ② V_{IN} (backside of case)
- ③ GND

Plastic Mold Package Type (TO-3P)

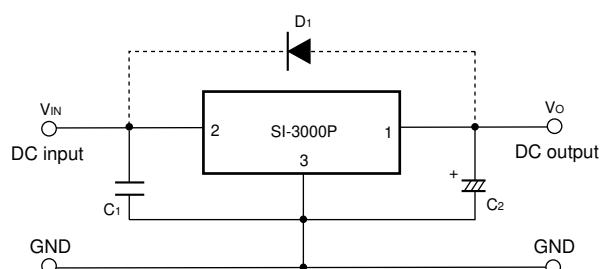
Flammability: UL94V-0

Weight: Approx. 6g

■Block Diagram



■Standard External Circuit



C1: Oscillation prevention capacitor (approx. $0.33\mu\text{F}$)

Connection to terminal No.2 must be made as short as possible.

C2: Output capacitor (47 to $100\mu\text{F}$)

Connection to terminal No.1 must be made as short as possible.

D1: Protection diode (RM1Z)

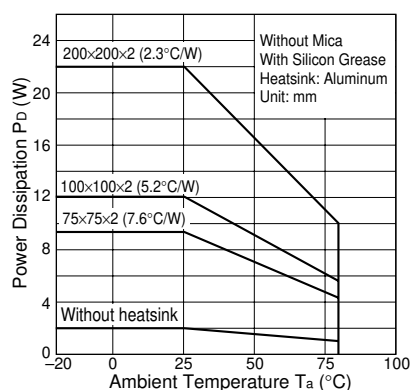
Required for protection against reverse biasing of input and output.

Note 1: Connect a $47\mu\text{F}$ to $100\mu\text{F}$ capacitor to both sides of the load if the wiring between the output terminal and the load is long.

Note 2: An isolation type diode is provided from input to ground and also from output to ground. These may be destroyed if the device is reverse biased. In this case, use a diode with low V_F to protect them.

Note 3: The output voltage may not be adjusted by raising the ground voltage (using a diode or resistor).

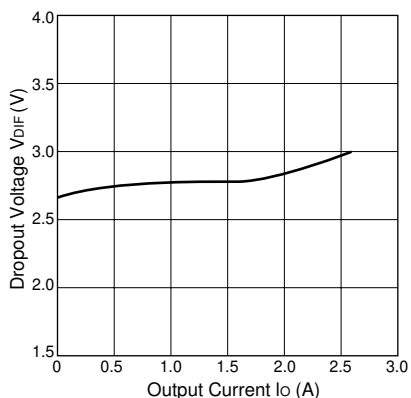
■ T_a - P_D Characteristics



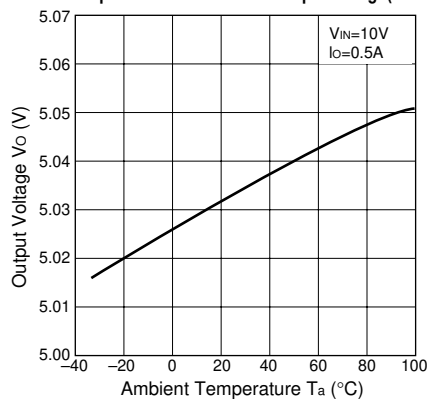
■Typical Characteristics

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

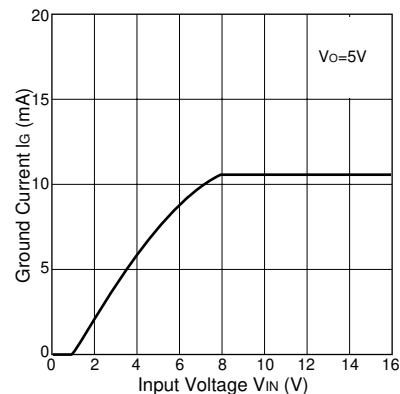
I_o vs. V_{DIF} Characteristics



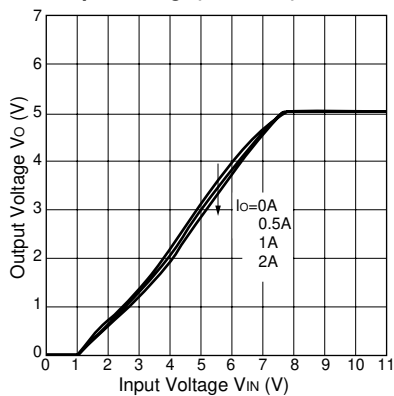
Temperature Coefficient of Output Voltage(SI-3052P)



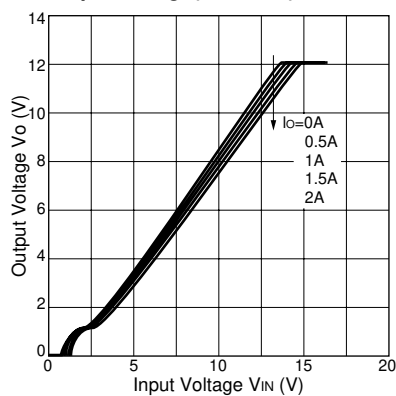
Circuit Current(SI-3052P)



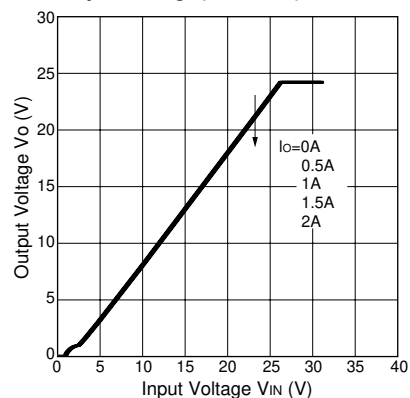
Output Voltage(SI-3052P)



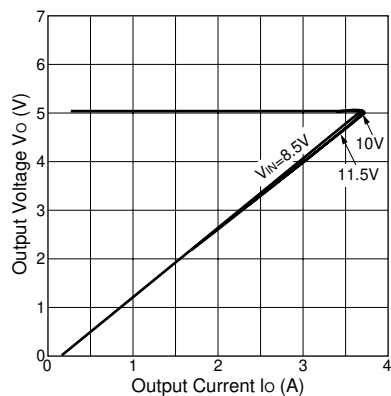
Output Voltage(SI-3122P)



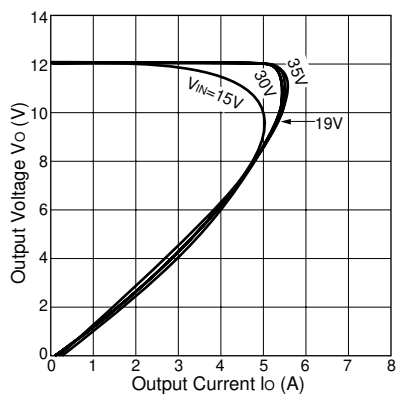
Output Voltage(SI-3242P)



Overcurrent Protection Characteristics(SI-3052P)



Overcurrent Protection Characteristics(SI-3122P)



Overcurrent Protection Characteristics(SI-3242P)

