

<b>1-1 Regulator ICs</b> .....	<b>2</b>
1-1-1 Dropper Type Regulator ICs .....	2
• Low Dropout Voltage, 3-Terminal Regulator ICs .....	2
• Low Dropout Voltage, 5-Terminal Regulator ICs .....	2
• Low Dropout Voltage, 5-Terminal Regulator ICs with Built-in Reset Function	2
1-1-2 Switching Type Regulator ICs .....	3
• Surface Mount Regulator ICs .....	3
• 5-Terminal Regulator ICs .....	3
• Regulator ICs with Coil .....	4
1-1-3 Multiple Output Regulator ICs .....	5
• 2 Outputs .....	5
• 3 Outputs .....	6
• 4 Outputs .....	6
<b>1-2 Motor Driver ICs</b> .....	<b>7</b>
1-2-1 2-Phase Stepper Motor Unipolar Driver ICs .....	7
1-2-2 3-Phase Stepper Motor Driver Control ICs .....	8
1-2-3 5-Phase Stepper Motor Driver Control ICs .....	8
<b>1-3 Voltage Doubler/Bridge Rectifier Automatic Switch ICs</b> .....	<b>9</b>
<b>1-4 Error Amplifier ICs</b> .....	<b>10</b>
<b>1-5 Power Switch ICs</b> .....	<b>11</b>

1-1-1 Dropper Type Regulator ICs

■ Low Dropout Surface Mount Regulator ICs

Series Name	Output Current (A)	Output Voltage (V)					Functions	Fig. No.
		1.2 (Variable)	1.8	2.5	3.3	5		
SI-3000LUS	0.25		SI-3018LUS	SI-3025LUS	SI-3033LUS	SI-3050LUS	Built-in foldback overcurrent protection Thermal protection	1
SI-3000LU	0.25	SI-3012LU	SI-3018LU	SI-3025LU	SI-3033LU	SI-3050LUS	Built-in foldback overcurrent protection	2
SI-3000LSA	1.0		SI-3018LSA	SI-3025LSA	SI-3033LSA	SI-3050LSA	Thermal protection	3
SI-3000KS	1.0	SI-3012KS	SI-3018KS	SI-3025KS	SI-3033KS		Output ON/OFF control	

■ Low Dropout Voltage, 3-Terminal Regulator ICs (Dropout Voltage:  $V_{DIF} \leq 1.0V$ )

Series Name	Output Current (A)	Output Voltage (V)					Functions	Fig. No.
		5	9	12	15	24		
SI-3000N	1.0	SI-3050N	SI-3090N	SI-3120N	SI-3150N		Overcurrent protection (SI-3003N: Dropping type)	4
SI-3003N	1.0	SI-3053N		SI-3123N	SI-3153N			
SI-3001N	1.5	SI-3051N	SI-3091N	SI-3121N	SI-3151N	SI-3241N	Overvoltage protection	5
SI-3002N	2.0	SI-3052N	SI-3092N	SI-3122N	SI-3152N		Thermal protection	
SI-3000V	2.0	SI-3052V		SI-3122V	SI-3152V		Overcurrent protection	

■ Low Dropout Voltage, 5-Terminal Regulator ICs (Dropout Voltage:  $V_{DIF} \leq 1.0V$ )

Series Name	Output Current (A)	Output Voltage (V)								Functions	Fig. No.
		3.3	5	9	12	15	15.7	24	Variable (3 to 24)		
SI-3000B	0.27						SI-3157B		SI-3025B	Adjustment of output voltage (rise only) Output ON/OFF control Overcurrent protection Overvoltage protection Thermal protection	6
SI-3000F	1.0		SI-3050F	SI-3090F	SI-3120F	SI-3150F	SI-3157F	SI-3240F	SI-3025F		
SI-3000C	1.5	SI-3033C	SI-3050C	SI-3090C	SI-3120C	SI-3150C		SI-3240C			
SI-3000J	2.0		SI-3050J	SI-3090J	SI-3120J	SI-3150J					

■ Low Dropout Voltage, 5-Terminal Regulator ICs with Built-in Reset Function (Dropout Voltage:  $V_{DIF} \leq 1.0V$ )

Series Name	Output Current (A)	Output Voltage (V)	Functions	Fig. No.
		5		
SI-3000R	1.5	SI-3050R	Overcurrent protection Overvoltage protection Thermal protection	6

External Dimensions

• No. 1

• No. 2

• No. 3

• No. 4

• No. 5

• No. 6

(unit: mm)

## 1-1-2 Switching Type Regulator ICs

### ■ Surface Mount Regulator ICs

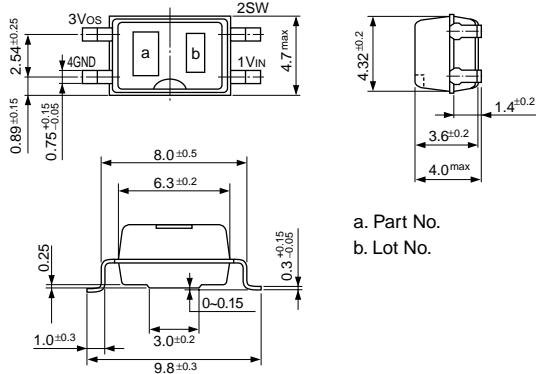
Series Name	Output Current (A)	Output Voltage (V)					Functions	Fig. No.
		3.3	5	9	12	15		
SAI	0.4			SAI06	SAI03	SAI04	Overcurrent protection Thermal protection Adjustment of output voltage (rise only)	1
	0.5		SAI02	SAI01				
SI-8000JD	1.5	SI-8033JD	SI-8050JD	SI-8090JD			Overcurrent protection Thermal protection Output ON/OFF control Soft start Adjustment of output voltage (rise only)	2
SI-8000SD	3.0	SI-8033SD	SI-8050SD				Overcurrent protection Thermal protection Output ON/OFF control Soft start Adjustment of output voltage (rise only)	

### ■ 5-Terminal IC Regulators

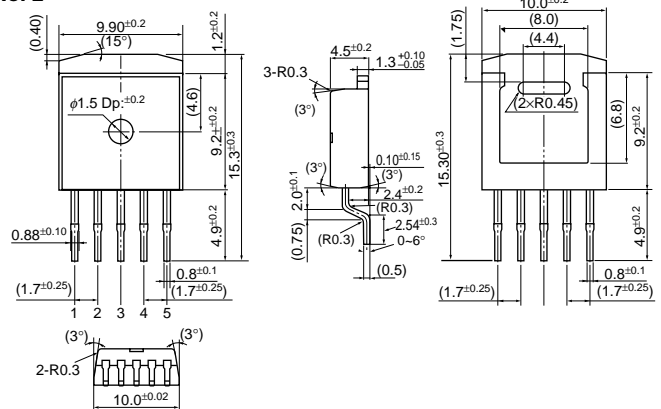
Series Name	Output Current (A)	Output Voltage (V)							Functions	Fig. No.
		1.5 (Variable)	2.5	3.3	5	9	12	15		
SI-8000E	0.6				SI-8050E	SI-8090E	SI-8120E		Overcurrent protection Thermal protection Adjustment of output voltage (rise only)	3
SI-8000JF	1.5	SI-8015JF	SI-8025JF	SI-8033JF	SI-8050JF	SI-8090JF	SI-8120JF	Overcurrent protection Thermal protection Output ON/OFF control		
SI-8000S	3.0			SI-8033S	SI-8050S	SI-8090S	SI-8120S	SI-8150S	Soft start Adjustment of output voltage (rise only)	

## External Dimensions

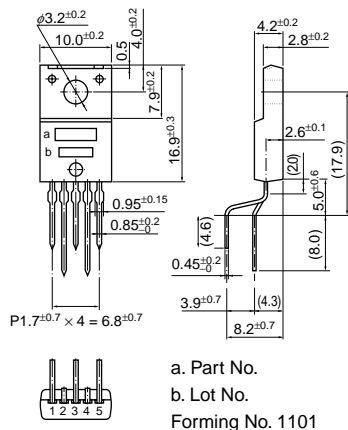
#### • No. 1



#### • No. 2



#### • No. 3



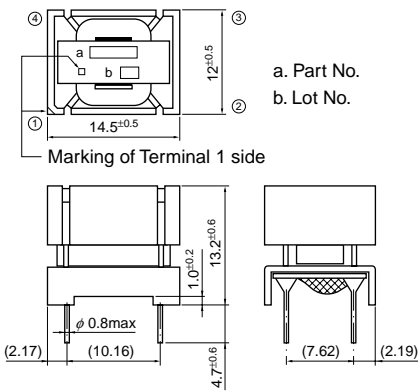
(unit: mm)

**Regulator ICs with Coil**

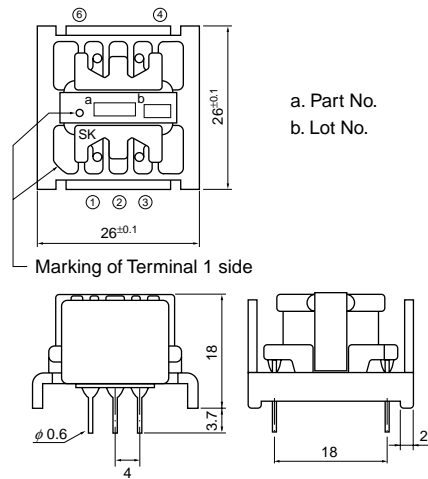
Series Name	Output Current (A)	Output Voltage (V)					Functions	Fig. No.
		3.3	5	9	12	15		
SI-8400L	0.4				SI-8402L	SI-8405L	Overcurrent protection Thermal protection	1
	0.5	SI-8403L	SI-8401L					
SI-8500L	1.0	SI-8503L	SI-8501L	SI-8504L	SI-8502L	SI-8505L	Overcurrent protection Thermal protection Output ON/OFF control Soft start	2

**External Dimensions**

• No. 1



• No. 2



(unit: mm)



3-Outputs

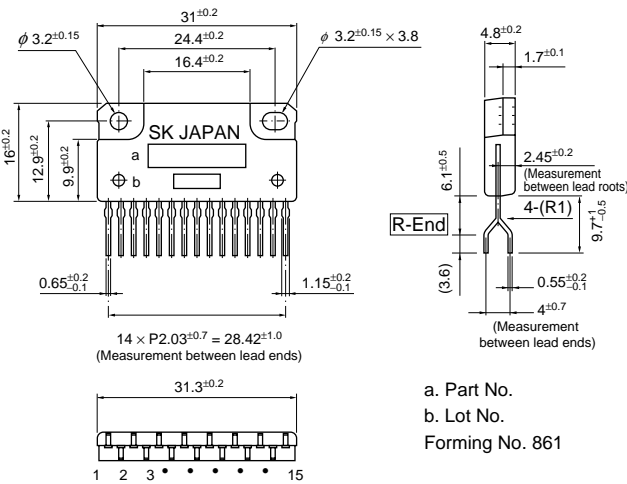
Part No.		Vo(V)	Io(A)	Regulator Type	Functions	Fig. No.
SLA3001M	Reg1	12	1.5	Dropper Type	Dropper type: Overcurrent protection Overvoltage protection Thermal protection	1
	Reg2	5.0	1.5			
	Reg3	9.0	1.5			
SLA3002M	Reg1	5.0	0.5	Switching Type	Adjustment of output voltage (rise only) Output ON/OFF control Switching Type	
	Reg2	15.7	1.0	Dropper Type		
	Reg3	9.0	0.4	Switching Type		
SLA3004M	Reg1	5.0	0.5	Switching Type	Overcurrent protection Thermal protection	
	Reg2	9.0	0.4			
	Reg3	9.0	0.4			

4-Outputs

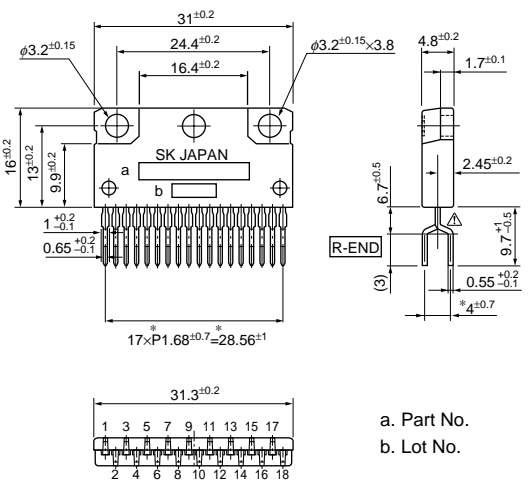
Part No.		Vo(V)	Io(A)	Regulator Type	Functions	Fig. No.
SLA3005M	ch1	5.0	0.5	Dropper Type	Overcurrent protection (Vo shutdown after operation) Thermal protection Output terminal for overcurrent protection operation signal	2
	ch2	5.0	0.5			
	ch3	5.0	0.5			
	ch4	5.0	0.5			
SLA3006M	ch1	5.0	0.5	Dropper Type	Overcurrent protection Thermal protection Output terminal for overcurrent protection operation signal	
	ch2	5.0	0.5			
	ch3	5.0	0.5			
	ch4	5.0	0.5			
SLA3007M	ch1	5.0	0.5	Dropper Type	Overcurrent protection (Vo shutdown after operation) Thermal protection Output terminal for overcurrent protection operation signal	
	ch2	5.0	0.5			
	ch3	5.0	0.5			
	ch4	3.3	0.5			

External Dimensions

• No. 1



• No. 2



(unit: mm)

1-2-1 2-Phase Motor Unipolar Driver ICs

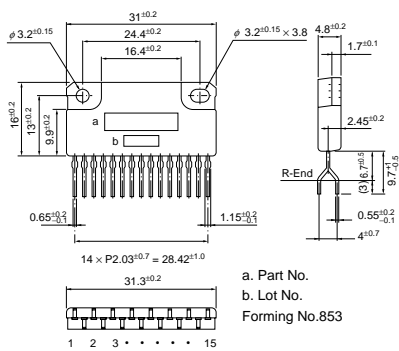
Part No.	Output Current (A)	Supply Voltage (V)	Step Sequence Mode	Package	Remarks	Fig. No.
SLA7022MU	1	~46	2-phase/1-2 phase excitation	ZIP15Pin With Fin		1
SMA7022MU				ZIP15Pin		2
SLA7029M	1.5	~46	2-phase/1-2 phase/ W1-2 phase excitation	ZIP15Pin With Fin		1
SMA7029M				ZIP15Pin		2
SMA7036M				ZIP15Pin	Equivalent to SMA7029M	
SDK03M	1	~46	2-phase/1-2 phase/ W1-2 phase excitation	SMD16Pin	1 motor driven by 2 ICs	3
SLA7027MU				ZIP18Pin With Fin		
SLA7024M	1.5	~46	2-phase/1-2 phase/ W1-2 phase excitation	ZIP18Pin With Fin		4
SLA7032M				ZIP18Pin With Fin	Equivalent to SLA7024M	
SLA7026M	3	~46	2-phase/1-2 phase/ W1-2 phase excitation	ZIP18Pin With Fin		4
SLA7033M				ZIP18Pin With Fin	Equivalent to SLA7026M	
SLA7042M	1.2	~46	2W1-2 phase Supporting $\mu$ Step	ZIP18Pin With Fin		4
SLA7044M	3			ZIP18Pin With Fin		

• Serial Signal Generator for SLA704xM

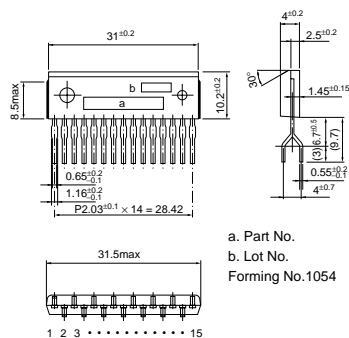
Part No.	Supply Voltage (V)	Package	Fig. No.
PG001M	4.5~5.5	DIP16Pin	5

External Dimensions

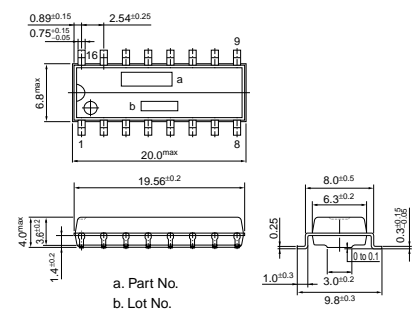
• No. 1



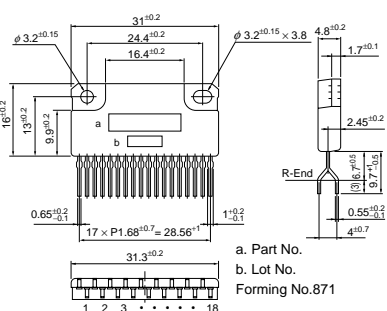
• No. 2



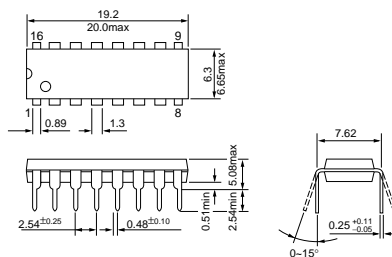
• No. 3



• No. 4



• No. 5



(unit: mm)

1-2-2 3-Phase Motor Driver ICs

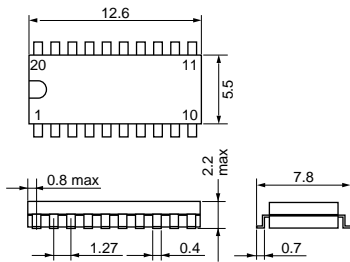
Part No.	Output Current (A)	Supply Voltage (V)	Step Sequence Mode	Package	Remarks	Fig. No.
SI-7600	3.0	15~45	2-phase/2-3 phase excitation	SOP20Pin	Use in pair with SLA5017, etc.	1
SI-7600D				DIP20Pin		2
SLA-7611M				ZIP18Pin With Fin		3

1-2-3 5-Phase Motor Driver Control ICs

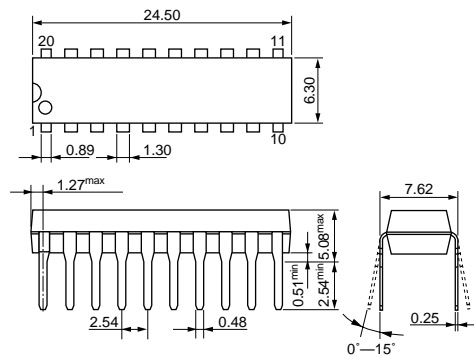
Part No.	Supply Voltage (V)	Step Sequence Mode	Package	Remarks	Fig. No.
SI-7502	15~42	For pentagonal connection drive	Powder coating 27pin	Use with SLA6503 and SLA5011	4

External Dimensions

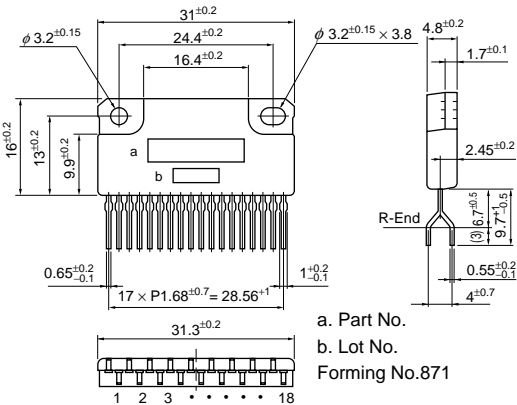
• No. 1



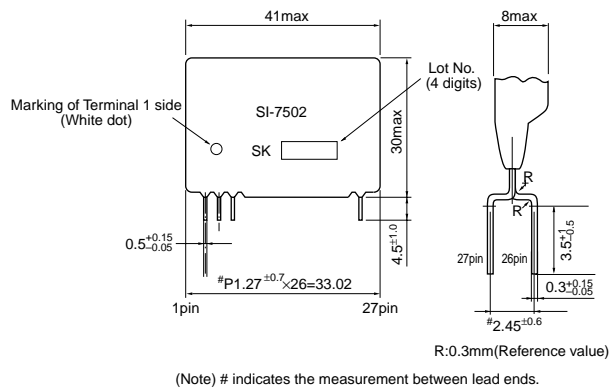
• No. 2



• No. 3



No. 4

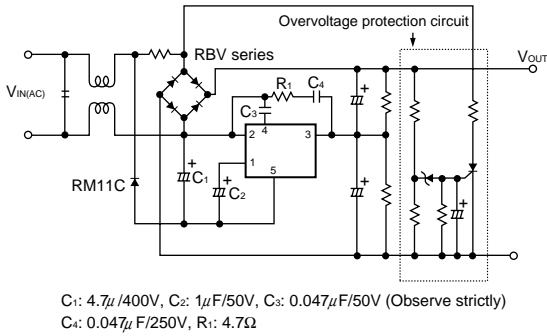


(unit: mm)



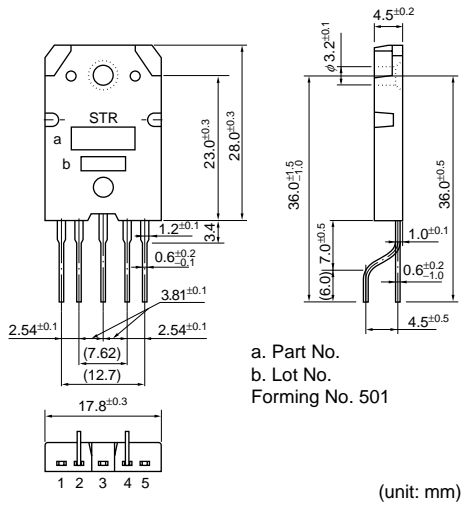
Setting Switchover Voltage		RMS On-state Current I <sub>T</sub> (RMS) (A)		Remarks	Fig. No.
V <sub>c</sub> (DC) (V)	V <sub>c</sub> (AC) (V)	5	10		
205±5	145	STR82145	STR83145	With latching capability	1
225±5	159		STR83159	With latching capability	

Example of application circuit



External Dimensions

• No. 1

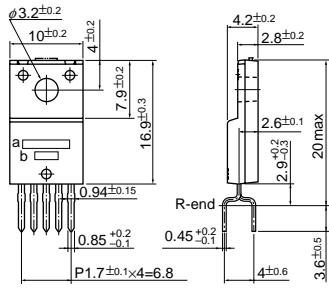




Part No.	Classification	Number of Circuits	Supply of Circuits (V)	Output Current (A)	Allowable Power Dissipation without Heatsink (W)	Package	Protection Circuit	Fig. No.
SI-5151S	High-side power switch with diagnosis function	1 circuit	40	1.8	1.5	TO-220F 5Pin	Built-in overcurrent and thermal protection circuits	1
SI-5152S				1.8	1.8			
SI-5153S				2.04	1.8			
SI-5154S				2.5	1.8			
SI-5155S				2.5	1.8			
SDH04		2 circuits	35	1.5	2.6	SMD16Pin		2
SPF5003				1.8	1.8			
SPF5004		3 circuits	40	1.5	4.8	SIP15Pin		5
SLA2501M				1.8	2.7	SMD24Pin		4
SPF5007				1.2	4.8	SIP15Pin		5
SLA2502M	Low-side power switch	4 circuits	40	1.8	2.0	SMD16Pin	Built-in overcurrent, overvoltage and thermal protection circuit	3
SPF5002A				2.9	2.8	SMD24Pin		
SPF5009				Self limited	5.0			4
SPF5012								

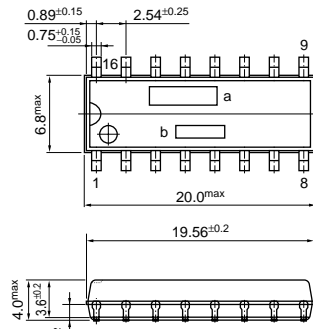
External Dimensions

• No. 1



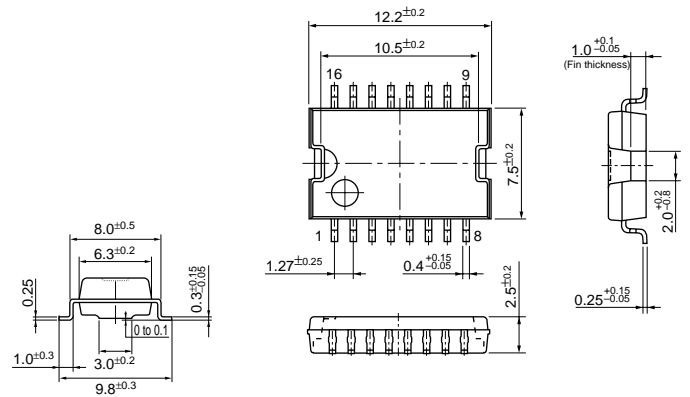
- 1. GND
  - 2. V<sub>IN</sub>
  - 3. V<sub>O</sub>
  - 4. DIAG
  - 5. V<sub>B</sub>
- a. Part No.  
b. Lot No.  
(Forming No. 1123)

• No. 2

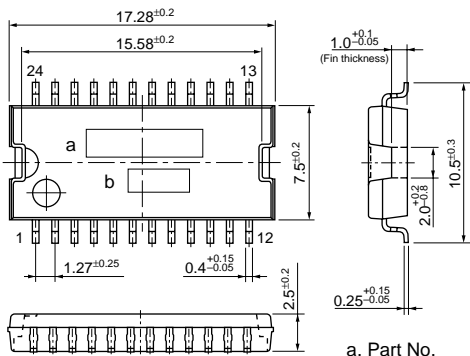


- a. Part No.  
b. Lot No.

• No. 3

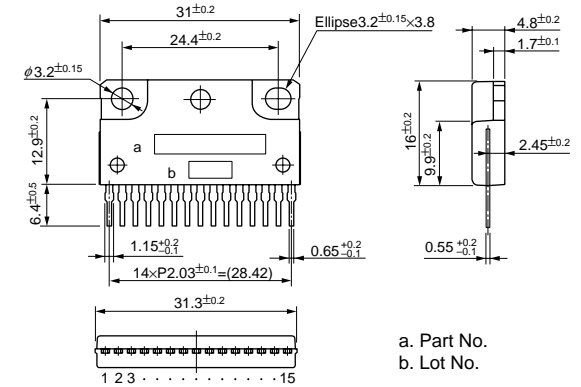


• No. 4



- a. Part No.  
b. Lot No.

• No. 5



- a. Part No.  
b. Lot No.

(unit: mm)

