

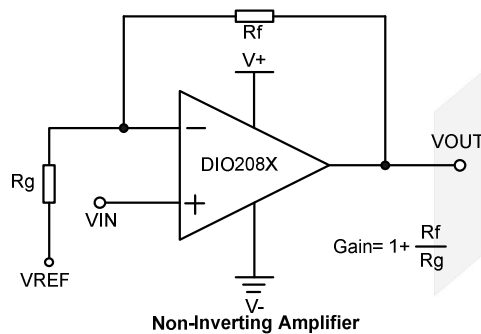
DIO2081/2/3

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.

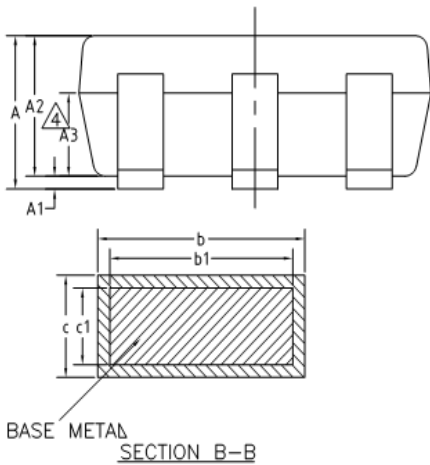
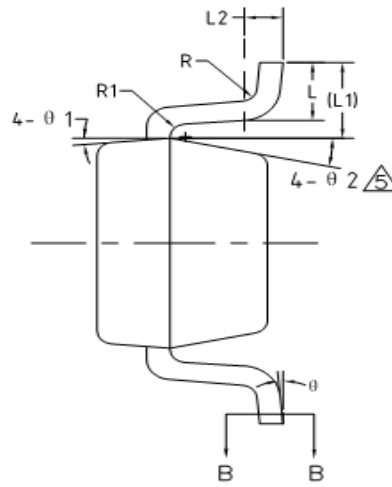
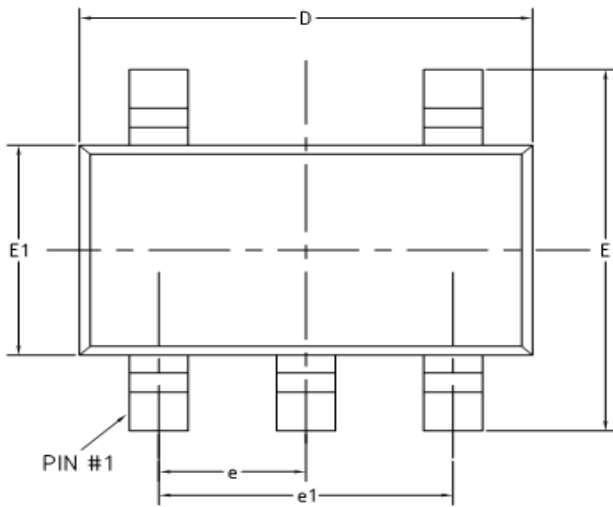
Applications

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

Ordering Information

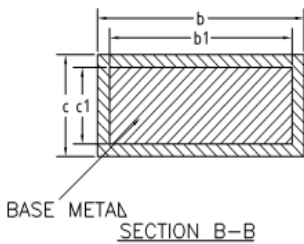
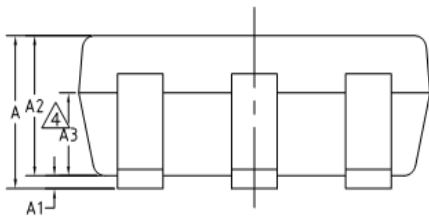
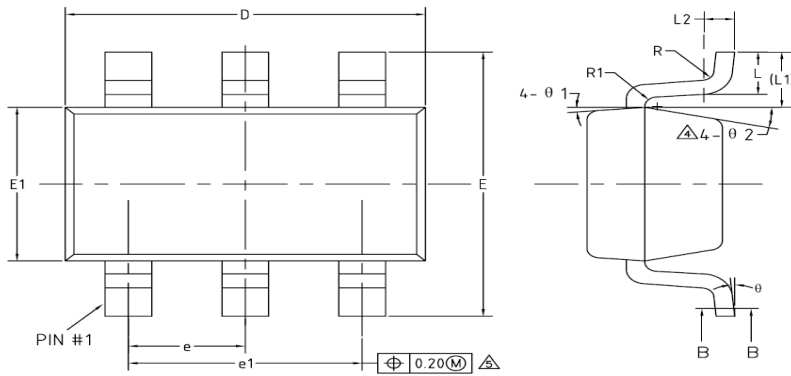
| Order Part Number | Top Marking | | T _A | | Package |
|-------------------|-------------|---------------|----------------|---------|-------------------|
| DIO2081ST5 | YW(X)Z | Green or RoHS | -40 to +125°C | SOT23-5 | Tape & Reel, 3000 |
| DIO2081SO8 | DIO2081 | Green or RoHS | -40 to +125°C | SOIC-8 | 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



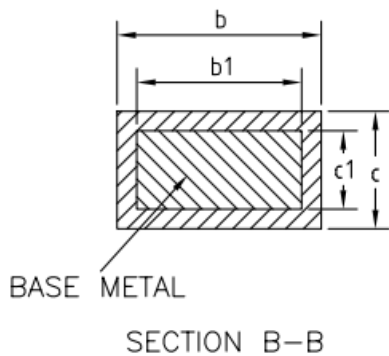
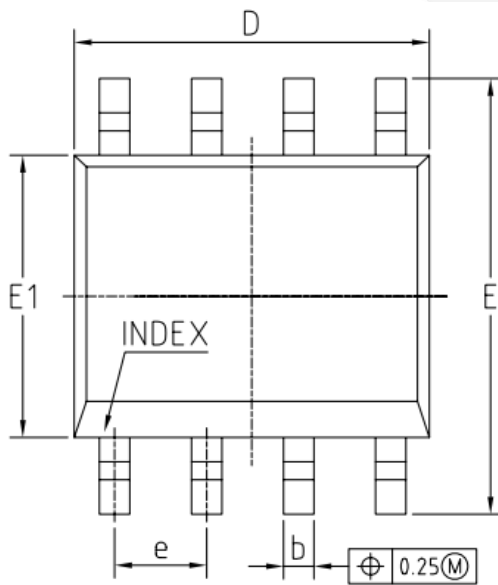
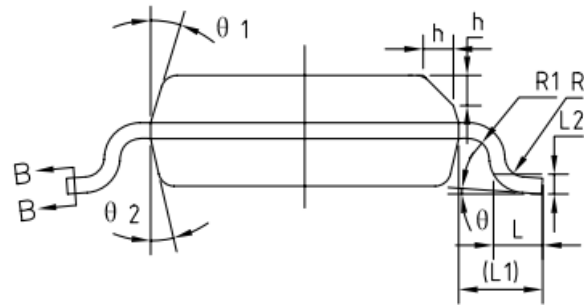
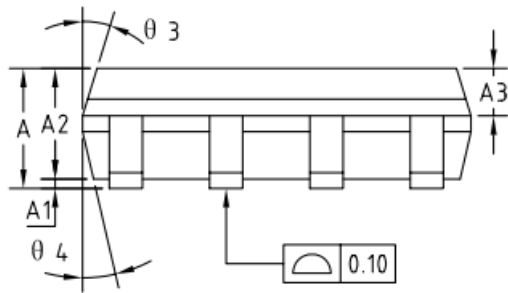
| COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER) | | | |
|--|---------|-------|-------|
| Symbol | MIN | NOM | MAX |
| A | - | - | 1.25 |
| A1 | 0 | - | 0.15 |
| A2 | 1.00 | 1.10 | 1.20 |
| A3 | 0.60 | 0.65 | 0.70 |
| b | 0.36 | - | 0.50 |
| b1 | 0.36 | 0.38 | 0.45 |
| c | 0.14 | - | 0.20 |
| c1 | 0.14 | 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



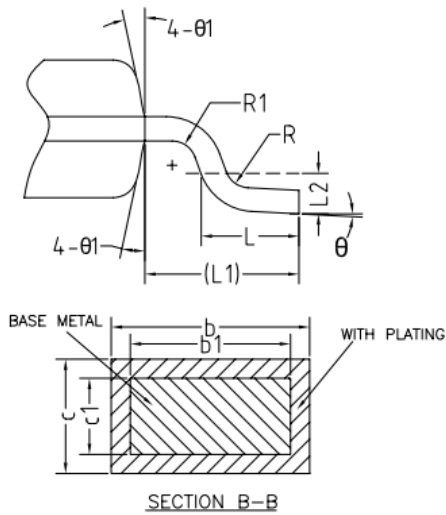
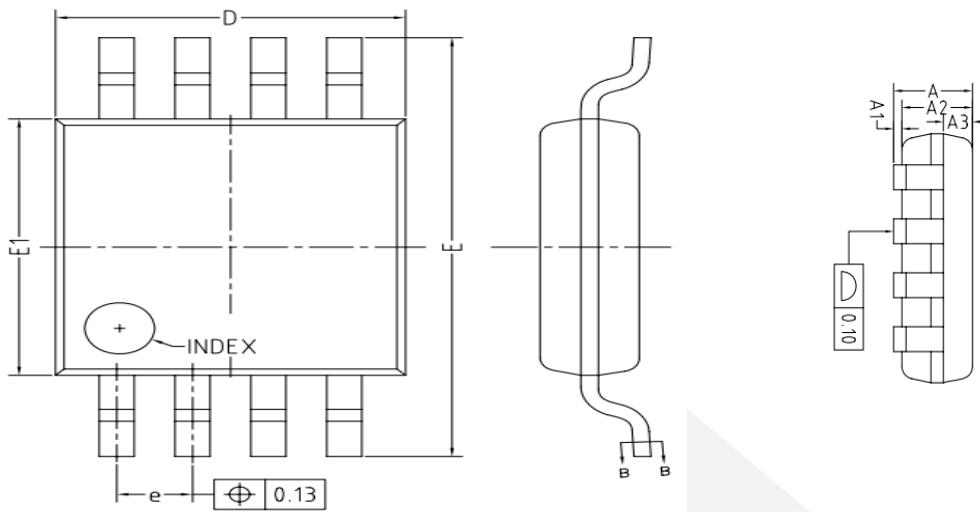
| COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER) | | | |
|--|---------|-------|-------|
| Symbol | MIN | NOM | MAX |
| A | - | - | 1.25 |
| A1 | 0 | - | 0.15 |
| A2 | 1.00 | 1.10 | 1.20 |
| A3 | 0.60 | 0.65 | 0.70 |
| b | 0.36 | - | 0.50 |
| b1 | 0.36 | 0.38 | 0.45 |
| c | 0.14 | - | 0.20 |
| c1 | 0.14 | 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

Dioo 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.

