

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 converter 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 a 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.

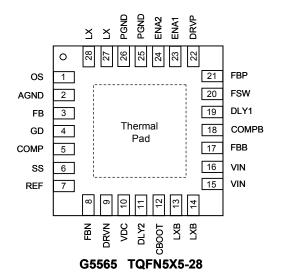
The G5565 is available in a 28-pin TQFN (5mm x 5mm) package.

Ordering Information

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

Note: R6: TQFN5X5-28 1: Bonding Code U: Tape & Reel

Pin Configuration



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