



## DIO1005

# Ultra Low On-Resistance Dual, SPDT Analog Switch

### Features

- Switch Type: SPDT(2X)
- Voltage Operation: 1.8V to 4.3V
- Ultra-Low On Resistance:  $0.75\Omega$  @ +4.3V
- -3dB Bandwidth: 75MHz
- High Off-isolation: -78dB@100kHz
- Low Crosstalk: -100dB@100kHz
- Excellent On Resistance Matching:  $0.03\Omega$
- Low Total Harmonic Distortion (THD)
- Rail-to-Rail Input and Output Operation
- Break-Before-Make Switching
- Green Packaged: DFN3\*3-10 and MSOP-10
- 8kV HBM ESD

### Applications

- Cell-Phone/PDA
- MP3/MP4/PMP
- Portable Instrumentation
- Battery Powered Communications
- Computer Peripherals

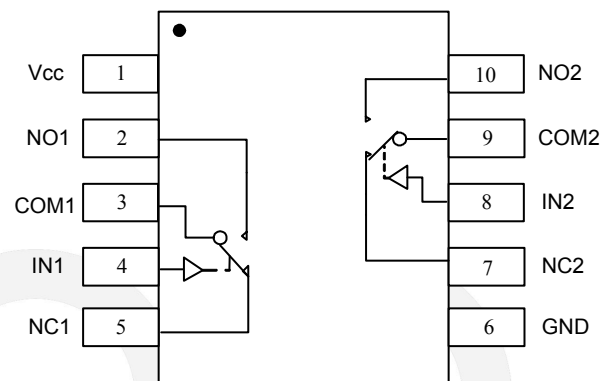
### Descriptions

The DIO1005 is a dual Single-Pole, Double-Throw (SPDT) analog switch. DIO1005 operates from a single 1.8V to 4.3V supply and features an ultra-low on resistance of  $0.75\Omega$  at a +4.3V supply and  $T_A = 25^\circ\text{C}$ . This device is fabricated with sub-micron CMOS technology to achieve fast switching speeds and is designed for break-before-make operation.

DIO1005 guarantees  $0.03\Omega$  on-resistance matching between switches, on-resistance flatness over the signal range, high off-isolation and low crosstalk, which ensures excellent linearity and low distortion when switching audio signals. DIO1005 consists of two normally open and two normally close switches.

DIO1005 provides packages with Green DFN3\*3-10 and MSOP-10.

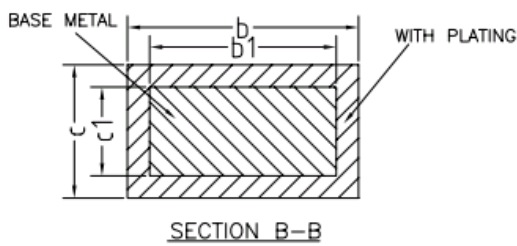
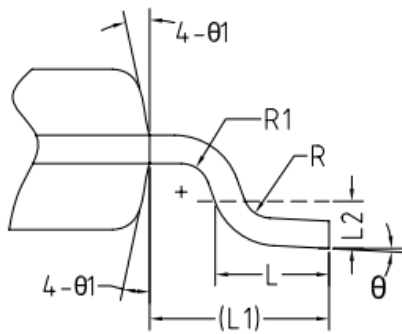
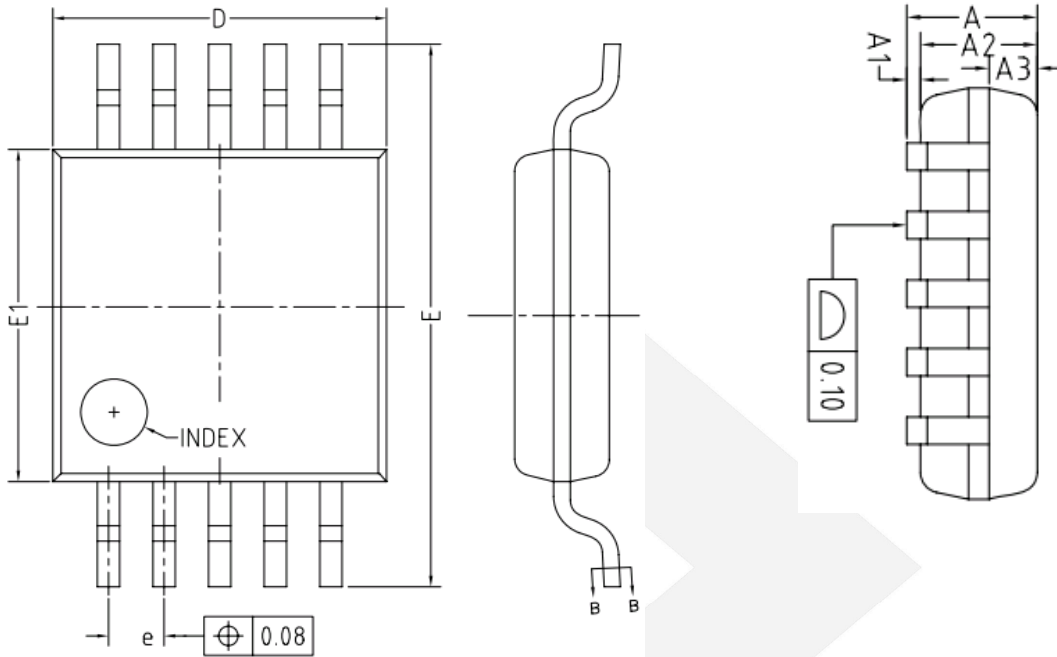
### Block Diagram



### Ordering Information

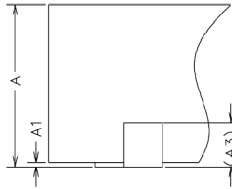
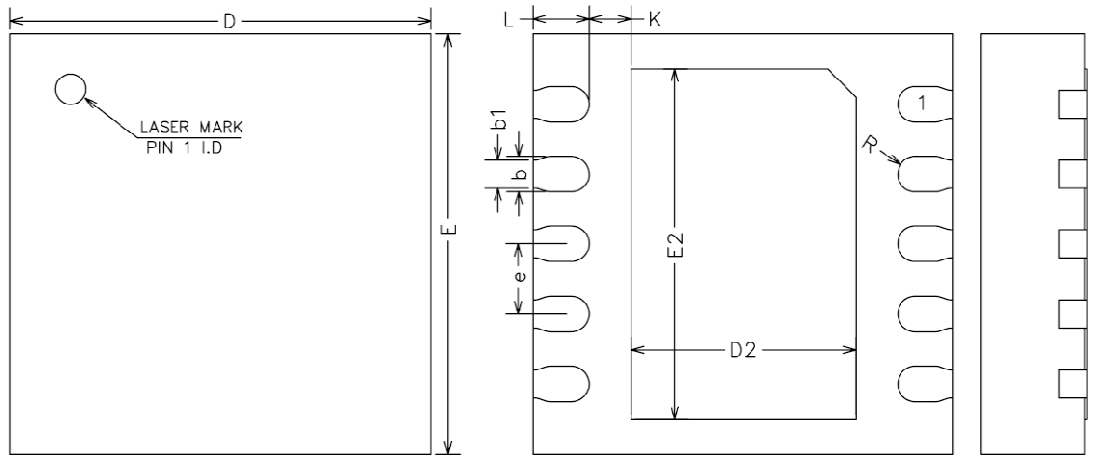
| Order Part Number | Top Marking |       | $T_A$        |         | Package           |
|-------------------|-------------|-------|--------------|---------|-------------------|
| DIO1005DN10       | D1005       | Green | -40 to +85°C | DFN-10  | Tape & Reel, 5000 |
| DIO1005CM10       | DIO1005     | Green | -40 to +85°C | MSOP-10 | Tape & Reel, 3000 |

Physical Dimensions: MSOP-10



| COMMON DIMENSIONS<br>(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  | 0.18    | -    | 0.27 |
| b1   | 0.17    | 0.20 | 0.23 |
| 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  | 0.40    | 0.50 | 0.60 |
| 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°  |

## Physical Dimensions: DFN-10 3\*3



| COMMON DIMENSIONS<br>(UNITS OF MEASURE=MILLIMETER) |         |      |      |
|--|---------|------|------|
| Symbol   | MIN     | NOM  | MAX  |
| A  | 0.70    | 0.75 | 0.80 |
| A1   | 0       | 0.02 | 0.05 |
| A3   | 0.20REF |      |      |
| b  | 0.20    | 0.25 | 0.30 |
| b1   | 0.20REF |      |      |
| D  | 2.90    | 3.00 | 3.10 |
| E  | 2.90    | 3.00 | 3.10 |
| D2   | 1.50    | 1.60 | 1.70 |
| E2   | 2.40    | 2.50 | 2.60 |
| e  | 0.40    | 0.50 | 0.60 |
| K  | 0.20    | -    | -    |
| L  | 0.30    | 0.40 | 0.50 |
| R  | 0.13    | -    | -    |



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### 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.

