

1. FEATURES

- Nanopower supply current: 3.2μA/channel
- Offset voltage: 260μV (max)
- TcVos: 1μV/°C
- Unity gain-bandwidth: 65kHz
- Wide supply range: 1.6V to 5.5V
- Low input bias current: 0.1pA
- Unity-gain stable
- Rail-to-rail input and output
- EMI protection
- Shut-down operation

2. APPLICATIONS

- CO and O² gas detectors
- PIR motion detectors
- Ionization smoke alarms
- Thermostats
- IoT remote sensors
- Active RFID readers and tags
- Portable medical equipment
- Monitor and alarms
- Wearable devices

3. DESCRIPTION

The OPA505/6 is one of the ultra-low-power family operational amplifiers provided by AnalogYSEMI. With just 3.2μA of quiescent current and operating voltage ranged between 1.6V and 5.5V, the OPA505/6 operational amplifiers are applicable to most battery-powered circumstances and stable even without additional boost topology. Keeping low power consumption and 65kHz of bandwidth, the OPA505/6 devices work rather well with equipment such as CO detectors, smoke detectors, and PIR motion detectors. In addition, the OPA505/6 operational amplifiers have CMOS input stages with typically femto-amp bias currents. EMI protection is incorporated into the OPA505/6 design in order to enhance overall system reliability by reducing system sensitivity to undesirable RF signals from mobile phones, Wi-Fi, radio transmitters, and tag readers. Enable pin can be used in low power application to save power.

The OPA505/6 operational amplifier is offered in the SOT23-5 and SOT23-6 package respectively. All versions are specified from -40°C to 125°C, which makes them suitable for various rugged environment.

