SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

23ECB202 – LINEAR INTEGERATED CIRCUITS

II YEAR/ III SEMESTER

UNIT 1 – **OPAMP CHARACTERISTICS**

TOPIC 1-1 – Introduction to Op amp

Operational Amplifier - Introduction

- Op Amp was first manufactured by Fairchild semiconductors in the year **1963**
- The number **741** indicates that this **operational amplifier** IC has 7 functional pins, 4 pins capable of taking input and 1 output pin
- Operational amplifiers are linear devices that have all the properties required for nearly ideal DC amplification and are therefore used extensively in signal conditioning, filtering or to perform mathematical operations such as add, subtract, integration and differentiation

- An **Operational Amplifier**, or op-amp for short, is fundamentally a voltage amplifying device designed to be used with external feedback components such as resistors and capacitors between its output and input terminals

- These feedback components determine the resulting function or “operation” of the amplifier and by virtue of the different feedback configurations whether resistive, capacitive or both, the amplifier can perform a variety of different operations, giving rise to its name of “**Operational Amplifier**”

Operational Amplifier - Introduction

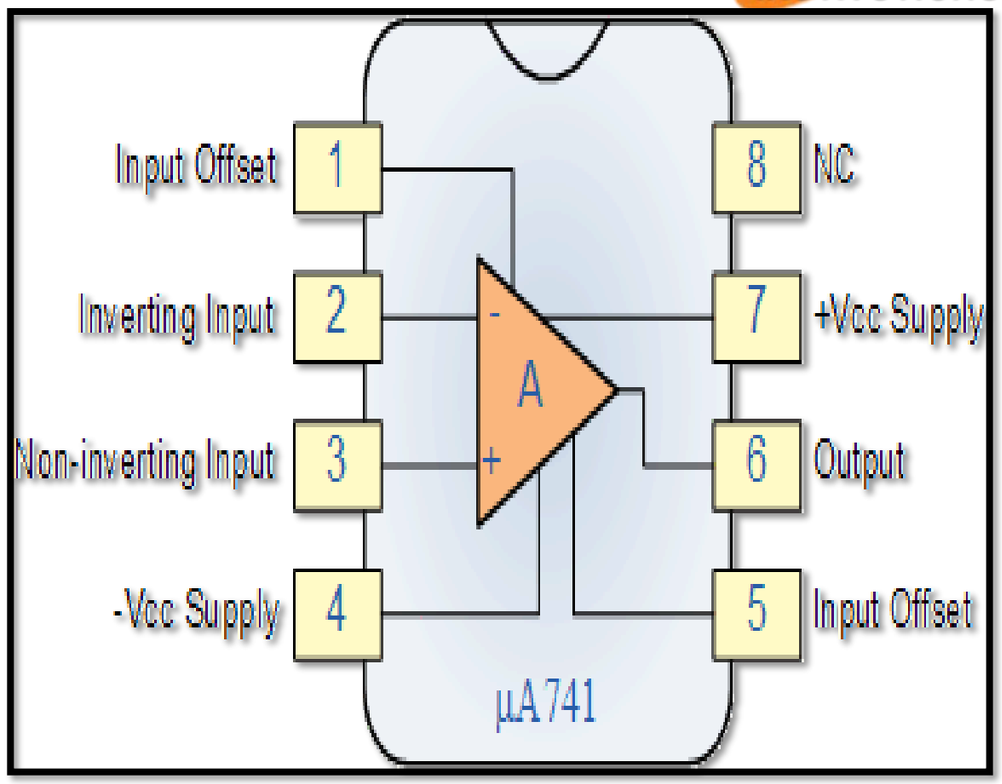
An Operational Amplifier is basically a three-terminal devices

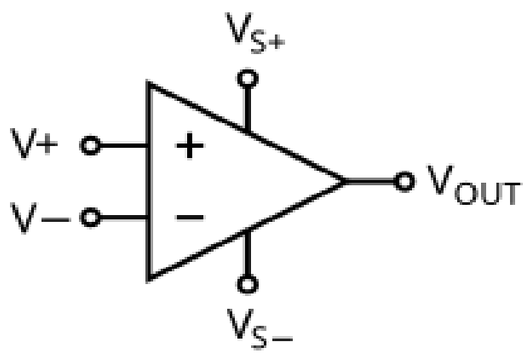
- One of the inputs is called the **Inverting Input**, marked with a negative or **“minus” sign, (–)**
- The other input is called the **Non-inverting Input**, marked with a positive or “**plus” sign (+)**
- A **third terminal** represents the operational amplifiers **output** port which can both sink and source either a voltage or a current.

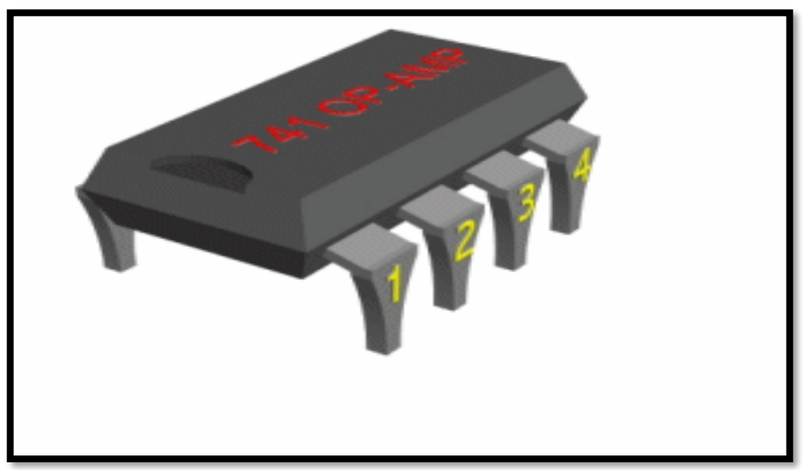
Op Amp - Pin diagram

There are 8 pins in a common OP-AMP

- ✓Pin1: offset null.
- ✓Pin2: inverting input terminal.
- ✓Pin3: non-inverting input terminal.
- ✓Pin4: -VCC(negative supply).
- ✓Pin5: offset null.
- ✓Pin6: output voltage.
- ✓Pin7: +VCC(positive supply).
- ✓Pin8: No connection.







THANK YOU