

## Low Capacitance VGA 2:2 Dual-Graphics Crossover Switch

### Features

- Low ON-Resistance 5Ω (Typical), RGB Signal
- Low supply Current <5μA (Max)
- High Bandwidth, 700MHz (Typical), RGB
- DDC Level Shifting, Isolation with Internal Pullup Termination, and Protection
- Horizontal and Vertical Sync Level Shifting and Buffering
- Inputs Compatible with V<sub>L</sub>, Outputs TTL Compatible
- Source/Sink ±10mA on Each SH<sub>\_</sub>, SV<sub>\_</sub> Output
- Independent Selectable Logic Inputs For Switching
- High ESD Protection on Outputs:
  - ±15kV HBM ESD
  - ±6kV IEC 61000-4-2 Contact Discharge
- TQFN 5x5 40 pins Package with Exposed Pad

### Applications

- Notebook Computer-Switchable Graphics

### Ordering Information

ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G3212RG1U	3212	-40°C to 85°C	TQFN5X5-40

Note: RG: TQFN5X5-40  
 1: Bonding Code  
 U: Tape & Reel

### General Description

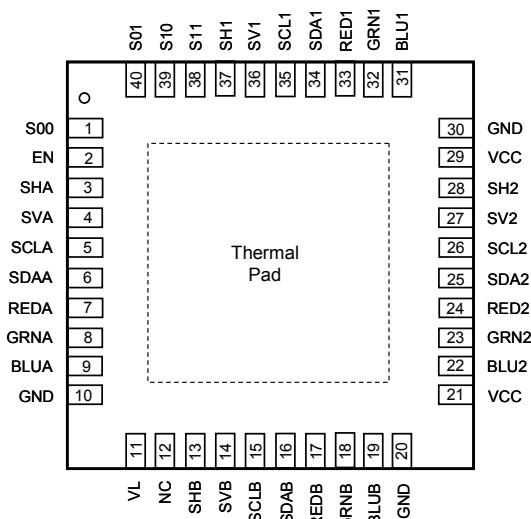
The G3212 integrates high-bandwidth analog switches, level-shifting buffers and level-translating FET switches. The device implements a complete 2:2 dual-graphics crossover solution for VGA signal switching. The G3212 provides 12 very high-frequency 700MHz SPST switches for RGB signals, 4 low-frequency clamping switches for the Display Data Channel (DDC) signals, 2 pairs of level-shifting buffers for the HSYNC and VSYNC signals, and also integrated extended ESD protection. The G3212 is used to select one of two sources to either of two destinations within a laptop computer.

Horizontal and vertical synchronization (SH<sub>\_</sub>/SV<sub>\_</sub>) inputs feature level-shifting buffers to support low-voltage controllers and standard 5V TTL-level monitors. DDC, consisting of SDA<sub>\_</sub> and SCL<sub>\_</sub>, are FET switches that protect the low-voltage VGA source from potential damage from high-voltage presence on the monitor while reducing capacitive load.

All 14 output terminals of the G3212 feature high-ESD protection to ±15kV Human Body Model (HBM) and ±6kV IEC 61000-4-2 Contact. All other pins are protected to ±2kV HBM.

The G3212 is available in the TQFN5X5-40 package with exposed pad.

### Pin Configuration



**G3212 TQFN5X5-40**

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