

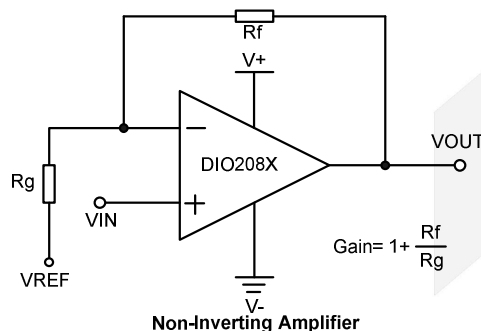
# DIO2081/2/3

## 600nA, Rail-to-Rail Input/Output Low Power Amplifier

### Features

- Ultra low power: 600nA per channel
- Unity Gain Stable
- Gain Bandwidth Product: 14kHz
- Wide supply range: 1.2V to 5.5V
- Chip-Select(CS) with DIO2083
- Available in SOT23-5 and SOT23-6 package
- Temperature Range:
  - -Industrial: -40°C to +85°C
  - -Extended: -40°C to +125°C

### Typical Applications



### Descriptions

DIO208x is a family of ultra low power operational amplifier, with rail-to-rail CMOS input/output and single/dual channels selectable. Especially, DIO2083 is equipped with chip-select Pin. DIO208x family has a gain-bandwidth product of 14kHz, wide operating supply voltage from 1.2V to 5.5V and broad output voltage swing.

DIO208x consumes ultra low power, with each channel 600nA of bias current, which makes DIO208x be ideal for battery powered device, temperature-sense device, etc.

The DIO2081/2/3 operational amplifier family is available in single (DIO2081), dual (DIO2082), and single with chip-select (DIO2083) configurations. Furthermore, the DIO2081 is offered in the 5-lead SOT23 package, and the DIO2083 is offered in the 6-lead SOT23 package. All types of amplifiers are fully specified over the extended -40°C to +125°C temperature range.

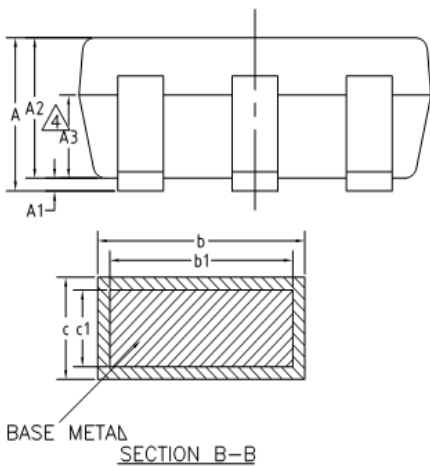
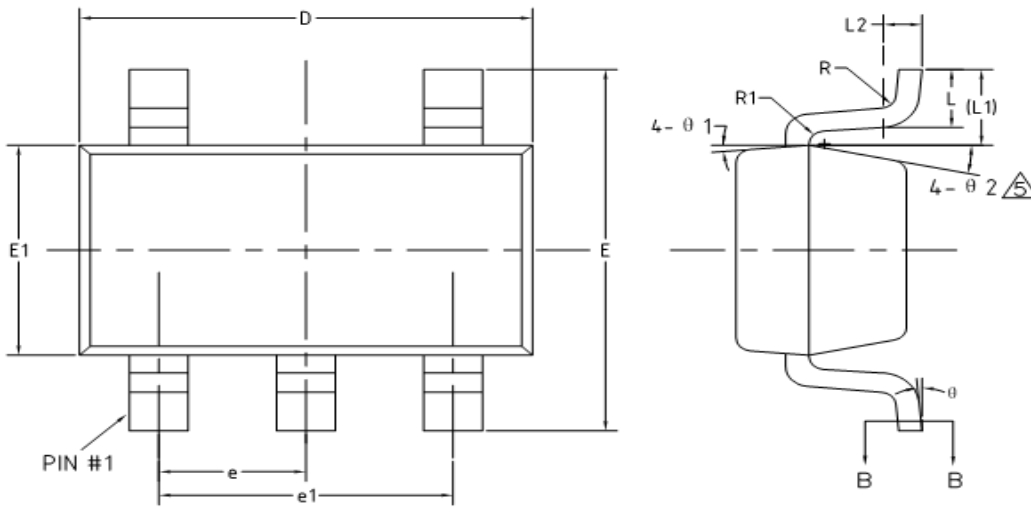
### Applications

- Portable Equipment
- Active Filters
- Data Acquisition
- Portable Equipment
- Test Equipment
- Broadband Communication
- Process Control
- Audio and Video Processing

### Ordering Information

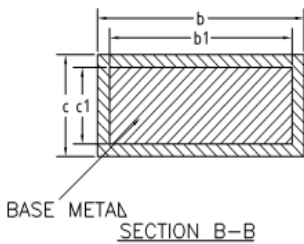
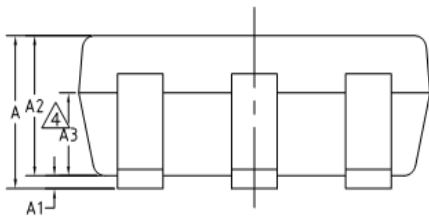
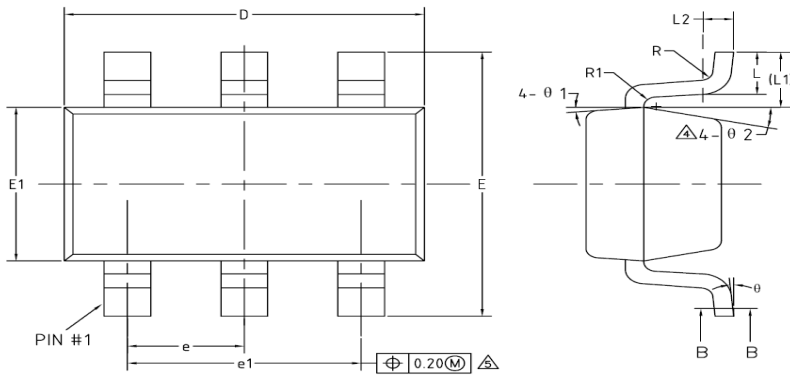
Order Part Number	Top Marking		T <sub>A</sub>		Package
DIO2081ST5	YW(X)Z	Green or RoHS	-40 to +125°C	SOT23-5	Tape & Reel, 3000
DIO2081SO8	DIO2081	Green or RoHS	-40 to +125°C	SOIC-8	Tape & Reel, 2500
DIO2081MP8	DIO2081	Green or RoHS	-40 to +125°C	MSOP-8	Tape & Reel, 3000
DIO2082SO8	DIO2082	Green or RoHS	-40 to +125°C	SOIC-8	Tape & Reel, 2500
DIO2082MP8	DIO2082	Green or RoHS	-40 to +125°C	MSOP-8	Tape & Reel, 3000
DIO2083ST6	YW(X)Z	Green or RoHS	-40 to +125°C	SOT23-6	Tape & Reel, 3000
DIO2083SO8	DIO2083	Green or RoHS	-40 to +125°C	SOIC-8	Tape & Reel, 2500
DIO2083MP8	DIO2083	Green or RoHS	-40 to +125°C	MSOP-8	Tape & Reel, 3000

Physical Dimensions: SOT-23-5



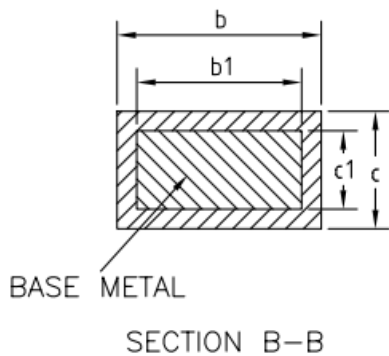
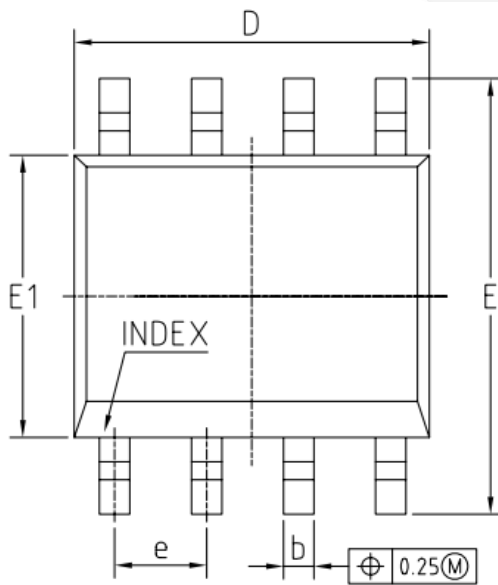
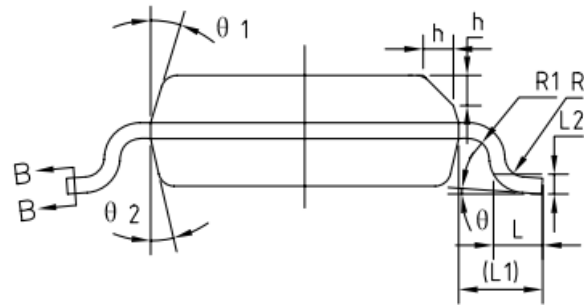
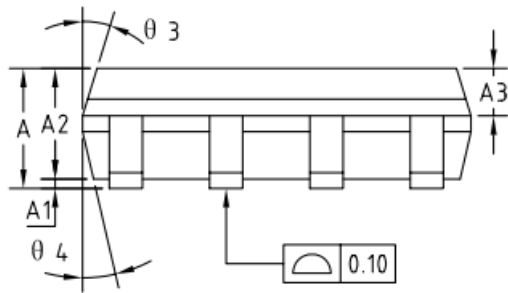
COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.25
A1	0	-	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	-	0.50
b1	0.36	0.38	0.45
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	0.25
theta	0°	-	8°
theta 1	3°	5°	7°
theta 2	6°	-	14°

## Physical Dimensions: SOT-23-6



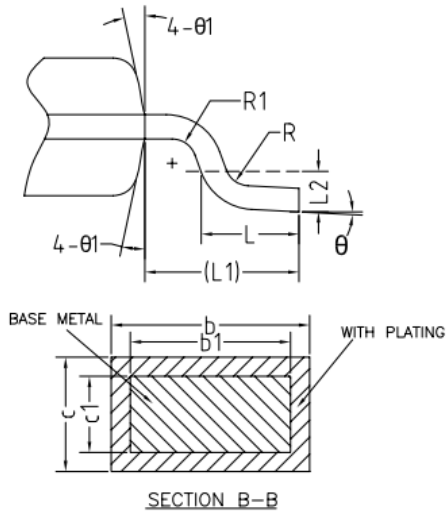
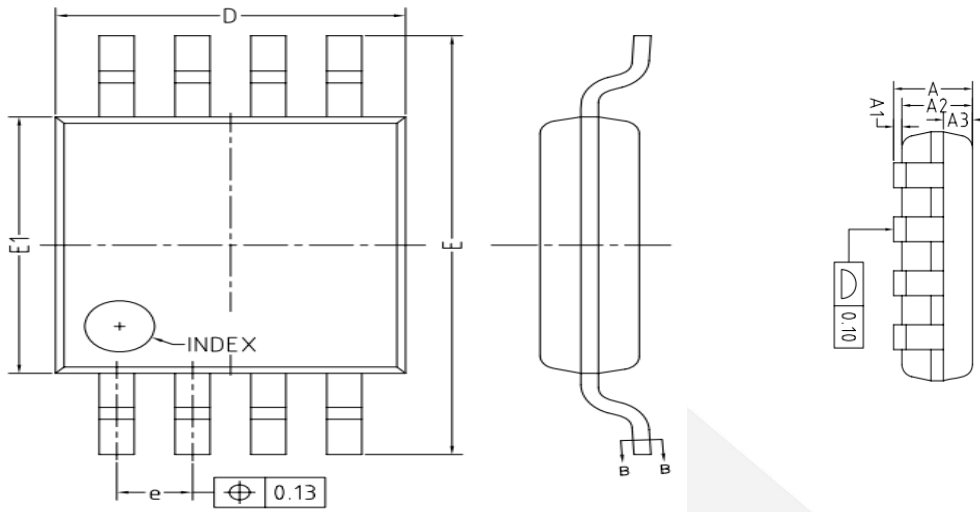
COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.25
A1	0	-	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	-	0.50
b1	0.36	0.38	0.45
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	0.25
theta	0°	-	8°
theta1	3°	5°	7°
theta2	6°	-	14°

Physical Dimensions: SOIC-8



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	1.35	1.55	1.75
A1	0.10	0.15	0.25
A2	1.25	1.40	1.65
A3	0.50	0.60	0.70
b	0.38	-	0.51
b1	0.37	0.42	0.47
c	0.17	-	0.25
c1	0.17	0.20	0.23
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.45	0.60	0.80
L1	1.04REF		
L2	0.25BSC		
R	0.07	-	-
R1	0.07	-	-
h	0.30	0.40	0.50
θ	0°	-	8°
θ1	15°	17°	19°
θ2	11°	13°	15°
θ3	15°	17°	19°
θ4	11°	13°	15°

## Physical Dimensions: MSOP-8



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.10
A1	0	-	0.15
A2	0.75	0.85	0.95
A3	0.25	0.35	0.39
b	0.28	-	0.37
b1	0.27	0.30	0.33
c	0.15	-	0.20
c1	0.14	0.15	0.16
D	2.90	3.00	3.10
E	4.70	4.90	5.10
E1	2.90	3.00	3.10
e	0.55	0.65	0.75
L	0.45	0.60	0.80
L1	0.95REF		
L2	0.25BSC		
R	0.07	-	-
R1	0.07	-	-
θ	0°	-	8°
θ1	9°	12°	15°

## CONTACT US

**D**ioo is a professional design and sales corporation for high-quality and performance analog semiconductors. The company focuses on industry markets, such as, cell phone, handheld products, laptop, and medical equipments and so on. Dioo's product families include analog signal processing and amplifying, LED drivers and charger IC. Go to <http://www.dioo.com> for a complete list of Dioo product families.

For additional product information, or full datasheet, please contact with our Sales Department or Representatives.

