

# DIO207x

## Single/Dual/Quad/Six channel, RRIO 10MHz Amplifier

### Features

- Rail-to-Rail Input and Output
- $\pm 3\text{mV}$  Typical offset ( $V_{OS}$ )
- Low Distortion
- Gain Bandwidth Product: 10MHz
- Wide supply range: 3.0V to 5.5V
- 3mA/Amplifier typical supply current
- Slew rate: 4.0V/ $\mu\text{s}$
- DIO2071 available in SOT23-5  
DIO2072 available in SOIC-8, MSOP-8 and TSSOP-8  
DIO2074 available in SOIC-14, QFN-16  
DIO2076 available in SOIC-20, QFN-28

### Applications

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

### Ordering Information

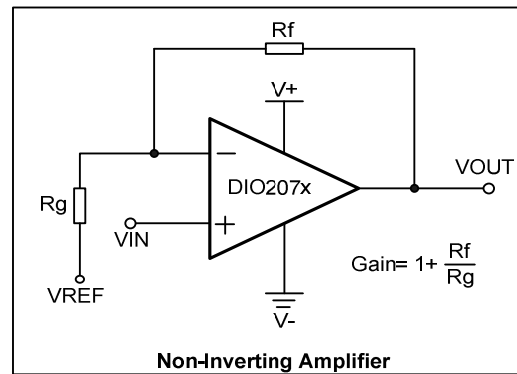
Order Part Number	Top Marking		$T_A$		Package
DIO2071ST5	YW(X)Z	Green/RoHS	-40 to +125°C	SOT23-5	Tape & Reel, 3000
DIO2072MP8	DIO2072	Green/RoHS	-40 to +125°C	MSOP-8	Tape & Reel, 3000
DIO2072SO8	DIO2072	Green/RoHS	-40 to +125°C	SOIC-8	Tape & Reel, 2500
DIO2072TP8	DIO2072	Green/RoHS	-40 to +125°C	TSSOP-8	Tape & Reel, 2500
DIO2074CS14	DIO2074	Green/RoHS	-40 to +125°C	SOIC-14	Tape & Reel, 2500
DIO2074CN16	D2074	Green/RoHS	-40 to +125°C	QFN-16	Tape & Reel, 5000
DIO2076CS20	DIO2076	Green/RoHS	-40 to +125°C	SOIC-20	Tape & Reel, 2500
DIO2076CL28	D2076	Green/RoHS	-40 to +125°C	QFN-28	Tape & Reel, 5000

### Descriptions

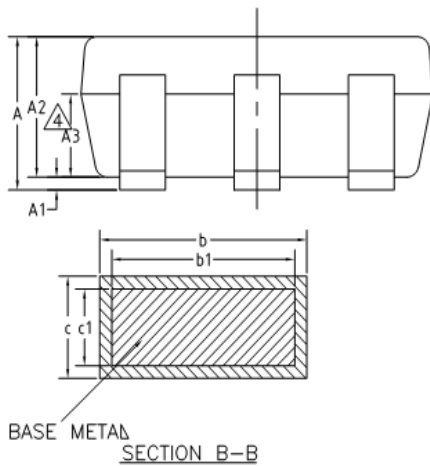
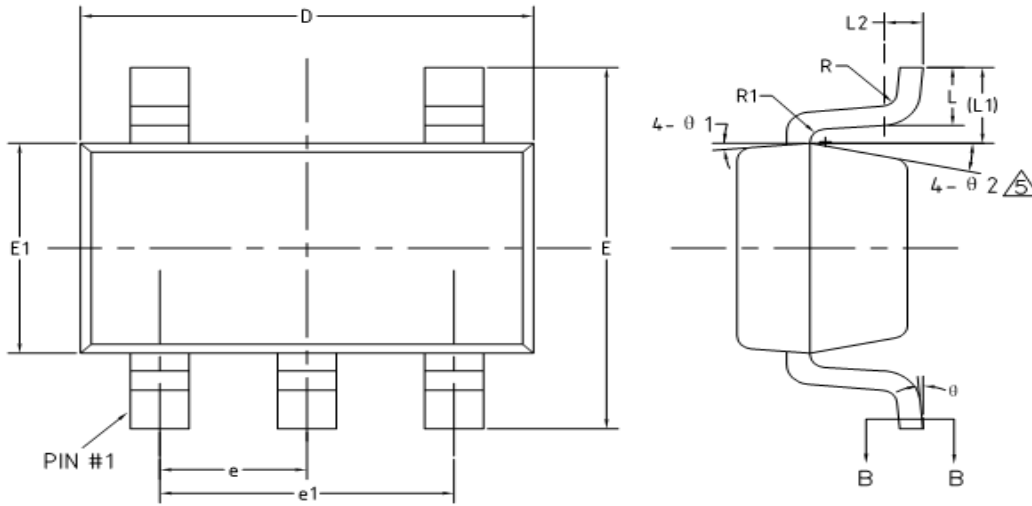
The DIO207x is a single/dual/quad/six channel, rail-to-rail I/O operational amplifier which allows low load impedances to be driven. With a 10MHz unity-gain frequency and low noise, low distortion and high output current capability, the DIO207x provides excellent choice for high quality systems. The input common-mode voltage range includes ground, and the maximum input offset voltage is  $\pm 3\text{mV}$  (guaranteed). They are also capable of comfortably driving large capacitive loads.

DIO207x is offered in Green or RoHS package and ESD (HBM) excesses 4kV. It is specified over the extended -40 to +125°C.

### Typical Application

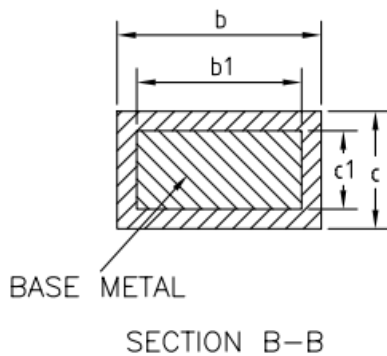
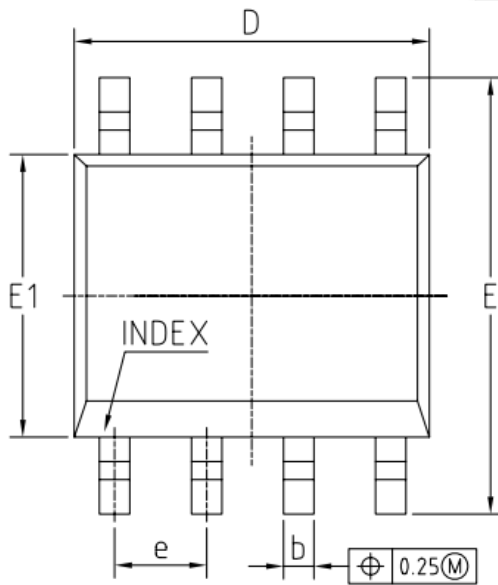
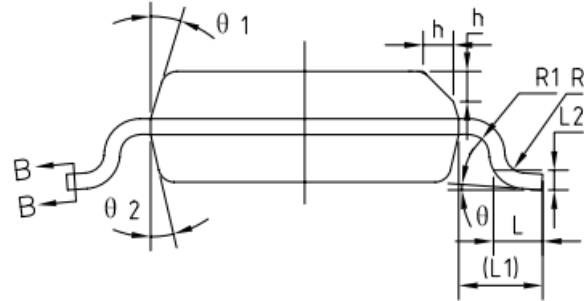
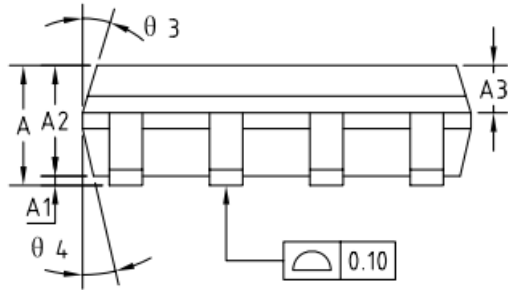


## Physical Dimensions: SOT-23-5



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
θ	0°	-	8°
θ1	3°	5°	7°
θ2	6°	-	14°

## Physical Dimensions: SOIC-8



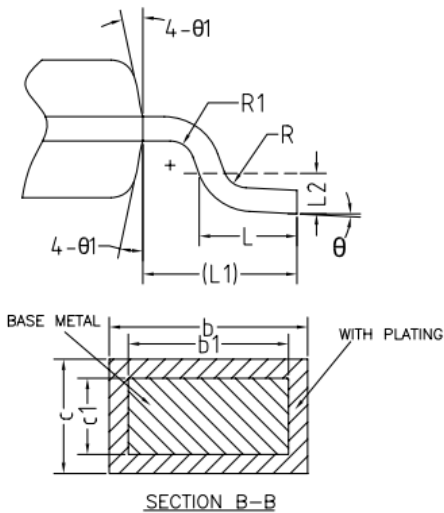
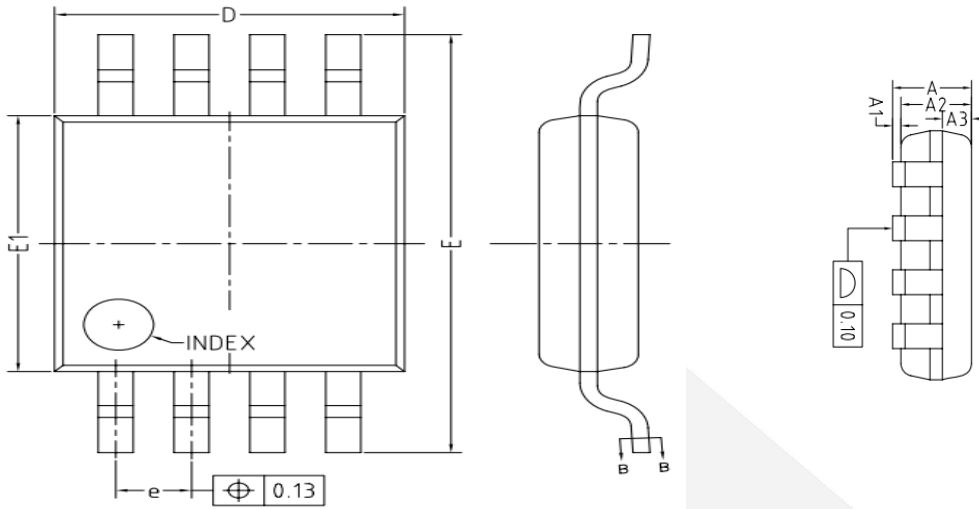
COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	1.35	1.55	1.75
A1	0.10	0.15	0.25
A2	1.25	1.40	1.65
A3	0.50	0.60	0.70
b	0.38	-	0.51
b1	0.37	0.42	0.47
c	0.17	-	0.25
c1	0.17	0.20	0.23
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.45	0.60	0.80
L1	1.04REF		
L2	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°



# DIO207x

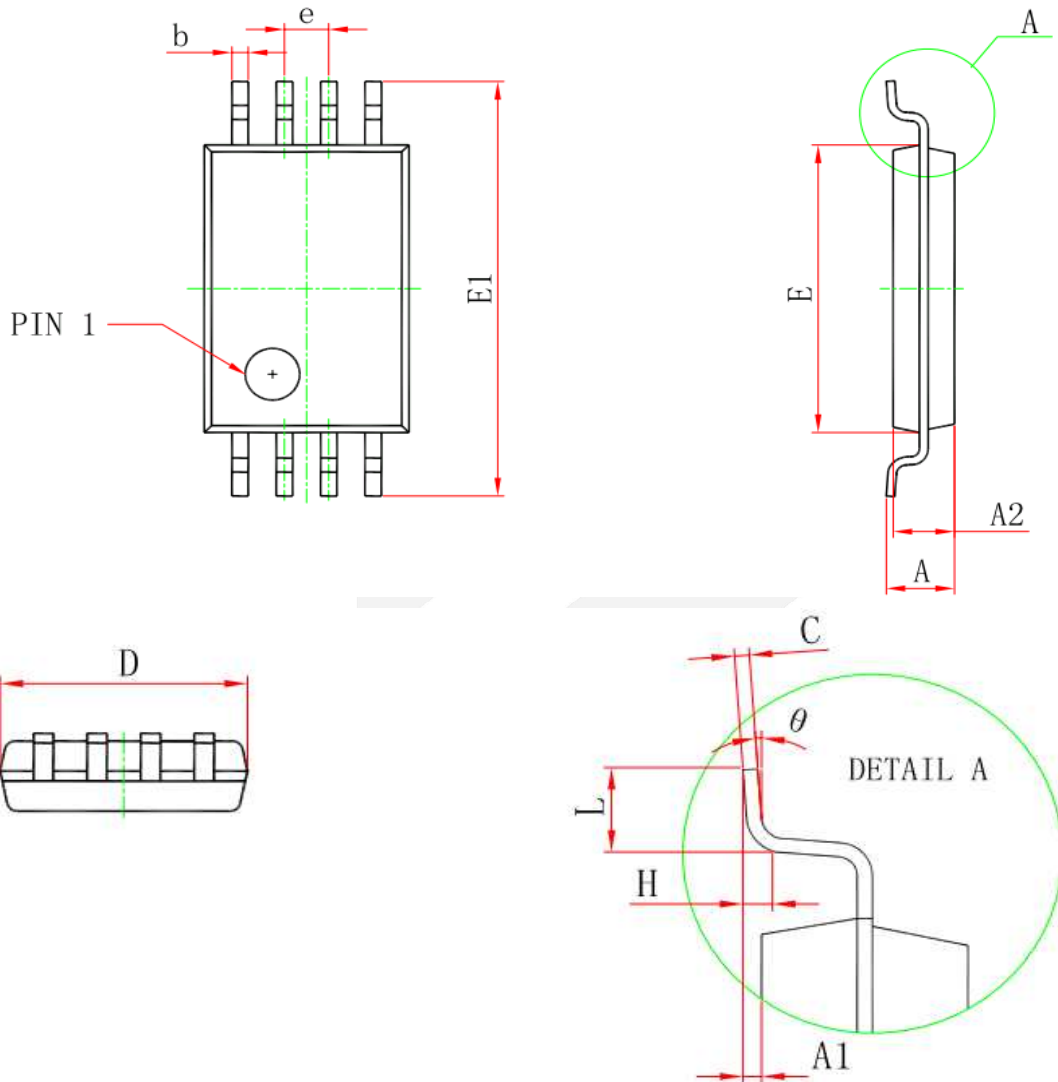
Single/Dual/Quad/Six channel RRIO 10MHz Amplifier

## Physical Dimensions: MSOP-8



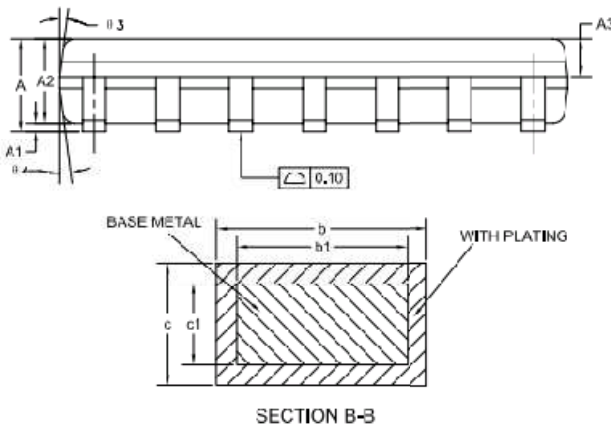
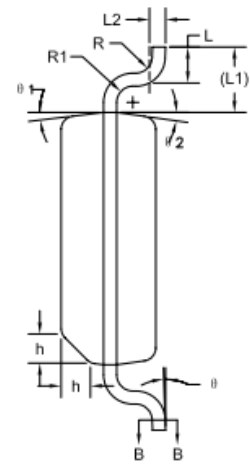
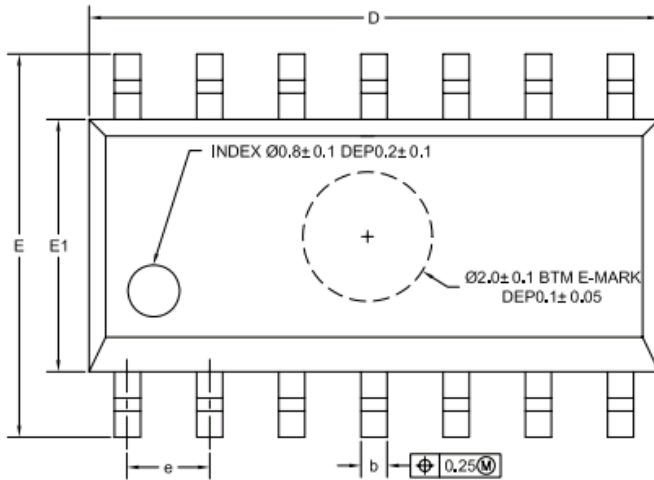
COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.10
A1	0	-	0.15
A2	0.75	0.85	0.95
A3	0.25	0.35	0.39
b	0.28	-	0.37
b1	0.27	0.30	0.33
c	0.15	-	0.20
c1	0.14	0.15	0.16
D	2.90	3.00	3.10
E	4.70	4.90	5.10
E1	2.90	3.00	3.10
e	0.55	0.65	0.75
L	0.45	0.60	0.80
L1	0.95REF		
L2	0.25BSC		
R	0.07	-	-
R1	0.07	-	-
Ø	0°	-	8°
Ø1	9°	12°	15°

## Physical Dimensions: TSSOP-8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026 (BSC)	
L	0.500	0.700	0.020	0.028
H	0.25 (TYP)		0.01 (TYP)	
$\theta$	1°	7°	1°	7°

Physical Dimensions: SOIC-14



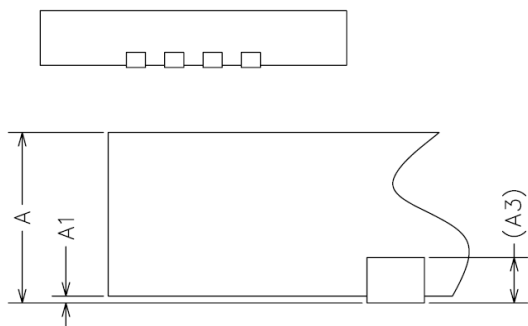
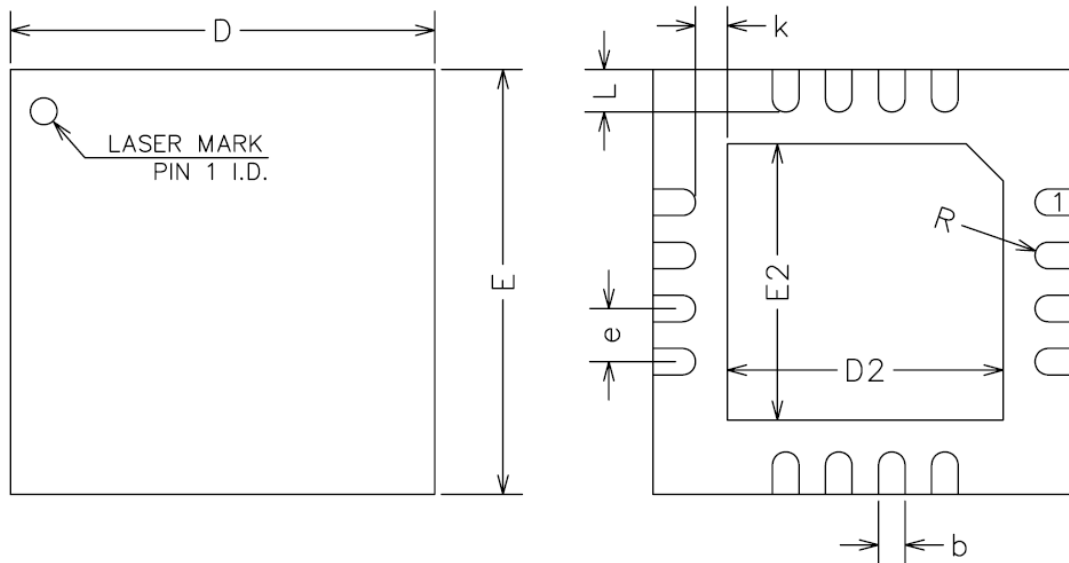
COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	1.35	1.60	1.75
A1	0.10	0.15	0.25
A2	1.25	1.45	1.65
A3	0.55	0.65	0.75
b	0.36	-	0.49
b1	0.35	0.40	0.45
c	0.17	-	0.25
c1	0.17	0.20	0.23
D	8.53	8.63	8.73
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27 (BSC)		
L	0.45	0.60	0.80
L1	1.04 (RFE)		
L2	0.25 (BSC)		
R	0.07	-	-
R1	0.07	-	-
h	0.30	0.40	0.50
Θ	0°	-	8°
Θ1	6°	8°	10°
Θ2	6°	8°	10°
Θ3	5°	7°	9°
Θ4	5°	7°	9°



# DIO207x

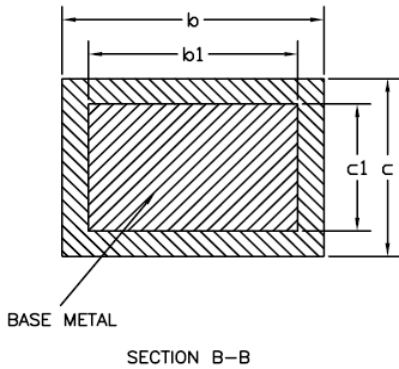
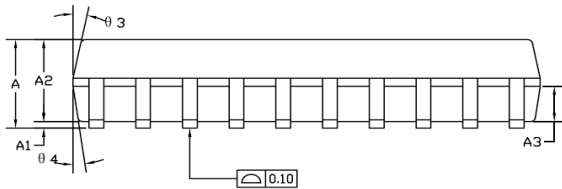
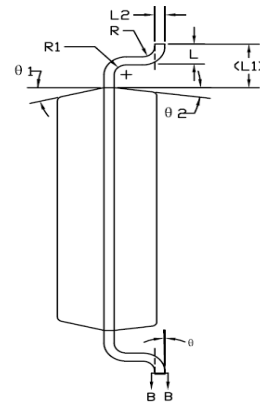
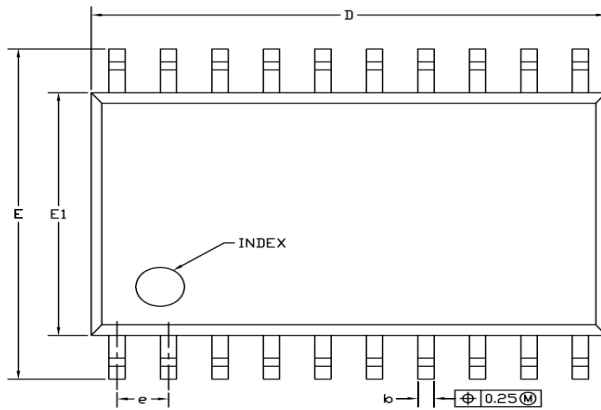
Single/Dual/Quad/Six channel RRIO 10MHz Amplifier

## Physical Dimensions: QFN-16



COMMON DIMENSIONS (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
D	3.90	4.00	4.10
E	3.90	4.00	4.10
D2	2.50	2.60	2.70
E2	2.50	2.60	2.70
e	0.40	0.50	0.60
K	0.20	-	-
L	0.35	0.40	0.45
R	0.09	-	-

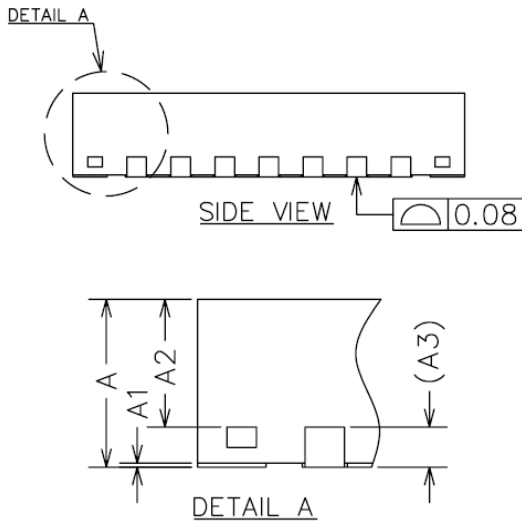
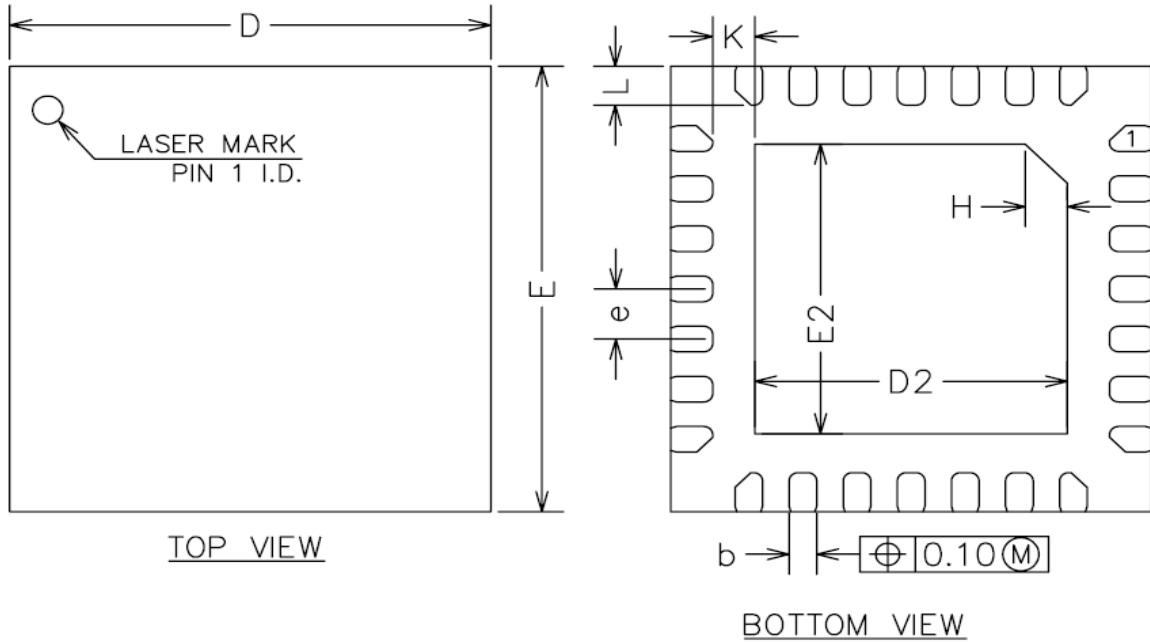
## Physical Dimensions: SOIC-20



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	2.35	2.52	2.65
A1	0.10	0.20	0.30
A2	2.05	2.35	2.55
A3	0.90	1.00	1.10
b	0.35	-	0.49
b1	0.35	0.40	0.45
c	0.23	-	0.32
c1	0.20	0.25	0.30
D	12.60	12.70	12.80
E	10.00	10.20	10.60
E1	7.40	7.50	7.60
e	1.27BSC		
L	0.50	0.80	1.27
L1	1.35REF		
L2	0.25BSC		
R	0.07	-	-
R1	0.07	-	-
θ	0°	-	8°
θ1	10°	12°	14°
θ2	6°	8°	10°
θ3	9°	11.5°	14°
θ4	6°	8°	10°



## Physical Dimensions: QFN-28



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
A2	0.60	0.65	0.70
A3	0.20REF		
b	0.18	0.23	0.28
D	3.90	4.00	4.10
E	3.90	4.00	4.10
D2	2.50	2.60	2.70
E2	2.50	2.60	2.70
e	0.35	0.45	0.55
H	0.35REF		
K	0.25	-	-
L	0.30	0.35	0.40



## DIO207x

### 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.

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