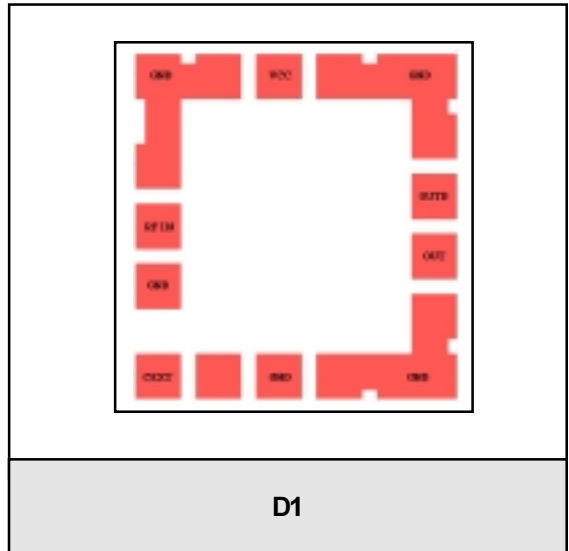


**FEATURES**

- 10 Gb/s Differential Output TIA
- InGaP HBT Technology
- <500 mW Power dissipation
- Single Power Supply
- Low Group Delay
- Wide Bandwidth/High Gain
- Low Noise

**APPLICATIONS**

- SONET OC-192/SDH STM-64
- 10 Gb/s DWDM
- 10 Gb/s Datacom
- Wideband Gain Block


**Description**

The ATA7600D1 is a single supply, low power consumption, differential output 10 Gb/s transimpedance amplifier. The ATA7600D1 is ideally suited for DWDM applications that require low group delay, low power dissipation, and exceptional gain flatness.

**Electrical Characterisitcs ( $V_{DD} = +5.0V \pm 5\%$ ,  $T_A = 25^\circ C$ ,  $C_{DIODE} + C_{STRAY} = 0.3pF$ )**

PARAMETER	MIN	TYP	MAX	UNIT
Small Signal Differential Transresistance ( $R_L = 100\Omega$ )	1250	-	-	$\Omega$
Bandwidth (-3dB)	8.0	9.0	-	GHz
Low Frequency Cutoff	-	30	-	kHz
Group Delay (1MHz to 8GHz)	-20		+20	ps
Optical Sensitivity (with a PIN Photodiode)	-	-18	-	dBm
Optical Overload	-1	0	-	dBm
Power Dissipation	-	300	425	mW
Operating Voltage Range	+ 4.75	+ 5.0	+ 5.25	V
Operating Temperature Range	-40	-	85	$^\circ C$

# ATA7600D1

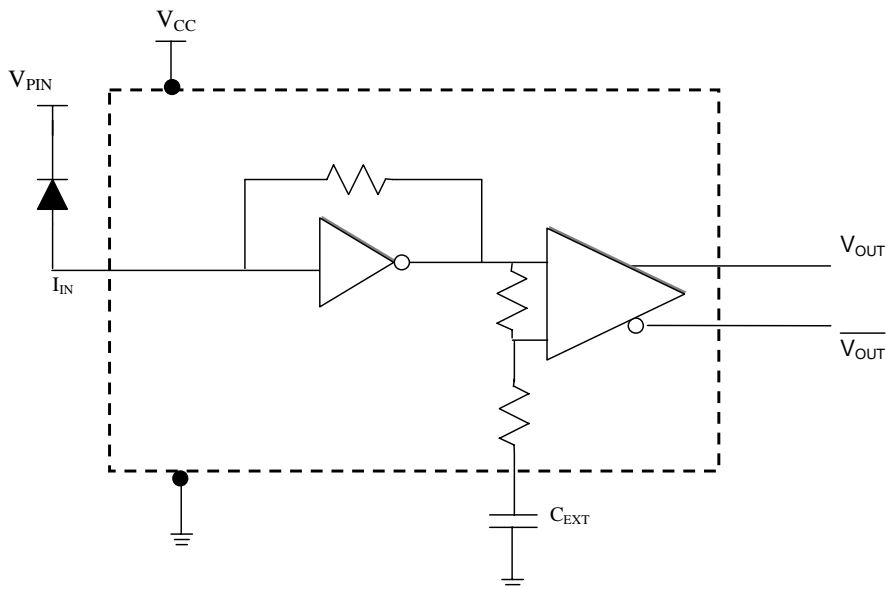
## Absolute Maximum Ratings

$V_{CC}$	7.0V
$P_{IN}$	+5dBm
$T_S$	Storage Temp -65 °C to 125 °C

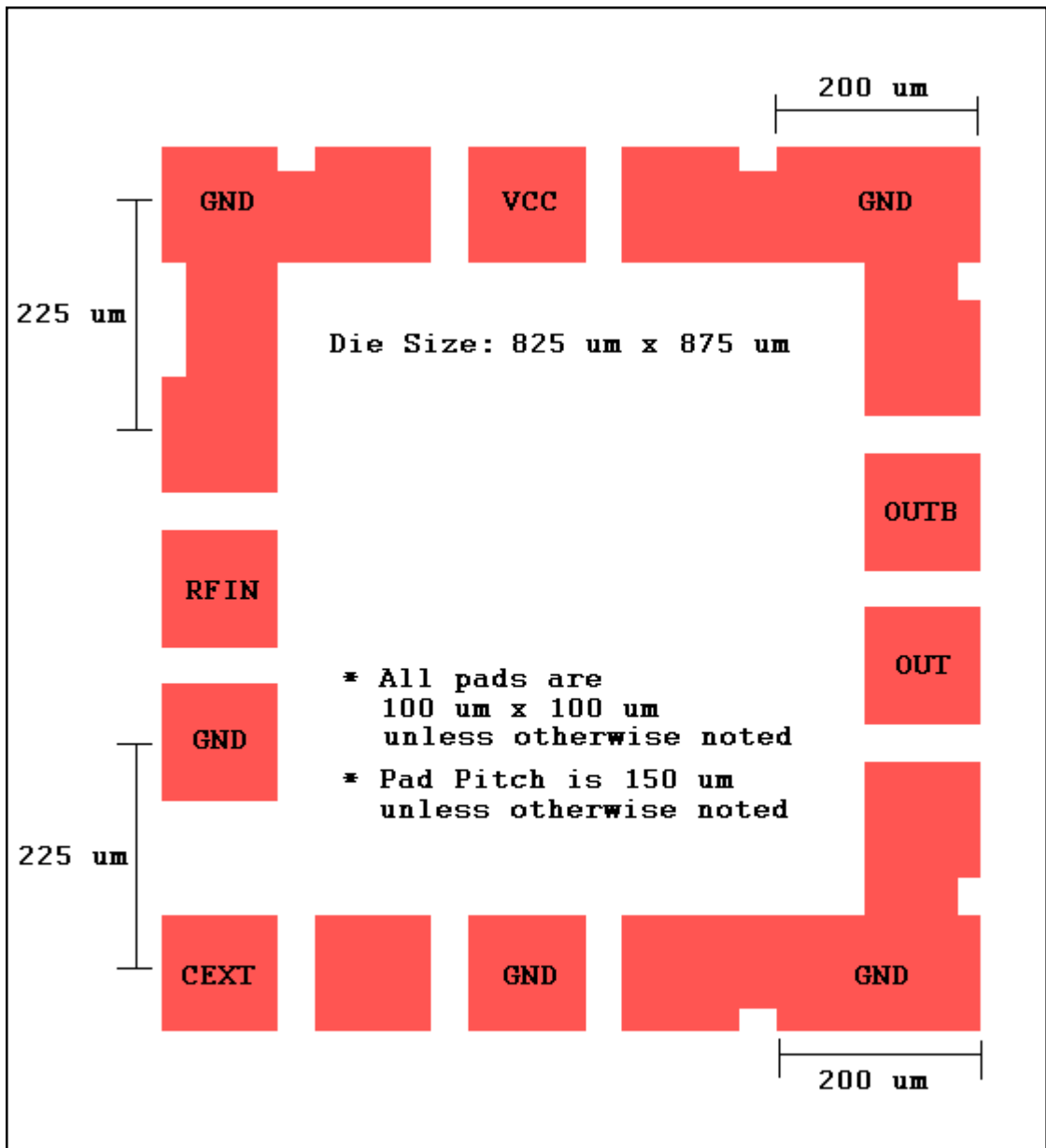
## Pad Description

PAD	Description	Comment
$V_{CC}$	Positive Supply Voltage	+5.0V
$I_{IN}$	TIA Input	Connect to detector anode
$C_{EXT}$	Connection for an external Capacitor	For low frequency cutoff
$V_{PIN}$	Voltage for Photodiode Biasing	External to die
$V_{OUT}$	TIA Output Voltage (Non-inverted)	Logical '1' with optical input
$\overline{V_{OUT}}$	TIA Output Voltage (Inverted)	Logical '0' with optical input

## Block Diagram



## DIE SIZE AND LAYOUT





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