# Programmable 14+1 Channel Voltage Buffers with NVM for TFT LCD

## Features

- **Supply Operation Range : 6.5V to 18V**
- **14+1 Channels :**
  - **---14 Channel Rail-to-Rail Programmable Gamma Buffers**
    - ◆ **10 bits Resolution for each Channel**
    - ◆ **25mA Output Current for each Channel**
    - ◆ **2 Banks Registers Using Bank_Sel to Select which Bank Data Output**
  - **---1 Channel Rail-to-Rail Vcom Buffer:**
    - ◆ **7 Bits Adjustable Output**
    - ◆ **±100mA Output Current**
    - ◆ **±140mA Output Short-Circuit Current**
    - ◆ **20V/µs Slew Rate**
- **2-Wire I$^2$C Slave Mode Interface**
- **Using One Control Pin Enable to Store Data into Non-Volatile Memory (NVM)**
- **Non-Volatile Memory (NVM) Store Setting (at Least 100 Re-Write Times)**
- **TQFN5X5-32 Package**

## Applications

- **TFT-LCD Monitors**
- **LCD Televisions**

## General Description

The G1620 consists of 14+1 channel buffers target toward the needs of thin film transistor liquid crystal display (TFT LCD). This device incorporates one Vcom buffer and 14 gamma buffers, and are programmed through I$^2$C interface. It contains two register banks which can store two different sets of gamma reference values. Each buffer is capable of driving heavy capacitive loads and offering large current loading (Vcom: 100mA, Gammas: 25mA).

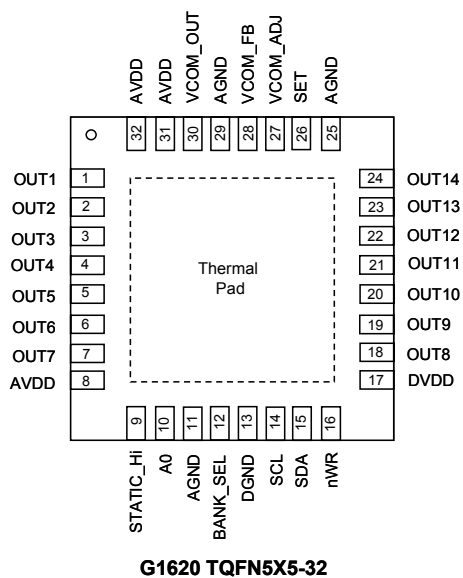The G1620 is available in the TQFN5X5-32 package.

## Ordering Information

| ORDER NUMBER | MARKING | TEMP. RANGE | PACKAGE (Green) |
|---|---|---|---|
| G1620RA1U | 1620 | -40°C to +85°C | TQFN5X5-32 |

Note: RA: TQFN5X5-32
    1: Bonding Code
    U: Tape & Reel

## Pin Configuration



**G1620 TQFN5X5-32**

Note: Recommend connecting the Thermal Pad to the Ground for excellent power dissipation.

## Typical Application Circuit