

## LCD Panel Power Supplies with Low-Cost Linear-Regulator, Charge-Pumps and High-Current OP

### Features

- High-Performance Linear Regulator
  - ◆ 1.6% Output Accuracy
  - ◆ Works with Small Ceramic Output Capacitors
  - ◆ Fast Transient Response
  - ◆ Foldback Current Limit
- High-Current Operational Amplifier:
  - ◆ 12V/ $\mu$ s Slew Rate
  - ◆ 12MHz, -3dB Bandwidth
  - ◆ Rail-to-Rail Inputs/Output
- 100mA Negative Charge Pump Regulator
- 50mA Positive Charge Pump Regulator with Adjustable Delay
- Built-In Power-Up Sequence
- Gate-on Pulse Modulator for Sequence & Discharge Control
- Thermal Protection
- Latched Fault Protection with Timer
- TQFN4X4-24 Package

### Applications

- LCD Monitor Panel Modules
- LCD TV Panel Modules

### General Description

G5535 incorporates a high-performance linear regulator, two low-power charge-pump regulators, a high-current operational amplifier, and logic-controlled gate-on pulse modulator to control the positive charge-pump output sequence and waveform.

The linear regulator generates the source-driver supply voltage from the input voltage directly. The two charge-pump regulators generate the positive gate-on and negative gate-off supply voltages. The operational amplifier supplies the VCOM buffer with high output current, fast slew rate and wide bandwidth performances for driving capacitive loads. The gate-on pulse modulator control (SWCTL) is independent of the  $\overline{\text{SHDN}}$  chip enable control.

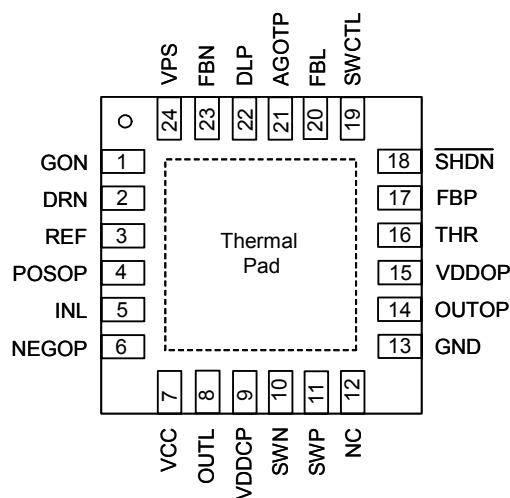
The G5535 adopts a 24-pin TQFN package which is 4mm  $\times$  4mm with a maximum thickness of 0.8mm for ultra-thin LCD panel application.

### Ordering Information

ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Pb free)
G5535R51U	5535	-40°C to 85°C	TQFN4X4-24

Note: R5: TQFN4X4-24  
1: Bonding Code  
U: Tape & Reel

### Pin Configuration



**G5535 TQFN4X4-24**