

Quad-Output TFT LCD Bias Power

Features

- Input Supply Range: 9.5V ~ 14V
- Current mode Boost converter for AVDD
 - Adjustable switching frequency
 - Integrated 20V/4A, 0.1Ω switching N-MOSFET
 - 1.5% accurate with 3.5-A switching current
- Buck Converter for VLOGIC
 - Fixed 750kHz switching frequency
 - Integrated 12-V/0.2-C Switching N-MOSFET
 - 1.5% accurate with 1.5-A switching current
- Charge-pump regulator for VGON & VGOFF
- Built-in power-on sequence and soft-start function
- GD Signal to drive external P-MOSFET
- Protection Function
 - Input Under Voltage Lockout (UVLO)
 - Thermal overload Protection (TOP)
 - Over-Voltage Protection for (OVP)
 - Over-Current Protection (OCP)
 - Output Under Voltage Protection (UVP)
 - Short Circuit Protection (SCP)
- Available in TQFN-5X5-28 Package

Applications

- TFT LCD Displays

General Description

The G5565 DC-DC converter provides regulated voltages required by thin-film transistor (TFT) liquid crystal displays (LCD) panels in TQFN5X5-28 package. One step-up converter, one step-down converter, and two charge pumps regulators convert the 8V to 14V input voltage into four output voltages. These features complete the power-supply requirements of large screen LCD panels. The step-up converter provides source voltages V_{AVDD} and the step-down converter provides logic voltage V_{LOGIC} for the system. The dual charge pumps regulators independently generate adjustable regulated output voltages VGL and VGH to bias the LCD using external charge pump attached to the switching node. The step-up converter operates with an adjustable switching frequency from 500kHz to 2MHz. And step-down converter operates with a fixed switching frequency of 750kHz.

Both step-up and step-down converters operate in asynchronous switch mode. Current mode control provides fast transient response and eases loop stabilization. Fault protection includes cycle-by-cycle current limit, thermal shutdown and short-circuit protection, and over voltage protection of the step-up converter.

The G5565 is available in a 28-pin TQFN (5mm x 5mm) package.

Ordering Information

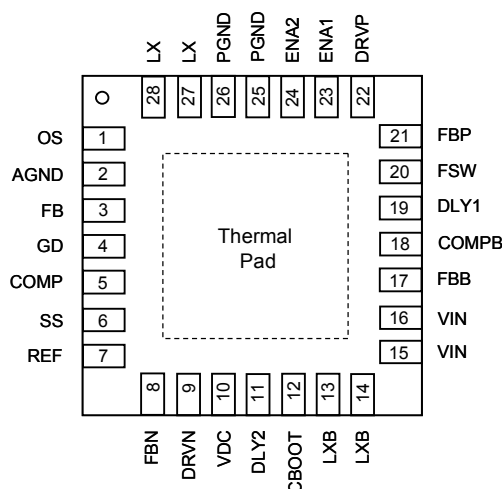
ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5565R61U	5565	-40°C ~ +85°C	TQFN5X5-28

Note: R6: TQFN5X5-28

1: Bonding Code

U: Tape & Reel

Pin Configuration



G5565 TQFN5X5-28

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